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# COMPARING INTERVENTIONS AND BELIEFS ABOUT AUTISM AND LINKS TO INTERPERSONAL RELATEDNESS IN TWO CITIES, IN TURKEY AND ENGLAND

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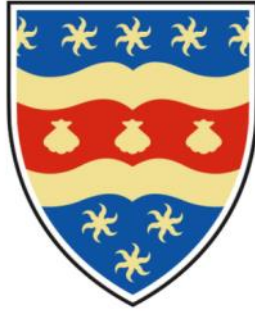
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**COMPARING INTERVENTIONS AND BELIEFS ABOUT AUTISM AND LINKS  
TO INTERPERSONAL RELATEDNESS IN TWO CITIES, IN TURKEY AND  
ENGLAND.**

by

**MAHMUT SERKAN YAZICI**

A thesis submitted to University of Plymouth

in partial fulfilment for the degree of

**DOCTOR OF PHILOSOPHY**

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## **Author's Declaration**

At no time during the registration for the degree of Doctor of Philosophy has the author been registered for any other University award without prior agreement of the Doctoral College Quality Sub-Committee.

Work submitted for this research degree at the University of Plymouth has not formed part of any other degree either at the University of Plymouth or at another establishment.

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## **Abstract**

Mahmut Serkan YAZICI

### **COMPARING INTERVENTIONS AND BELIEFS ABOUT AUTISM AND LINKS TO INTERPERSONAL RELATEDNESS IN TWO CITIES, IN TURKEY AND ENGLAND**

This thesis explores similarities and differences between interventions and beliefs about autism in Turkey and England. It is known that Turkish culture is interdependent and English culture is independent. It is also known that differences in interpersonal relatedness affect views about social behaviour, life goals and social priorities. This thesis, therefore, also explores whether interpersonal relatedness influences interventions and belief about autism in both countries.

This research is based on case studies of special and mainstream schools in two cities, one in Turkey and one in England. The study used mixed research methods including questionnaires, interviews and observations. Participants included teachers, parents, children and clinicians.

The quantitative data from questionnaires showed similarities between parents in both contexts regarding beliefs and priorities, but also important differences in interpersonal relatedness, sense of support and goals for their children. There were also differences within the two countries in the degree to which parents had an interdependent or independent orientation. Interdependent orientation across both contexts was associated with lower self-esteem, higher sense of helplessness and beliefs about the need for socio-communicative interventions. The qualitative data from interviews and observations showed similarities in the desire to improve outcomes for children with autism with many similarly held priorities and commitment to a range of interventions and approaches. Nevertheless there were substantial differences in resources and approach to teaching and involvement of family and community in the education of the children. Both the qualitative and quantitative data indicated that cultural orientations linked to interpersonal relatedness, societal priorities and resources influenced the care and education that children received and the relationships between families, schools and other professionals.

**Keywords:** children with autism, Turkey, England, intervention, interpersonal relationship, independent culture, interdependent culture

## Personal Statement

During my four years university education at an education faculty in Turkey, I worked at different schools as a trainee teacher. I also visited many schools to observe different pupils during this time and worked at these schools as a volunteer. When spending time with the children, including typically developing children and children with special education needs, I wanted to specialize in the field of autism for postgraduate study. I found I had a connection with children with autism, found them interesting and learnt that the education and care provided for them in Turkey was limited. Through my experiences, I came to believe that interventions for children with autism needed to be improved in Turkey. This also led me to consider care and education in other parts of the world and whether Turkey could learn from countries like the UK? At this point I had the preconception that what was provided for children with autism in Turkey was substandard compared to western models. For these reasons, I came to the UK for postgraduate research in special education.

In my master's research, I focused on autism. For this research, I visited some Turkish special education schools and I choose one of them to collect data in detail. Therefore, I met with many children with autism and their teachers in Turkey. During this period, I also observed some English schools as a volunteer in the UK. Generally, after spending around 2 years in the UK, I noticed that the national cultures of these countries, their social life and people's perspectives are different from each other and that this influenced their schools. I believed this difference could directly affect the children's life. Therefore, I became interested in the influence of culture and society on people's belief about autism.

In addition to people's belief about autism, I decided to base my master's thesis on comparing interventions in Turkey and the UK. I recognised that interventions are generally developed in Western countries and used across the globe. I consequently saw this as an opportunity to learn about good interventions that could be used in my own country. During my studies, however, I began to realise that the two countries were very different in how families and communities managed interpersonal relationships and began to doubt whether transporting interventions from one culture to another was the answer. For this

reason, in my PhD, I chose to focus on finding out more about interventions in Turkey and about similarities and differences in interventions and practice between Turkey and England.

During collecting and analysing the data for my PhD, many of my own beliefs were challenged. For example, I began to see that there were strengths and difficulties in interventions used in both Turkey and England. I also began to see that the two contexts could learn from each other rather than Turkey simply taking ideas from the west. I also saw that Turkey needed to capitalise on home-grown ideas which were culturally appropriate such as the emphasis on including the community in learning and change and the loving family-like relationships between teachers and pupils.

I was also surprised by many practices in English schools, for example, the close links between staff and other services and the wide-ranging use of relatively unqualified staff (Teaching Assistants)

I include this personal statement to outline my own learning journey and preconceptions, but also to make plain my underlying standpoint, which is to better understand and consequently improve care and education for children with autism across the world and specifically in my home country.



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## **List of Abbreviations (by order of appearance)**

ASC- Autism Spectrum Condition

WCC- Weak central coherence theory

EPP- Enhanced Perceptual Processing

ToM – Theory of Mind

EMBT - Extreme Male Brain Theory

DSM - Diagnostic and Statistical Manual of Mental Disorders

ICD - International Classification of Diseases

ADOS - Autism Diagnostic Observation Schedule

PDDs- Pervasive Developmental Disorders

ADI - The Autism Diagnostic Interview

ADHD - Attention-Deficit Hyperactivity Disorder

SSRIs - Selective Serotonin Re-uptake Inhibitors

ATT - Animal-Assisted Therapy

AAA - Animal-Assisted Activities

TEACCH - Treatment and Education of Autistic and Related Communication Handicapped Children

PECS- Picture Exchange Communication Systems

ABA - Applied Behavior Analysis

ABC - Antecedent-Behavior-Consequence

SES – Special Education School

MS – Mainstream School

MSs – Mainstream Schools

O - Observation

PL – Primary Level

SL – Secondary Level

SENCO - Special Educational Needs Coordinator

CRC- Counselling and Research Centers

TMSs – Turkish Mainstream Schools

EMSs- English Mainstream Schools

PE: Physical Education



## **CHAPTER 1. WHAT IS KNOWN ABOUT AUTISM?**

Despite the fact that some stories from the 19<sup>th</sup> century describe cases of autism spectrum conditions (ASC), they are usually without any scientific details and considered as “enigmas” (Frith, 1989). One of the first things that should be realised about ASC, therefore, is that there is a short history of research in this field. Thus, it took until the mid-1900s for autism to be recognised as a condition. For the first time a term was used for conditions such as “autistic disturbances of affective contact” and “extreme autistic aloneness” by the child psychiatrist Leo Kanner; Kanner was the first to use the term “autism” (Kanner, 1943; Schreibman, 2005). Kanner’s attention focussed upon the behavioural characteristics of ASC that are atypical. He also examined other problems related to imagination and language (Kanner, 1943). Such developments in the field of ASC encouraged and boosted further research enabling the wealth of current research about the characteristics of ASC. Today, ASC is characterised by difficulties with communication and social interaction; and cognitive inflexibility (American Psychiatric Association, 2013). A variety of studies demonstrate that ASC are associated with problems that are permanent (Ben Itzhak, Lahat, & Zachor, 2011; Gillberg, 2010; Johansson, Gillberg, & Rastam, 2010; Matson & Kozlowski, 2011; Nyde´n et al., 2010; Wing, Gould, & Gillberg, 2011). This implies that there are no cures for autism.

This chapter includes general information about ASC, knowledge related to the causes of autism, psychological hypotheses of autism, symptoms of autism, diagnostic criteria and assessment for autism, and the prevalence of autism.

## **1.1. Causes of autism**

Although it is widely thought that autism is largely genetic, direct causes of autism remain unknown and are the topic of ongoing controversy and debate (Gilbert & Man, 2014). The complexity of the condition suggests that there is no single cause of ASC (Happé & Frith 2006; Pennington, 2006). In this section, the causes of autism will be analysed and discussed in terms of two main factors, genetic and environmental.

It was claimed by Kanner (1949) that the existence of autism might be related to apathy of the parents. Bettelheim (1967) also suggested a similar idea by saying that a mother's attitude towards the baby may cause a child to develop autism, if the mother is inadequate in terms of her parenting skills and capability of exhibiting positive behaviours. Rutter (1968) classified such mothers as "refrigerator mothers". However, such suggestions were proven to be wrong during the 1980s and it is now generally held that genetics has a role in autism (Blomquist et al., 1985). It seems that external factors influence the development of a child, who has autism however; they are not the cause itself. A wide range of research currently supports the claim that autism is not the result of poor parenting skills (Neely-Barnes, Hall, Roberts & Graff, 2006; Turnbull, Turnbull, Shank, Smith & Leal, 2002).

It is generally accepted that there is a strong relationship between autism and genetic factors today (Klei, et al., 2012). In other words, person's genetic profile may be a risk for autism (Cohen et al., 2005; Hall, Lightbody, & Reiss, 2008; Zecavati & Spence, 2009; DiGuseppi et al., 2010; Huquet, Ey, & Bourgeron, 2013). For example, chromosome abnormality may present a risk for autism (Swanwick, Larsen, & Banerjee-Basu, 2011). Twin and family studies play an

important role in research in this area. Twin studies suggest that autism is heritable (Folstein & Ratter, 1977; Steffenburg et al., 1989; Bailey et al., 1995, Abrahams & Geschwind, 2008) and having a sibling with ASC is also among the risks (Hallmayer et al., 2011; Ozonoff et al., 2011). According to these studies, if one twin has autism, the other one has a 90% chance of developing the condition (National Institute of Neurological Disorders and Stroke, 2017). Moreover, family studies support that autism is a genetic disorder. For example, if a family has a child with autism, the second child has a 5% chance of developing autism (National Institute of Neurological Disorders and Stroke, 2017). These studies claim that autism is, therefore, largely an inherited condition.

On the other hand, if genetics is the only component to autism it can be asked why this rate is only 90% for monozygotic twins and why the prevalence rate is only 5% for a second child. It may be claimed that if only genetic factors play a role in ASC; this ratio should have been 100% for particularly monozygotic twins. Hallmayer et al. (2011) carried out a rigorous statistical estimate of heritability among twins and concluded that genetic heritability only accounted for 37% of concordance while 55% was the result of shared twin environmental factors. It seems that in exploring the causes of ASC it is necessary to consider both genetic and environmental factors. One source of evidence for environmental causes is thalidomide which is useful for some health problems such as insomnia and pregnant women with morning sickness (RSG OPSS Communications, 2014). However, this drug can cause disorders and one of them is autism (Rodier, 2002). Also, misoprostol is used for abortion, but it is known that if this abortifacient is unsuccessful, new-born babies may have ASC (Bandim, Ventura, Miller, Almeida, & Costa, 2003; Landrigan, 2010). Therefore,

it can be said that misoprostol is another environmental cause of autism. Another one is valproate which is used for the treatment of some neuropsychological disorders, but valproic acid can increase risk of autism (Moore et al., 2000; Christensen et al., 2013). In addition, it has been known for some time that prenatal rubella infection can be cause of autism (Chess, 1971). Moreover, chlorpyrifos which is used for controlling insects at home and school negatively affects children and is known as an environmental risk for autism (Levin et al., 2001; Christensen et al., 2013). Also, according to Hallmayer (2011), some environmental factors in prenatal and early postnatal environments can also be risk factors for autism, including advanced parental and maternal age (Kolevzon, Gross, & Reichenberg, 2007; Gardener, Spiegelman, & Buka 2009). In other words, childbearing age is a risk factor as evidence suggests that older parents are more likely to have children with ASC (Durkin et al., 2008). Maternal infections during pregnancy are another prenatal factor (Atladóttir et al., 2010) and postnatal factors include birth weight (Less than 2500 g) and premature births (Birth at less than 37 weeks) (Guinchat et al., 2012; Larrison et al., 2005). In addition to these factors, multiple births and intrapartum hypoxia may be risk factors for autism (Froehlich-Santino et al., 2014; Kolevzon, Gross, & Reichenberg, 2007). Finally, a recent study suggests that maternal race/ethnicity and nativity are risk factors for offspring to have ASC (Becerra et al., 2014).The results of this study suggest that children of foreign-born mothers who were Central/South American, Filipino, Vietnamese, US-born Hispanic as well as African American mothers have higher risk of autism than US-born whites. In other words, According to Becerra et al. (2014), mother's place of birth can be risk factor for her child in the USA. This point may

be disputable because cultural effects can play a crucial role in explaining these results (See Chapter 2).

A more fruitful way to understand the causes of autism and related conditions may be to acknowledge that a variety of genetic and environmental factors may pose risks for developing ASC. Therefore, these factors should be considered together when discussing causes of autism.

## **1.2. The psychological theories of autism**

There are many theories about autism spectrum conditions (ASC). Among these theories, “Weak Central Coherence”, “Theory of Mind”, “Underconnectivity Theory” and “The Extreme Male Brain Theory” are four of the most dominant. In this section, they are discussed in more detail.

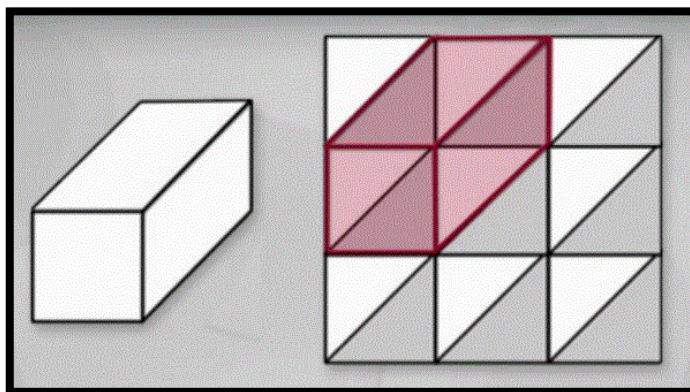
### **1.2.1. Weak Central Coherence Theory**

“Weak central coherence theory” was first developed by Uta Frith in 1989. Frith’s original theory has changed over time, but the fundamental principle remains that is that individuals have a piecemeal detail based processing style which means they fail to “see the bigger picture”. Among the typical population individuals may be more or less field independent, but they nevertheless have a tendency to form ‘gists’ of any given event or situation; a holistic narrative of relevant information. Such gists support recall and understanding without the individual being burdened with recalling every single detail. (Frith, 1989, 2003). In other words, this theory emphasises that people with ASC exhibit local perception rather than global perception. For example, most people can recall overall meaning after watching movies or reading stories, but people with ASC

may struggle to comprehend overall meanings. However, those with more local perceptions can recall a part or some parts of the story of movies and storyline in detail. The “Embedded Figure Test” also should be explained to understand Weak central coherence theory (WCC). This test “*requires locating a simple shape embedded within a background of overlapping target-irrelevant scene elements*” (Almeida, Dickinson, Maybery, Badcock, & Badcock, 2010, p. 374). This test played an important role in the development of this theory because it was observed that people with ASC can easily and rapidly find a smaller shape within a larger picture. For instance, children with ASC can easily find shapes within an image of a pram and see its sub-components, such as a triangle (See Figure 1). This ability also holds for more complicated shapes (See Figure 2). Although this task can be difficult for most people, it is often easier for people with ASC. For this reason, WCC is not viewed as a deficit. On the contrary, it is referred to as a specific cognitive style. WCC also refers to other related skills, for example the fact that people with ASC have special talents including an exceptional rote memory. According to this theory, people with ASC have high-level perception on visual tasks, such as jigsaws, hidden figures, and the block design task. Their ability is called “Enhanced Perceptual Processing (EPP)” (Mottron & Burack, 2001). EPP is a variant of WCC which stresses the enhanced attention to detail in this population rather than difficulties with global processing. The implication of this theory is that individuals with autism may have good attention to detail without deficits in holistic processing (e.g. Mottron & Burack, 2001).



**Figure 1.**An Example (includes shape to find easily) in Embedded Figure Test



**Figure 2.** An example (includes more complicated shapes) in Embedded Figure Test

Although EPP is called an ability of children with ASC, it may be problematic. WCC is a specific “cognitive style”. WCC can cause some problems in daily life because of problems in thinking holistically and ‘seeing the bigger picture’. For example in text comprehension it is important to understand the overall meaning and see beyond the details of what is presented. Since weak central coherence can impact negatively on daily life some have argued that it is a “cognitive deficit” rather than a “cognitive style” (Burnette et al., 2005).Weak

Central Coherence Theory (WCC) has changed over time. Initially, in Frith's 2003 version which discussed for example the issue of whether WCC could explain difficulties with mentalising within this population. Happé and Frith's (2006) study also raised a number of issues and revisions to the theory. There are three main changes between Frith's 1989 and 2003 versions (Happé and Frith, 2006). First of all, whilst global perception is a core deficit in the first version, it is defined as a secondary outcome in second version because Frith's 2003 version emphasised superiority in local perception instead of deficit in global perception. Another change is Frith's 2003 version stated that local perception is a cognitive style which can be overcome in some tasks with obvious demands for global perception although Frith's 1989 version said that it is a deficit. Finally, Frith's 2003 version mentioned that weak coherence may be one aspect of cognition instead of a core deficit in social cognition. Most notably they revised the overarching claims made by the initial theory and stated that WCC could not explain all the symptoms of autism, in particular the social difficulties that people with ASC experience.

### **1.2.2. Theory of Mind**

In 1991, Frith et al, claimed that "*what all people with autism have in common is a particular cognitive deficit that gives rise to the core symptoms in the course of development*" (Frith, et al., 1991, p. 434). Frith, Morton, & Leslie (1991) claimed that this cognitive problem was the development of theory of mind, or mentalizing, which is the "*ability to predict and explain the behaviour of other humans in terms of their mental states*" (p. 434). Frith et al. (1991) also point out that "*the ability to mentalize is dependent on a specific mechanism that does not manifest itself from birth; neither can it be explained by learning*" (p. 434).



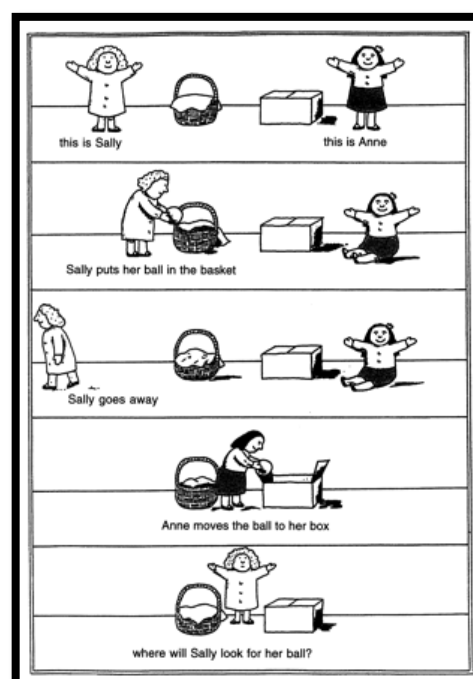
Also, Baron- Cohen (1995) claims that a lack of theory of mind (ToM) is the core deficit for people with autism. Because of these points, it is thought that a lack of ToM can be called a universal, unique and innate disability (Sigman, 1994; Sigman, 1996, Yirmiya, Erel, Shaked, & Solomonica-Levi,1998).

Theory of Mind allows typical individuals to understand the beliefs, behaviours and intentions of others and that people can have different mental states and beliefs from their own, including false beliefs. (Baron-Cohen & Wheelwright, 2004; Baron Cohen 1989, 2001). In this respect, individuals who lack a Theory of Mind can be defined as self-centred since their perspective is limited to their own thoughts. Despite the fact that they may possess some intellectual skills above the average, they lack the adequate empathy skills to understand others (Baron-Cohen & Wheelwright, 2004). It should also be emphasised that language and Theory of Mind appear to be linked. This may be related to the ability to understand and pass theory of mind tasks in experiments, or it may be that language delays impact on the development of Theory of Mind in everyday life (Farrar et al., 2009).

Difficulties with Theory of Mind are also referred to as Mind blindness (Wheelwright, Auyeung, Allison, & Baron-Cohen, 2010). Mind blindness has an impact on social understanding and also in comprehending the more subtle nuances of communication including non-verbal communication, jokes, metaphors and sarcasm (Baron-Cohen, 2001). As a result of such problems in communication, people with autism can have difficulties with forming friendships (Baron-Cohen, 2001). It is also suggested that mind blindness results in an inability to lie or keep secrets since such skills require considering possibilities other than the literal and also considering the impact of what they say on others.

Mind blindness has therefore been posited as explaining the social and communicative difficulties associated with autism.

Research exploring Theory of Mind skills among young children and individuals with ASC relies heavily on false belief tasks which assess the ability of the participant to appreciate the perspective and beliefs of another person (Baron-Cohen, Leslie, & Frith, 1985). In false-belief tasks such as the Sally-Anne test, typically developing children can pass the tests by 4 or 5 years (Wellman, Cross, & Watson, 2001; Peterson, Wellman, & Slaughter, 2012). Put differently, it is believed that typically developing children have false-belief understanding by 3-5 years old (Farrant, Maybery, & Fletcher, 2012). In the Sally-Anne test, two dolls are presented to the child. One of them is Sally and she has a basket. Another doll is called Anne and she has a box. In this task, Sally puts a ball in her basket and then she goes outside. When Sally is away, Anne takes the ball out of Sally's basket and put it in her own box. Next, Sally comes back (See Figure 3). The children are then asked "Where will Sally look for her ball?"



**Figure 3.** Scenario of Sally-Anne Task (Frith, 2001)

If children participating in the task say the ball is in the basket, they pass the task. Otherwise, they are unsuccessful in the false-belief task, so they can be said to have a lack of ToM. Baron-Cohen et al. (1985) compared performance of 3 different groups on the Sally Anne Task (typically developing pre-school children, children with Down syndrome, and children with autism) where all children had a mental age of above 4 years. The result of the study shows 85 percent of the typically children, 86 percent of the Down syndrome children and 20 percent of the children with autism passed the test. This seminal study contributed to the claim that children with autism have fundamental difficulties with Theory of Mind.

However, aspects of false belief measurements such as the Sally Anne Task remain controversial. For example, in the study (Baron-Cohen et al., 1985), the success rate of the typically developing children and the children with Down syndrome is not 100 percent and the rate is not 0 percent for children with autism. 20% of the children with autism passed the test showing intact ToM skills. This finding called into question the absence of a specific module in the brain responsible for Theory of Mind as proposed by (Leslie, 2000) as an explanation for autism. In addition, it was subsequently found that some groups of children with ASC tended to pass false belief tasks. Children with high-functioning autism and Asperger's syndrome that have not experienced language delays are generally successful in the test of theory of mind (Ozonoff, Rogers, & Pennington, 1991, Bowler, 1992; Peterson, Slaughter, & Paynter, 2007). According to Tager-Flusberg (2000), difficulties with passing false belief tasks can also be shared by a number of groups including people with speech disorders, patients with schizophrenia, people with mental disabilities, and the partially-sighted and such difficulties are, therefore, not particular to autism.

Language skills appear to play an important role in understanding Theory of Mind tasks such as the Sally Anne task and any individual with language difficulties may struggle with this kind of task (Peterson & Siegal, 1999; Tager-Flusberg & Joseph, 2005, Farrar et al., 2009). Another reason to suspect that passing false belief tasks has more to do with language skills than ToM is evidence that grammatical training can improve performance (Hale & Tager-Flusberg, 2003). It has also been found that there is considerable increase in performance of children with autism between first and second trials of false belief tasks (Schuwerk, Vuori, & Sodian, 2015).

### **1.2.3. Underconnectivity Theory**

Underconnectivity theory was established in 2004 while comparing brains of people with autism and typically developing people. The theory is called underconnectivity due to the fact that it refers to “*underfunctioning of integrative circuitry and emergent cognitive, perceptual, and motor abilities in autism*” (Just,Cherkassky,Keller,& Minshew, 2004, p. 1817).

Before discussing underconnectivity theory, it should be known that functional connectivity and synchronization are necessary to be successful at complex tasks because activation is necessary between brains areas (Koshino et al., 2008). This point is also important for the theory because underconnectivity theory focuses on the connections between areas of the brain and the theory emphasises that there is a relationship between brain and social and cognitive processing because higher-order social, language and executive processes, and abstract thought are related to the frontal cortex and complex tasks (Just, Cherkassky, Keller, & Minshew, 2004).

According to underconnectivity theory, individuals with ASC have lower levels of connectivity than typically developing individuals, when engaging on a number of tasks including ToM tasks (Castelli, Frith, Happé & Frith, 2002), text comprehension tasks and problem solving tasks (Just, Cherkassky, Keller, & Minshew, 2004). Therefore, it can be said that the connectivity may be uneven for individual with ASC. This result in under activation in areas associated with complex processing and the integration of information. Just, Cherkassky, Keller, & Minshew (2004) found that in a text comprehension task, individuals with ASC showed general underconnectivity, but also more activation in an area associated with comprehending simple meanings of individual words and less in areas associated with more complex semantic and working memory processes. This may result in over-connectivity within brain regions leading to advantages for simple processing tasks, but disadvantages in tasks which require connectivity across brain regions to achieve high levels of information integration (Just, Cherkassky, Keller, & Minshew, 2004).

Functional underconnectivity is not universal, however, among individuals with ASC (Tyszka, Kennedy, Paul, & Adolphs, 2014). Also, children with ASC can have different anatomical connectivity. For example, the anatomical connectivity is different among 6 month old young children with autism (Wolff et al., 2012). These differences are found in the shape of individual neurons and their processes, the size, placement and interconnection of large-scale structures (Sporns, 2007). The combinations of genetic, epigenetic, nutritional, psychological or environmental factors that affect the fetal environment probably cause these differences (Just & Keller, 2013). These points show underconnectivity may be subject to variation among individuals with ASC. The experiences of individuals with ASC may also have a bearing on the level of

connectivity they exhibit. For example, some therapies have also been found to enhance the altered connectivity of individuals with ASC. For instance, intensive reading therapy can help to develop the connectivity and increase reading performance of people with ASC who have reading problems (Keller & Just, 2009). Because of these points, it can be said that the theory is not general for all children with ASC and their anatomical and external factors may play roles on underconnectivity theory.

#### **1.2.4. Extreme Male Brain Theory**

Extreme Male Brain Theory (EMBT) was developed by Simon Baron-Cohen (Baron-Cohen, 2002). According to this theory, the brain can be categorised depending on structural differences as male or female. The majority of people have the brain type associated with their gender. EMBT suggests that there are structural and functional differences between male and female brains.

It is presumed that there are five different sorts of brain. The theory explains them accordingly:

Type 1: If the brain has stronger features in empathising abilities compared to systemising, it is a female brain type

Type 2: If the brain has stronger features in systemising compared to empathising, it is a male brain type.

Type 3: Third type is a brain which has equal features regarding the abilities in systemising and empathising.

Type 4: The brain is over developed in terms of systemising features. This is the type of extreme male brain which is also known as “mind blind”.

Type 5: The brain is over developed in terms of empathising features. This is the type of extreme female brain which is also known as “system blind”.

Baron-Cohen points out that although five types of brain exist, an overwhelming majority of the people have the Type 1 and Type 2. As described by the theory, these brain types have unique features; while the male brain is better in systemising, the female one has superiority in empathising. Outcomes of such features are observable in practice since different brains provide individuals with particular abilities in different fields. EMBT stresses that “Empathising” refers to female brain when “Systemising” refers to male brain.

Baron Cohen refers to a range of evidence to support EMBT. For example, disorders leading to poor empathy are more common among boys (Dodge, 1980; Blair, 1995). This means that the number of boys who have difficulties understanding other people’s minds is more than girls. In other words, a lack of theory of mind or mind blindness (See 1.2.2) is more common among boys. In EMBT, it is stated that girls can already have the ability related to theory of mind by three years of their age before boys (Happé, 1995). Also, the theory points out that data from questionnaires (Davis, 1994) , the water-level task (Wittig & Allen,1984), the rod and frame test (Witkin, Dyk, Faterson, Goodenough, & Karp,1962) and the mental rotation test (Collins & Kimura, 1997) support the idea that the female brain refers to “empathising”, and the male brain refers to “systemising”.

In addition, according to EMBT, discrepancy between boys’ and girls’ choices and interests support this theory. For example, boys are more likely than girls to like systemising toys such as vehicles, weapons, building blocks or Lego (Jennings, 1977). Also, men tend to choose some occupations related to

constructing systems such as weapon making and construction industries (Geary, 1998) and men tend to be better at constructional and systemising abilities such as map reading. The next supportive point of EMBT is about superior skills of male and female brains. It specifies as evidence that boys are better at 3-D model from a frontal view in a picture (Kimura, 1999) and motoric systems (Schiff & Oldak, 1990). Also, the theory states that boys are better in maths, physics and engineering than girls. This is supported by the results of The Scholastic Aptitude Math Test (Benbow, 1988). It is also pointed out that good attention and focusing on details are boys' superior skills because they quickly and accurately find the target embedded in the complex and larger pattern (Elliot, 1961). On the other hand, the theory indicates that girls' language ability is generally better than males. EMBT explains these superior language skills by linking good empathising to the development of language (Connellan, Baron-Cohen, Wheelwright, Batki, & Ahluwalia, 2001).

In addition to different levels of language ability, male' and female' language and communication differs in style. For example, men tend to present only their own viewpoint, whereas women spend more time for taking other people's view (Smith, 1985). These differences are proposed to influence parenting in that when choosing a topic in play, mothers generally think of the child's interests, but fathers tend to choose their own topic (Power, 1985). Other research indicates that while girls' conversation is about feeling, men's is more object or activity focused (Tannen, 1990) and girls are better at non-verbal communication (Hall, 1978). Furthermore, girls look longer at other people's face and eyes, boys tend to look at inanimate objects (Connellan, Baron-Cohen, Wheelwright, Batki, & Ahluwalia, 2001). These different styles of language and communication are given as evidence for EMBT. Moreover, EMBT states that



while girls give more importance to fairness, males give more importance to hierarchy (Strayer, 1980). According to Charlesworth and Dzur (1987), girls were more likely to engage in turn-taking, and boys were more likely than girls to be competitive. Girls seem to give more importance to altruistic, intimacy and reciprocal relationships, whereas boys value power, politics, competition and social status (Ahlgren & Johnson, 1979; Knight & Chao, 1989).

The theory also draws on sex differences in use of aggression. For example, males tend to prefer direct aggression such as pushing and hitting, girls prefer indirect aggression such as gossip and hurtful remarks (Crick & Grotpeter, 1995). Rough and tumble play such as hurting and being intrusive are more commonly observed among boys (Maccoby, 1998). On the other hand, it is indicated that more girls than boys share emotional distress of others and show more comforting than boys do (Hoffman, 1977). Related to this EMBT stresses that indirect aggression needs better mindreading skills than direct aggression (Crick & Grotpeter, 1995). Also, EMBT points out that male-on-male homicides are more common than female-on-female homicide (Daly & Wilson, 1998). EMBT draws on extensive and varied evidence but many of the points made can also be explained by differences in how we socialise boys and girls rather than biological causes.

EMBT sees ASC as the result of an extreme version of the male systemising brain. The theory claims, therefore those individuals with ASC are highly focused on systemising rather than empathising. EMBT provides additional evidence to support the claim that autism results from an extreme systemising tendency. For example, there are more males than females with ASC (Caronna, Milunsky, & Tager-Flunberg, 2008; Gillberg, 2010). The theory also claims that

high testosterone can be relevant to being born with ASC and testosterone ratio in men is higher than in females. This point is supported by other researchers (Krajmer, Spajdel, Kubranska, & Ostatnikova, 2011; Noipayak, 2009; de Bruin, Verheij, Wiegman, & Ferdinand, 2006; Knickmeyer, Baron-Cohen, Raggatt, Taylor, & Hackett, 2006; Falter, Plaisted, & Davis, 2008; Bloom, Houston, Mills, Molloy, & Hediger, 2010). Baron-Cohen et al. (2011) also emphasised that foetus male testosterone production is higher than females' and this testosterone level affects brain development and behaviour.

The theory also claims that foetal testosterone and finger length ratio are relevant with respect to the EMBT and autism. Second and ring finger length is influenced by foetal testosterone (Bailey & Hurd, 2005; Manning, Kilduff, Cook, Crewther, & Fink, 2014). This effect causes the ring finger to be longer than the second finger (Bloom, Houston, Mills, Molloy, & Hediger, 2010; Krajmer, Spajdel, Kubranska, & Ostatnikova, 2011). The relationship between finger length and autism is demonstrated experientially and the theory includes this as evidence (Baron-Cohen, 2002).

Despite the wealth of evidence cited aspects of EMBT are problematic. Criticisms of EMBT include the oversimplification of the complexity of the brain into just 5 subtypes (Sporns, 2011) as it is widely known that the brain is a very complex structure (Bullmore & Sporns, 2009). Further questions stem from the knowledge that social factors influence gender roles and behaviour. National Union of Teachers (2013) said that there are boys' things and girls' things in society such as toys, jobs and sports. Particularly, essentialist statements related to gender such as "girls like dolls" and "boys like football" are used by many parents (Leaper, 2013). Fagot (1995) said that many parents choose

gender-typed toys for their children. Parents often choose action-oriented toys for boys, or caring-oriented toys for girls (Caldera, Huston, and O'Brian, 1989). Parents also provide guidance for their children's gender development including role modelling and differently emboldening attitudes and activities to their sons and daughters (Bussey & Bandura, 1999; Leaper, 2013). Because of these social effects, EMBT is disputable and the role of socialisation on children with autism is also consequently a grey area.

Autism is a complex condition with many areas of controversy and debate. Despite the vast number of research studies and theories regarding autism the causes and nature of autism is yet to be fully explained. All of the theories explored here strive to explain the symptoms of autism, but again these are complex. Core symptoms rarely appear without co-morbid conditions and secondary issues.

### **1.3. Symptoms of autism**

Discussing the symptoms of autism provides opportunities, not only for understanding the nature of autism but also for thinking critically about theories of autism which seek to explain those symptoms.

#### **1.3.1. Main symptoms of autism**

Autism is a spectrum condition and children with autism may differ widely in their presentation of core symptoms. As with any group of children, these children are also individuals with their own interests and habits. Core symptoms of autism include social challenges, communication difficulties and poor behavioural flexibility (American Psychiatric Association, 2013; Duffy & Healy,

2011; Sipes, Matson, Worley, & Kozlowski, 2011, Chowdhury, Benson, & Hillier, 2010; Fodstad, Matson, Hess, & Neal, 2009; Happé, Ronald & Plomin, 2006).

Children with ASC have a range of social difficulties. For example, their tendency not to make eye contact can lead to problems in their communication and relationship with others (Elison, Sasson, Turner-Brown, Dichter & Bodfish, 2012). It is also very challenging for children with ASC to manage non-verbal communication, having friends and participating in games because these children have difficulty in maintaining synergy and having a full understanding of incidents and people around them (American Psychiatric Association, 2000). For these reasons, children with ASC can feel alienated in the social world; they often find social life difficult and display passive behaviours in their social life (See 1.3.1.1).

Children with ASC also have communicative difficulties and there is necessarily some overlap with social issues. Children with ASC may have little or no spoken language; they may also understand the code of language but fail to understand the subtle nuances of communication including non-verbal communication. One aspect of language difficulty is related to the interpretation of the context and replying (Capps, Kehres & Sigman, 1998). As a result of this, many problems arise in comprehension and conversational flow. It is also known that people with ASC may have difficulty with grammatical structure in speech (Eigsti, Bennetto & Dadlani, 2007) and with the lexical meaning of language (Eigsti, de Marchena, Schuh & Kelley, 2011). Such problems may also be related to cognitive difficulties (Happé, Ronald & Plomin, 2006). Because cognition and language cannot develop individually, people with ASC experience various issues in terms of their language use (Oates & Grayson, 2004). Difficulties with

speech perception, reading comprehension, construction of meaning in social situations and symbol formation can be present (Watson, 2001; Kjellmer et al., 2012). These socio-communicative difficulties have an impact on interactions between children with ASC and others (See 1.3.1.1).

It is observable to outsiders that people with ASC exhibit different behavioural patterns in their daily life. One of the distinct examples of such behavioural patterns is the use of repetitive actions which are commonly observed among individuals with ASC (Stronach & Wetherby, 2014). For instance, such behaviours include hand flapping, movement of fingers before eyes, spinning or walking on tiptoes (American Psychiatric Association, 2000). These behaviours are typical symptoms that may contribute to a diagnosis of autism. In some cases people with ASC may engage in self-harming behaviour which may also have a repetitive element (Bodfish, Symons, Parker, & Lewis, 2000; Mooney, Gray, Tonge, Sweeney, & Taffe, 2009; Turner, 1999). Individuals with ASC also often present obsessive thinking and a narrow sphere of interest (Auyeung et al., 2015; Bejerot, Weizman, & Gross-Isseroff, 2014).

#### ***1.3.1.1. Problems of children with autism in terms of social life and communication skills***

Diagnosis of autism necessarily relies upon identification of significant difficulties in social interaction (Bellini, Peters, Benner, & Hopf, 2007) and communication (Sigafoos, 2000; Van Berckelaer-Onnes, Van Loon, & Peelen, 2002). It is claimed by Dworzynski et al. (2007) that the existence of social and communicative difficulties causes a chain effect which leads to more severe problems.

Before the examination of above mentioned problems, the difference between shyness and autism should be noted. Despite the fact that the behavioural patterns of children with ASC might be very similar to shy children, there is a clear difference between the two phenomena (Pierangelo & Giuliani, 2008). *“Shyness can be defined as a form of excessive self-focus, a preoccupation with one’s thoughts, feelings, and physical reactions and may vary from mild social awkwardness to total social inhibition”* (Saunders & Chester, 2008, p.2649). In autism the child may not be ‘shy’ but may still exhibit social and communicative difficulties which are significantly more pronounced than their peers.

There are various aspects of socio-communicative difficulties which leave children with ASC vulnerable to challenges; lack of empathy is among the major problems (Rowley et al., 2012). Baron-Cohen (1995) used the term “mindblind” for people who lacked empathy. The theory suggests that it is not possible for mindblind people to empathise and understand the opinions and feelings of others (Baron-Cohen & Wheelwright, 2004). Since people with ASC lack the necessary empathy skills they are unable to recognise the consciousness of others and find social interaction problematic (Carrington, Templeton, & Papinczak, 2003). Empathy deficiency is considered to be one of the main problems existing in children with ASC (Decety & Jackson, 2004). Rowley et al. (2012) supports the claims by pointing out that empathy is essential for establishing relationships and making friends. Furthermore, Lawson (2001) points out that making new friends is extremely difficult for children with ASC because they cannot understand the nature of reciprocal relationships. In this respect, it is understandable why it is a big challenge for children with ASC to gain friends. In addition, a lack of understanding relating to nonverbal

communication can affect the social life of these children unfavourably (Ashwin, Chapman, Colle, & Baron-Cohen, 2006; Dziobek et al., 2006; Humphreys, Minschew, Leonard, & Behrmann, 2007). Inability to establish and maintain eye contact is a common problem among children with ASC (Smile, Dupuis, MacArthur, Roberts, & Fehlings, 2013). In other words, poor eye contact and the inadequate use of other nonverbal communication devices affects the social life of children with ASC adversely (Senju, Yaguchi, Tojo, & Hasegawa, 2003). Additionally, Krstovska-Guerrero and Jones (2013) claim that one's ability to interact with his/her environment is also dependent on establishing eye contact. Therefore, poor eye contact leads to attention problems in terms of focusing on objects or other people. For example, children with ASC may focus on non-essential details when watching a popular children's show (Klin, Jones, Schultz, & Volkmar, 2003). Afshari (2012) also points out that deficiency in attention of children with ASC is a subject which must be given great importance. At this point, Jones and Carr (2004) emphasised that this skill is significant for their social and language improvement. It is further suggested that communication problems eventually lead these children to feel stressed during social interaction because of their inability to understand the situation they are in (Carrington, Templeton, & Papinczak, 2003). Therefore, aggression could be observed in children with ASC which also impacts on their social acceptance (Farmer & Aman, 2011; Matson, Wilkins, & Macken, 2008). In conclusion, there are a number of correlative problems that children with ASC experience and each of these problems strengthen the effect of others leading to greater challenges in the social life of the children.

Difficulties in spoken language are also widely recognised in the literature surrounding autism (Eigsti, de Marchena, Schuh, & Kelly, 2011; Groen, Zwiers,

van der Gaag, & Buitelaar, 2008). Understanding syntax is very challenging for these children and the deficiencies in this area lead to grammatical errors in language (Horovitz & Matson, 2010; Matson, Hess, Sipes, & Horovitz, 2010; Matson, Mahan, Kozlowski, & Shoemaker, 2010; Matson & Neal, 2010). Therefore, correct use of the grammatical structures may not be achieved by children with ASC (Eigsti, Bennetto, & Dadlani, 2007). Moreover, children with ASC often have problems understanding the relevant meanings of words (Eigsti, de Marchena, Schuh, & Kelley, 2011). In the light of the above information, it may be that, children with ASC have difficulty forming sentences intelligibly and accurately. Children with ASC may also have problems with defining and using a range of vocabulary which can make their speech simple and repetitive (Stein, Dixon, & Cowan, 2000). Some exceptions to this may include children with Asperger Syndrome who can have a wide and precocious vocabulary and good grammar without understanding the subtle features underlying communication (Wing, Gould, & Gillberg, 2011; Bashe & Kirby, 2001). The pattern of repetitive speech is one of the easily observable features of these children. Atypical articulation, pitch, tone, and a lack of spontaneous communication are among the other features that may be observed in this population (Duffy & Healy, 2011). Another issue is that some of these children cannot adjust their speed of talk; they either talk faster or slower compared to typical children (Alberta Education, 2003). Communicative difficulties have an impact on reciprocal conversation (Nadig, Lee, Singh, Bosshart, & Ozonoff, 2010). Therefore, exchange of views and ideas are problematic and this also impacts on comprehension of social norms and rules surrounding social etiquette (Alberta Education, 2003). Communicative and social issues impact on many areas of life and the effect



can be a vicious cycle of miscommunication and isolation (Charman, Drew, Baird, & Baird, 2003; Wetherby et al., 2004).

### **1.3.2. The additional symptoms (Comorbid disorders)**

Autism hardly ever appears on its own and most individuals with ASC have additional conditions or difficulties. Nearly 10% of people with autism have additional genetic and chromosomal disorders, such as Epilepsy, Fragile X syndrome and Tuberous sclerosis (Cohen, et al., 2005; Hall, Lightbody, & Reiss, 2008; Zecavati & Spence, 2009; DiGuseppi et al., 2010). People with ASC may have symptoms of other conditions such as attention deficit hyperactivity disorder, obsessive-compulsive disorder or oppositional defiant disorder. They may also present with a range of mental health problems and conditions including depression, anxiety, psychotic disorders and bipolar disorder (National Autism Centre, 2011, White, Oswald, Ollendick, & Scahill, 2009, Matson & Nebel-Schwalm, 2007; Farrugia & Hudson, 2006). People with ASC may also have symptoms such as seizures, sleep and eating problems, adaptation problems, hyperactivity, emotional and sensory problems (Ronald, Larsson, Anckarsater, & Linhtenstein, 2014, Case-Smith, Weaver, & Fristad, 2014; Tudor, Walsh, Mulder, & Lerner, 2014; Cermak, Curtin, & Bandini, 2014; Takano, Sawai, Sakaue, Matsui, & Nishikura, 2014; Erbas, Ceulemans, Boonen, Noens, & Kuppens, 2013). Sensory problems should also be emphasised because they are among the comorbid symptoms which are under the “restricted repetitive patterns of behaviours” included in DSM-V (American Psychiatric Association, 2013). The states that “*Hyper- or hyporeactivity to sensory input or unusual interests in sensory aspects of the environment (e.g., apparent indifference to pain/temperature, adverse response to specific sounds or*

*textures, excessive smelling or touching of objects, visual fascination with lights or movement)*” (American Psychiatric Association, 2013, p.50). Although sensory problems play a part of the diagnostic criteria of autism, they are still not among core deficits in DSM-V. However, they are among the most common observed problems in autism (Stewart et al., 2015; Marco, Hinkley, Hill, & Nagarajan, 2011; Kern et al., 2006; Kern et al., 2007). Also, parents state that they are the earliest observed symptoms and research shows that 45-95% of children with ASC have sensory issues (Watling, Deitz, & White, 2001; Ben-Sasson et al, 2007; Baranek et al, 2008; Tomchek & Dunn, 2007).

#### **1.4. Diagnostic criteria and assessment**

Today, there is not a medical test to diagnose autism (Autism Speaks, 2018a). However, physicians and psychologists determine diagnostic criteria and assessment procedures and instruments. In this section, they are explained and discussed. In chapter 2, they are also discussed together with cultural influences.

##### **1.4.1. Diagnostic criteria for autism**

There are two international systems of diagnostic classification for autism. One of them is Diagnostic and Statistical Manual of Mental Disorders (DSM) and it was published by the American Psychiatric Association. DSM has five editions and the first one was published in 1952, and then second edition was established in 1968. However, these two editions did not have any specific criteria for autism (American Psychiatric Association, 1952; American Psychiatric Association, 1968). In 1980, the third edition had formal criteria for

autism and it was published under the title of “Pervasive development disorders” (American Psychiatric Association, 1980). After that, the criteria were developed on several occasions after 1980 (American Psychiatric Association, 1987; American Psychiatric Association, 1994; American Psychiatric Association, 2000). In 2013, DSM- V was published (American Psychiatric Association, 2013). Core criteria in this last edition are related to ASC and are shown in Table 1.

**Table 1.** Diagnostic Criteria for Autism / DSM-V (American Psychiatric Association, 2013)

<b>A. Persistent deficits in social communication and social interaction across contexts, not accounted for by general developmental delay</b>
<b>A1.</b> Deficits in social-emotional reciprocity; ranging from abnormal social approach and failure of normal back and forth conversation through reduced sharing of interests, emotions, and affect and response to total lack of initiation of social interaction
<b>A2.</b> Deficits in nonverbal communicative behaviors used for social interaction; ranging from poorly integrated- verbal and nonverbal communication, through abnormalities in eye contact and bodylanguage, or deficits in understanding and use of nonverbal communication, to total lack of facial expression or gestures
<b>A3.</b> Deficits in developing and maintaining relationships, appropriate to developmental level (beyond those with caregivers); ranging from difficulties adjusting behavior to suit different social contexts through difficulties in sharing imaginative play and in making friends to an apparent absence of interest in people
<b>B. Restricted, repetitive patterns of behaviour, interests, or activities</b>
<b>B1.</b> Stereotyped or repetitive speech, motor movements, or use of objects; (such as simple motor stereotypies, echolalia, repetitive use of objects, or idiosyncratic phrases)
<b>B2.</b> Excessive adherence to routines, ritualized patterns of verbal or nonverbal behavior, or excessive resistance to change; (such as motoric rituals, insistence on same route or food, repetitive questioning or extreme distress at small changes)
<b>B3.</b> Highly restricted, fixated interests that are abnormal in intensity or focus; (such as strong attachment to or preoccupation with unusual objects, excessively circumscribed or perseverative interests)
<b>B4.</b> Hyper or hyporeactivity to sensory input or unusual interest in sensory aspects of environment; (such as apparent indifference to pain/heat/cold, adverse response to specific sounds or textures, excessive smelling or touching of objects, fascination with lights or spinning objects)

Table 1 shows two main criteria and their sub-criteria for autism. These criteria are related to core symptoms of autism (See 1.3.1). In DSM-V, in addition to these criteria, other additional crucial points related to identification of autism are emphasised (American Psychiatric Association, 2013). One of them is that these symptoms must be observed in early childhood. Another criterion is that the symptoms should permanently limit and impair their life. Lastly, it is also mentioned that these people can have comorbid diagnoses of some other conditions. In addition to the criteria, DSM-V points out there are three severity levels of autism and their features are explained. It is indicated that these criteria can be differently experienced by people with autism.

The second international system of diagnostic classification for autism is International Classification of Diseases (ICD) and it was published by World Health Organization (WHO). ICD-10 was published in 2010 and childhood autism was published under the title of “Pervasive development disorders” (World Health Organization, 2010). The criteria are shown in Table 2.

**Table 2.** Diagnostic Criteria for Autism / ICD-10 (WHO, 2010)

<p><b>A.</b> Presence of abnormal or impaired development before the age of three years, in at least one out of the following areas:</p> <ul style="list-style-type: none"> <li>- receptive or expressive language as used in social communication</li> <li>- the development of selective social attachments or of reciprocal social interaction</li> <li>- functional or symbolic play</li> </ul>
<p><b>B.</b> Qualitative abnormalities in reciprocal social interaction, manifest in at least one of the following areas:</p> <ul style="list-style-type: none"> <li>- failure adequately to use eye-to-eye gaze, facial expression, body posture and gesture to regulate social interaction;</li> <li>- failure to develop (in a manner appropriate to mental age, and despite ample opportunities) peer relationships that involve a mutual sharing of interests, activities and emotions;</li> <li>- A lack of socio-emotional reciprocity as shown by an impaired or deviant response to other people's emotions; or lack of modulation of behaviour according to social context, or a weak integration of social, emotional and communicative behaviours.</li> </ul>

<p><b>C.</b> Qualitative abnormalities in communication, manifest in at least two of the following areas:</p> <ul style="list-style-type: none"> <li>- a delay in, or total lack of development of spoken language that is not accompanied by an attempt to compensate through the use of gesture or mime as alternative modes of communication (often preceded by a lack of communicative babbling)</li> <li>- relative failure to initiate or sustain conversational interchange (at whatever level of language skills are present) in which there is reciprocal to and from responsiveness to the communications of the other person</li> <li>- stereotyped and repetitive use of language or idiosyncratic use of words or phrases</li> <li>- abnormalities in pitch, stress, rate, rhythm and intonation of speech</li> </ul>
<p><b>D.</b> Restricted, repetitive, and stereotyped patterns of behaviour, interests and activities, manifest in at least two of the following areas:</p> <ul style="list-style-type: none"> <li>- an encompassing preoccupation with one or more stereotyped and restricted patterns of interest that are abnormal in content or focus; or one or more interests that are abnormal in their intensity and circumscribed nature although not abnormal in their content or focus.</li> <li>- apparently compulsive adherence to specific, non-functional, routines or rituals;</li> <li>- stereotyped and repetitive motor mannerisms that involve either hand or finger flapping or twisting, or complex whole body movements;</li> <li>- preoccupations with part-objects or non-functional elements of play materials (such as their odour, the feel of their surface, or the noise or vibration that they generate);</li> <li>- distress over changes in small, non-functional, details of the environment.</li> </ul>
<p><b>E.</b> The clinical picture is not attributable to the other varieties of pervasive developmental disorder; specific developmental disorder of receptive language with secondary socio-emotional problems; reactive attachment disorder or disinhibited attachment disorder, mental retardation with some associated emotional or behavioural disorder; schizophrenia of unusually early onset; and Rett's syndrome.</p>

Table 2 shows the main criteria of ICD-10 for autism. In ICD-10, it is also mentioned that childhood autism can have the same symptoms as other conditions. This means that some problems such as phobias, sleeping and eating disturbances, temper tantrums, and aggression which are not core symptoms of autism, can be experienced by people with autism.

If these international systems of diagnostic classification are evaluated together, it is clear that there are similarities between DSM-V and ICD-10. However, they have an important difference. While the ICD is produced by World Health Organisation which is a global health agency with 193 WHO member countries;

the DSM is produced by American Psychiatric Association which is a national professional association (American Psychological Association, 2009).

#### **1.4.2. Diagnostic assessment for autism**

Today, some clinical tools are used for assessment of autism, but the Autism Diagnostic Observation Schedule (ADOS) and the Autism Diagnostic Interview - Revised (ADI-R) are widely thought to be the gold standard for its assessment (Reaven, Hepburn, & Ross, 2008). Therefore, in this part, these two assessment tool for autism are explained.

##### **1.4.2.1 The Autism Diagnostic Observation Schedule (ADOS)**

The Autism Diagnostic Observation Schedule (ADOS) is defined as “*a semi-structured assessment of social interaction, communication, play, and imaginative use of materials for individuals who may have autism or other pervasive developmental disorders (PDDs)*” and its aim is “*to provide presses that elicit spontaneous behaviors in standardized contexts. Structured activities and materials, and less structured interactions, provide standard contexts within the ADOS-G in which social, communicative, and other behaviors relevant to the understanding of PDDs are observed.*” (Lord,et al., 2000 , p.205).

This observation schedule has four different modules and the activities of each module are showed in Table 3 (Lord et al., 2000).

**Table 3.** Modules of the Autism Diagnostic Observation Schedule (Lord, et al., 2000)

<p><b>MODULE-1</b></p> <ul style="list-style-type: none"> <li>-Anticipation of a social routine</li> <li>-Functional and symbolic imitation</li> <li>-Free play</li> <li>-Snack</li> <li>-Response to name</li> <li>-Response to joint attention</li> <li>-Birthday party</li> <li>-Bubble play</li> <li>-Anticipation of a routine with objects</li> </ul>	<p><b>MODULE-2</b></p> <ul style="list-style-type: none"> <li>-Construction task</li> <li>-Make-believe play</li> <li>-Joint interactive play</li> <li>-Free play</li> <li>-Snack</li> <li>-Response to name</li> <li>-Response to joint attention</li> <li>-Birthday party</li> <li>-Bubble play</li> <li>-Anticipation of a routine with objects</li> <li>-Demonstration task</li> <li>-Conversation</li> <li>-Description of picture</li> <li>-Looking at a book</li> </ul>
<p><b>MODULE-3</b></p> <ul style="list-style-type: none"> <li>-Construction task</li> <li>-Make-believe play</li> <li>-Joint interactive play</li> <li>-Cartoons</li> <li>-Emotions</li> <li>-Friends/loneliness/marriage</li> <li>-Social difficulties/annoyance</li> <li>-Creating a story</li> <li>-Demonstration task</li> <li>-Reporting a non-routine event/conversation</li> <li>-Description of picture</li> <li>-Telling a story from a book</li> </ul>	<p><b>MODULE-4</b></p> <ul style="list-style-type: none"> <li>-Construction task</li> <li>-Current work/school</li> <li>-Plans and dreams</li> <li>-Cartoons</li> <li>-Emotions</li> <li>-Friends/marriage</li> <li>-Social difficulties/annoyance</li> <li>-Creating a story</li> <li>-Demonstration task</li> <li>-Conversation/reporting a non-routine event</li> <li>-Description of a picture</li> <li>-Telling a story from a book</li> </ul>

The next important point about the modules is that each module is for different groups. While module-1 is for children who do not consistently use phrase speech, module-2 is for those who use phrase speech but who are not verbally fluent. Module-3 is for verbally fluent children and module-4 is for fluent adults. These modules are based on aspects of the diagnostic criteria of DSM-V and ICD-10.

#### **1.4.2.2. The Autism Diagnostic Interview- Revised (ADI-R)**

The Autism Diagnostic Interview (ADI) is one of the clinical diagnostic instruments for autism and its current version was published in 2003 (Rutter, Le Couteur, & Lord, 2003). This interview includes parents' responses for 93 questions which aim to assess social interaction, communication and repetitive, restricted and stereotyped behaviours. This means that the questions reflect diagnostic criteria of DSM-V and ICD-10. Also, the interview questions include eight main content areas (Table 4).

**Table 4.** Contents of the Autism Diagnostic Interview- Revised (Rutter, Le Couteur, & Lord, 2003)

The subject's background, including family, education, previous diagnoses, and medications
Overview of the subject's behaviour
Early development and developmental milestones
Language acquisition and loss of language or other skills
Current functioning in regard to language and communication
Social development and play
Interests and behaviours
Clinically relevant behaviours, such as aggression, self-injury, and possible epileptic features

Both of these measures often contribute to diagnostic assessment of children across the globe. Today, some criteria such as DSM-V and ICD-10 are used by the professional health services. However, there are some gaps and problems related to autism diagnosis. For example, autism is a spectrum condition and individuals in the typical population can have high autistic traits. The cut off point for a diagnosis remains subjective due to the lack of biological indicators



for autism and varying assessment practices. This means that saying 'this child has autism' can be difficult especially for 'borderline cases'. For example, ICD-10 and DSM-V have specific criteria for autism, but they also point out that people with ASC can have some common characteristics with other disorders. Also, according to DSM-V, people can have different severity levels of autism. Because of these points, the criteria can be complicated with symptoms overlapping with other disorders. Also, the criteria are general for each age, gender and culture despite evidence that developmental and cultural differences influence how symptoms are perceived.

### **1.5. Autism prevalence**

The number of people with ASC is increasing across the globe. Although prevalence studies are patchy and problematic the general rise in numbers is widely recognised.

Research suggests dramatic increases in the prevalence of autism. For example, in 1966, prevalence was nearly 4 per 10000 in England (Lotter, 1966). While it reached nearly 5 per 10000 in 1979 (Wing & Gould, 1979). This increase has continued in 2000s and it is 116 per 10000 in the UK (Baird, et al., 2006).

There is a gender imbalance in the diagnosis of autism with more boys being diagnosed than girls (Caronna, Milunsky, & Tager-Flusberg, 2008; Gillberg, 2010). The recent study shows that 1 in 42 boys and 1 in 189 girls have ASC in the USA (Baio, 2014).

The main explanations for the higher rates of autism in boys rely on the genetic component of autism. A number of reasons have been put forward for the rise in

prevalence generally, including parental age, low birth weight, low Apgar score, preterm delivery, breech presentation and caesarean delivery, fetal distress, multiple births, small for gestational age, assisted reproductive technologies and birth order (Durkin et al. 2008, Hultman & Sparen, 2004; Larsson, Viding, Rijdsdijk, & Plomin, 2008; Guinchat, et al., 2012; Gardener, Spiegelman, & Buka, 2011; Zachor & Ben Itzhak, 2011; King, Fountain, Dakhlallah, & Bearman, 2009; Eaton, Mortensen, Thomsen, & Frydenberg, 2001; Glasson et al. 2004). Also, increasing knowledge and awareness about autism and standardised diagnostic tools and criteria have been cited as reasons for increased prevalence (Dover & Le Couteur, 2007).

#### **1.5.1. The possible effective factors on the research related to autism prevalence**

It is no doubt that diagnostic criteria are important to acquire data related to autism prevalence because it is significant which criteria are used for a decision while assessing people. It is known that DSM and ICD are commonly used for diagnosis today. However, they have some different editions (See 1.4). Also, there are differences between these two sets of criteria (See Table 1 and Table 2). This means that research into prevalence is hindered by differences in diagnostic tools both currently and historically.

Another factor which may influence research related to ASC prevalence can be country or research area because culture of countries can play role on identification of autism. This is particularly suggested by the vast differences in prevalence rates found in different countries, with the most marked differences being between East (e.g. Korea and Japan) and West (e.g. America and United Kingdom). Additional studies within countries identify different rates of

prevalence between ethnic groups suggesting that culture may influence levels of diagnosis both between and within countries .These studies are mentioned in Table 5.

**Table 5.** Prevalence of autism spectrum conditions across countries per 10,000 (Zaroff & Uhm, 2012)

Studies	Research area	Ethnicity/race	Prevalence of ASC
CDC (2002)	United States	Total sample	91
		Non-Hispanic White	99
		Non-Hispanic Black	72
		Hispanic	59
Baron-Cohen et al., (2009)	United Kingdom	Total sample	157
Al-Farsi et al., (2011)	Oman	Total sample	1
Barnevik-Olsson et al, (2008)	Sweden	Non-Somali	19
		Somali	70

Table 5 shows that there are vast differences between Oman which is an Eastern country and other Western countries. Differences in prevalence between countries suggest that research area may play a role on autism prevalence. Also, Table 5 shows ethnicity/race can be a factor on autism prevalence. For example, in the USA, there are some different ethnicities/races such as Non-Hispanic White, Non-Hispanic Black and Hispanic and prevalence rates differ between these groups.

## **CHAPTER 2 .INFLUENCE OF CULTURE ON CHILDREN WITH AUTISM SPECTRUM CONDITIONS**

This study explores the influence of culture on parent's views, interventions and symptoms of autism, specifically cultural differences in interpersonal relatedness. This chapter will define culture, make cultural comparisons between Turkey and England and discuss the relationship between culture and responses to autism.

### **2.1. What is culture?**

To understand the influence of culture on autism, the definition of culture firstly should be known. Culture was defined in 1870 by Edward Burnett Tylor (as cited in Avruch, 1998): "*Culture ... is that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society.*" (p. 6). Another definition is "*Culture consists of patterns, explicit and implicit, of and for behaviour acquired and transmitted by symbols, constituting the distinctive achievements of human groups, including their embodiment in artefacts; the essential core of culture consists of traditional (i.e. historically derived and selected) ideas and especially their attached values; culture systems may, on the one hand, be considered as products of action, on the other, as conditional elements of future action.*" (Kroeber & Kluckhohn, 1952, p. 181).

In addition to its definitions, culture can be split into four main subsections: symbols, rituals, values, and heroes (Hofstede, 1994). Firstly, symbols consist of verbal and nonverbal communication which does not include words, such as eye contact, gestures, greeting, and interpersonal space (Mahadi & Jafari, 2012;

Jandt, 2013; Topan 2011). Additionally, of course, there are many languages such as English, Turkish, Spanish, Chinese in the world and all these languages reflect the culture for their own societies. Also, types of non-verbal communication which can have different meanings among countries or societies are other cultural elements. For example, although the meanings of the OK sign (thumb and forefinger joined to form a circle) have positive meaning for people in the USA and refer to money among people in Japan, it is believed as rude behavior in Brazil (Topan, 2011). Hence, it can be said that types of nonverbal communication can have different meaning in different cultural structures. Ritual covers collective activities such as paying respect to others, social and religious ceremonies. For example, African American and Latina girls' show dramatically more respect for parents than European American girls' (Dixon, Graber, & Brooks-Gunn, 2008). In addition to rituals, heroes which can be real or imaginary and are another part of the culture (Hofstede, 1994). Therefore, it can be said that heroes can be a scientist, a singer, a cartoon hero, political leader and so on. For example, the cowboy of the American West can be seen as a cultural hero (Rushing, 1983). It is clear that heroes are important for cultures, so they can motivate people in their own culture (Deal & Kennedy, 1982). Finally, value is another specific core factor of cultures (Hofstede, 1994). In the past, According to Kluckhohn (1951), "*A value is a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable which influences the selection of available modes, means and ends of actions*" (p. 395). Values can also be defined as "*desirable, trans-situational goals, varying in importance, that serve as guiding principles in people's lives*" (Schwartz & Bardi, 2001, p. 269). In addition it can be said that value is a decision about what

is beautiful or ugly, normal or abnormal, unnatural or natural, good or bad (Hofstede, 1994; Jandt, 2013).

After comprehending basic concepts of past research related to culture, in recent years, Spencer-Oatey (2008, p.3) said that *“Culture is a fuzzy set of basic assumptions and values, orientations to life, beliefs, policies, procedures and behavioural conventions that are shared by a group of people, and that influence (but do not determine) each member’s behaviour and his/her interpretations of the ‘meaning’ of other people’s behaviour”*.

Thus, culture has a complex structure and completely defining culture can be difficult. This means that components of culture, such as values, world views, behavioral styles, belief, and language are interactive in a society (Banks, 2006; Banks, 2015). It may be said, therefore, that the culture can affect many elements of people’s life.

## **2.2. What is different between independent and interdependent cultures?**

It is known that while Euro-Americans are more independent, Asian societies are more interdependent (Nisbett, Peng, Choi, & Norenzayan, 2001, Kitayama et al., 2014). In this section, independent cultures and interdependent cultures will be compared. Table 6 shows some crucial differences between interdependent and independent cultures (Markus & Kitayama, 1991; Somech, 2000; Fernandez, Paez, & Gonzales, 2005; Imamoglu & Karakitapoglu-Aygün, 2007; Vieira, Dal Forno Martins, & da Rocha Lordelo, 2013).

**Table 6.**The differences between independent and interdependent cultures

<b>INDEPENDENT CULTURE</b>	<b>INTERDEPENDENT CULTURE</b>
Separateness	Connectedness
Internal attributes	Social relationship
Others important for social comparison, reflected appraisal, but they try to be unique	Adapt to the attendant relationship or group-Relationships with others in specific contexts define the self
Focus on your idea and purposes	Read other's minds and an interest in the other's assigned role
Bounded, unitary and stable	Flexible and variable
Be direct; "say what's on your mind"	Be indirect; "read other's mind"
Cognition: Personally	Cognition: Commonly
Emotion: Ego focused (personal)	Emotion: Other focused (with someone)
Individual motivation	Modest- There may not be an awareness of one's own ability in general (self-bias)

Table 6 shows that there are some main differences between independent and interdependent cultures. In independent cultures the social environment is only important for social relationships; the social environment is a dominant factor, however, in people's life in interdependent culture and it may play a significant role in people's ideas, behaviours, and attitudes. In interdependent cultures, individuals try to adapt to other people, to 'fit in' with the group; in contrast, independent cultures stress people's own ideas and decisions (Markus & Kitayama, 2010). Therefore, social relationships are bounded, unitary and stable in independent culture, despite the fact that they are flexible and variable in interdependent culture (Varnum, Grossmann, Kitayama, & Nisbett, 2010). Local sayings and proverbs reflect these differences, for example, "the squeaky wheel gets the grease" in America which has independent culture and "the nail that stands out gets pounded down" in Japan which has interdependent culture (Markus & Kitayama, 1991). In other words, American people strive to stand out and Japanese people strive to fit in.

Table 6 also shows that people's cognition, emotion and motivation are affected by their cultural structures. Consequently internal factors are effective on people's cognition, emotion, motivation in independent cultures, whereas society is the dominant factor in interdependent cultures. Because of all these factors, while independent culture are characterised by "Separateness", interdependent culture are characterised by "Connectedness" (Markus & Kitayama, 1991; Dwairy, 2010). This cultural difference impacts on all social situations and shapes a sense of self. In independent cultures, the self is felt to reside within the person, but the self is relational and can vary according to social context in interdependent cultures. For example, when American parents induce their children to eat, they say "think of the starving kids in Ethiopia, and appreciate how lucky you are to be different from them." For the same aim, Japanese parents say "think about the farmer who worked so hard to produce this rice for you; if you don't eat it, he will feel bad, for his efforts will have been in vain".

### **2.2.1. The differences between Turkish and English culture**

After comparing general points related to independent and interdependent cultures, English and Turkish culture should be focused on. It is generally accepted that Easterners are more interdependent while Westerners such as English are more independent (Varnum, Grossmann, Kitayama, & Nisbett, 2010). It is known that English culture is among the most independent orientated cultures after the USA (Hofstede, 1980). On the other hand, Turkish culture is interesting because it falls in many ways at the boundary of East and West cultures. It is known that Turks have lived in three parts of the world which are Asia, Europe and Africa for many years (Roux, 1987). Today, they continue



to live in a part of Asia and Europe together, although Turkey is part of Europe. After establishing the Turkish Republic, economic and social reforms were made and most of them such as the legal system, secular education, Latin script, dress code and calendar were taken from Western institutions (Lewis, 1961). In recent years, it may be said that Turkish culture consists of factors related to modernity, tradition and Islam (Kabasakal & Bodur, 2007). Despite western influences, Turkish culture is more interdependent. This is also supported by studies such as that conducted by Hofstede (1980) which found that Turkey was the 37<sup>th</sup> most collectivistic country among 50 countries. This information strongly suggests that Turkey tends to collectivism and is more interdependent than England. This finding was also supported by later research (Göregenli, 1997; Imamoglu, Küller, Imamoglu, & Küller, 1993). According to Hofstede (1980) and Hofstede (2018), interdependence in Turkey leads to an avoidance of relational conflict and a striving for consensus leading to conformity. These papers also point out that face saving is important for Turkish people in their group. This means that they give importance to other people's ideas and they try to keep harmony within their group. These points indicate significant "Connectedness" in Turkish culture. Thus, it can be said that Turkish culture is interdependent.

### **2.3. The relationship between autism and culture**

The causes of autism are not fully understood and research focuses on both environmental and genetic factors (See 1.1.). However, it is widely accepted that *"Autism...knows no racial, ethnic, or social boundaries. Family income, lifestyle, and educational levels do not affect the chance of autism's occurrence"* (Autism Society of America, 2018, para. 1). The dominant current view about

autism is that it is a genetic condition and that it manifests itself in the same way across all cultures. However, even within cultures there is evidence that socio-economic factors can affect schooling and outcomes for children with ASC (Durkin et al., 2010) and access to interventions can influence symptom presentation (Kang-Yi, Grinker, & Mandell, 2013). Because of the fact that DSM criteria do not have sufficient emphasis on culture, the view that autism will be uniform across cultures stems partly from the use of internationally used diagnostic criteria, specifically DSM-5 (Eriksen & Kress, 2005 ; Kress & Paylo, 2014) which provides a uniform set of descriptive statements which can be applied to assessment in any context. Consequently the cultural influences on autism have been largely ignored despite the fact that culture will necessarily influence the interpretation of written criteria, the responses to the condition and the interventions employed (Castillo, 1997; Bhugra & Kalra, 2010; Chung et al., 2012).

### **2.3.1. The relationship between symptoms of autism and culture**

The assumption that autism is a global condition, in which symptoms will present similarly in all cultures relies upon diagnostic criteria being interpreted in the same way in all parts of the world. However, it is likely that culture influences the interpretation of the statements within diagnostic criteria.

In order to have a diagnosis of autism individuals must have core symptoms in socio-communicative skills and behavioural inflexibility. The presence of such symptoms is assessed by researchers and clinicians around the world using diagnostic criteria such as DSM-5 or ICD-10 (See 1.4.). Interpreting these criteria are significant for the diagnosis, but saying these criteria are similarly interpreted around the world may be questionable due to cultural differences.

Although there are limited studies in non-Western countries, some studies show that interpretation can be influenced by cultural factors (Bernier, Mao, & Yen, 2010). For example, although lack of eye contact is a diagnostic criterion of ASC, direct eye contact can be thought of as rudeness in Asian culture (Lian, 1996; Sue & Sue, 2008). Therefore, in this culture, it can be said that children can avoid eye contact due to their cultural structure and it may not relate to autism (Bernier, Mao, & Yen, 2010). In addition, behaviours associated with autism, such as a lack of eye contact, may be seen as abnormal or problematic in some cultures, but not others. Lack of social engagement or social understanding may also be seen as appropriate in some cultures, for example in Saudi Arabia socially withdrawn girls tend not to be categorised as displaying abnormal behaviour (Al-Salehi, Al-Hifthy, & Ghaziuddin, 2009; Bernier, Mao, & Yen, 2010). These examples show that society's perspective related to the symptoms of autism differ according to cultural context.

To sum up, it is clear that people with ASC have core problems and interpreting these problems as symptoms of autism may be different from culture to culture. Especially, as parents and clinicians are likely to be influenced by culture in interpreting criteria and defining what is normal or abnormal within a particular context.

### **2.3.2. The relationship between identification of children with autism and culture**

For discussing the relationship between identification of children with ASC and culture, autism prevalence and diagnostic criteria of autism can be analysed together because they are directly related to the identification.

There is a variety of assessment tools associated with the identification of autism. (See 1.4.2.). For example, there are some screening instruments such as the Checklist for Autism in Toddlers (CHAT) which is a short questionnaire and it can be important that this checklist is filled in by parents and professionals to identify children in terms of the risk of ASC (Autism Speaks, 2018a; Eaves, Wingert, & Ho, 2006). However, this checklist and other useful sources are English and people need to know English to use them. Otherwise, using them and evaluating children are not possible for non-English speaking people. Because of this reason, the Modified Checklist for Autism in Toddlers (M-CHAT) is translated to many languages such as Chinese, Arabic (Wong et al., 2004; Seif Eldin et al., 2008). Nevertheless, the direct translation of documents fails to acknowledge cultural nuances, beliefs and practices. Diagnostic and assessment tools are largely developed in the west and transported to eastern countries without any regard for fundamental cultural differences. In addition, cultural beliefs about what is “normal” or “abnormal” behaviour are not explored or reflected in these tools.

Large scale or population-wide studies are useful in exploring the possibility of cultural differences in the identification of autism. For example, the prevalence of autism can be compared between countries. Large differences in prevalence may suggest different approaches to diagnosis or identification. Table 7 shows the findings of some such studies.

**Table 7.**Research which focuses on collecting data related to ASC prevalence (Centers for Disease Control and Prevention, 2016)

	<b>Author</b>	<b>The time period studied</b>	<b>Country</b>	<b>Number of children in population</b>	<b>Criteria used</b>	<b>Age range Studies</b>	<b>ASC prevalence per 1000 (CI)</b>
GROUP 1	CDC ADDM Network	2000	USA	187,761	DSM-IV	8	6.7
	CDC ADDM Network	2002	USA	444,050	DSM-IV	8	6.6
GROUP 2	Matsuishi et al	1983	Japan	32,834	DSM-III	4 to 12	1.55 (1.16-1.64)
	Tanoue et al.	1977-1985	Japan	95,394	DSM-III	3 to 7	1.38 (1.16-1.64)
	Sugiyama & Abe	1979-1984	Japan	12,263	DSM-III	2 to 5	1.3 (0.7-2.1)
GROUP 3	CDC ADDM Network	2008	USA	337,093	DSM-IV	8	11,3 (Average)
	Al-Farsi et al.	2009	Oman	798,913	DSM-IV	0-14	0.1

Firstly, Group 1 and 2 will be mentioned together. In Group-1, data was collected using the same criteria in the USA and children aged 8 years participated in these studies. Also, the study period in these studies is nearly same. However, the population is different. While data was collected from

187,781 children in the first study in 2000, data was collected from 444,050 children in a second study in 2002. Despite this difference, ASC prevalence is 6.7 and 6.6 is almost the same for these two studies in Group 1. In Group-2, there are three research studies in Japan and they used the same criteria to collect data. The first data was collected from 32,834 participants in 1983 and their ages are from 4 to 12, second data was collected from 95,394 participants in between 1977 and 1985 and their ages are from 3 to 7. The last data set was collected from 12,263 participants in between 1979 and 1984 and their ages are from 2 to 5. The populations differ as do the ages of the children. Despite these differences, ASC prevalence is nearly the same: 1.55, 1.38 and 1.3 among the 3 studies.

If the studies in Group 3 are analysed, one of them included 337,093 children aged 8 years in the USA and data was collected by DSM-IV in 2008 (Centers for Disease Control and Prevention, 2016). Another research study based in Oman included 798,913 children aged between 0 and 14, data was collected by DSM-IV in 2009 (Table 7). In Group-2, the studies have the same diagnostic criteria and their study periods are almost the same. Between these two studies, the population, countries and ages differ but the most remarkable difference is their rate of ASD prevalence because this ratio is 11, 3 in the USA while it is 0, 1 in Oman.

The studies in each group used the same criteria and occurred in a similar time period. In other words, symptoms of ASC were evaluated in nearly same period while looking at the same criteria for each group prevalence rates within countries do not differ substantially, but there are marked differences between

countries. It is possible that diagnostic criteria are being interpreted differently in different countries and that culture plays a part in this process.

### **2.3.3. The relationship between children with ASC and their parents**

It can be said that culture may affect parents' views on autism (Griffin, Peters, & Smith, 2007). Thus, parents' approaches related to their child are likely to differ in different cultural contexts. For example, parents are often instrumental in identifying significant problems or behaviours that seem untypical in the child. They are, of course, also responsible for the child's care and for seeking and responding to professional advice. Culture can play an important role for parent's ideas and attitudes. For example, African Americans may want to learn their friends and family member's advice before contacting a professional service, but White Americans may prefer traditional treatments and professional services (Sue & Sue, 2008). Consequently White Americans are diagnosed earlier than other ethnic groups, such as African Americans (Gibson, 2007; Morrier, Hess, & Heflin, 2008; Tek & Landa, 2012). Also, it is known that delay in language, communication and social skills of minority children may not appear unusual to the parents for a variety of reasons (Danseco, 1997; Ennis-Cole, Durodoye, & Harris, 2013). For example, when young children talk with adults in rural South Africa, they may look at their faces, but they do not generally make direct eye contact to be respectful (DeWeerd, 2012). Similarly, in India, mothers believe that boys develop language later than girls, hence they may not seek professional help as early as a parent in a different culture (Daley, 2004). These examples show cultural factors can have an impact on parental beliefs and actions, and this is likely to impact on diagnosis and intervention.

In considering culture it is also important to understand that countries can have diverse cultures within them. Hence local cultural differences can also have an impact on the response to autism. This may also cause difficulties when interacting with professionals from other cultural groups with different values and beliefs concerning the presentation of symptoms or the best course of treatment. For example, there are some small places in American culture that have a strong interdependent culture, although their national culture is independent (Bellah, Madsen, Sullivan, Swidler, & Tipson, 1985; Markus & Kitayama, 1991). For instance, while some Anglo Americans believe immunizations are the cause of autism, African Americans tend to think diet, food processing, and contamination are reasons for autism (Pitten, 2008). Moreover, Asian Americans may believe religious violation can cause autism (Danseco, 1997; Dyches, Wilder, Sudweeks, Obiakor, & Algozzine, 2004). Thus, it is clear that there are different views and perceptions among American parents. This means that the dominant culture of a country may not be applicable to all groups within a particular country.



## **CHAPTER-3.INTERVENTIONS IN AUTISM**

It is known that prevalence of children with Autism Spectrum Conditions (ASC) has increased (Blumberg et al., 2013; Kim et al., 2011). It is also known that there is no cure for autism (Crowe & Salt, 2014). However, there are many different interventions to help in solving the problems of people with ASC (Francis, 2005). Many interventions are associated with positive outcomes (Paul, 2008; Wang & Spillane 2009; Dawson, 2008).

Before separately explaining and discussing the interventions, some crucial points related to using them should be explored. It is generally accepted that interventions should be started as soon as possible because intervention associated with learning, behaviour and health are most beneficial during the first three years of life when children are going through a developmental process of rapid change (Center on the Developing Child, 2007, 2010). Therefore, it can be said that early interventions are more effective for children with ASC. It should also be emphasised that parents are often the initiators of early intervention and the maintenance of such interventions often relies upon their support and care. Parents are, of course, often the first to recognise that professional help is needed for their children. In some cases, for example where the child is the first child, parents may be less aware of the need for intervention. Intervention prior to diagnosis may be useful, given the possibility of having to wait for a diagnosis (Smith, Segal, & Hutman, 2017). Finally, it should be said that there are many interventions and treatments for children with ASC that are not empirical evidence-based, for this reason it is often difficult to establish the best course of action (Heflin & Simpson 1998). This is not true of all approaches, however, and many interventions and treatments are subject to empirical enquiry (Simpson, 2005). The effectiveness of the wide variety of interventions

available continues to be a topic of discussion and controversy (Hume, Bellini & Pratt, 2005; Woods & Wetherby, 2003).

### **3.1. Interventions**

#### **3.1.1. Pharmacological Interventions**

It is important to note that pharmacological interventions which include medicines and drugs are not specific interventions for the symptoms of autism, but they are widely used for ASC (Roth, Barson, Hoekstra, Pasco, & Watson, 2010). For example, Roth, Barson, Hoekstra, Pasco, & Watson (2010) points out that there is not any licensed drug specifically for people with ASC in the UK. Therefore, it can be said that they are used due to comorbid symptoms with other conditions of autism.

Medications are generally known as chemical substances which are used for medical diagnosis, cure, treatment, or prevention of disease. Similarly, some chemical substances or pharmacological interventions used in autism are felt to alleviate comorbid mental health problems such as anxiety and depression, behavioral problems, seizures and inattention and hyperactivity (Filipek, Steinberg-Epstein, & Book, 2006; Horner, Carr, Strain, Todd, & Reed, 2002). The use of medication in treating the symptoms of autism and associated problems is long-standing (Waltz & Shattock, 2004). Generally, the role of medication is seen as helping to solve problems in the central nervous system, gastrointestinal system, cardiovascular and respiratory systems, endocrine system and immunology and infection (Research Autism, 2017a).

Risperidone has been used in the treatment of ASC because some data shows it can alleviate tantrums, aggression, and self-injury of children with ASC (Research Units on Pediatric Psychopharmacology Autism Network, 2005).

Also, Risperidone has been shown to be an effective intervention in controlling restricted, repetitive, and stereotyped patterns of behavior, interests, and activities of children with ASC (McDougle et al., 2005). However, Risperidone has not been shown to be helpful for all symptoms of autism and is not effective at treating social and communication problems (McDougle et al., 2005). Risperidone has been criticised on the basis of common side effects such as tiredness, increased appetite and weight gain (Roth, Barson, Hoekstra, Pasco, & Whatson, 2010). It is also important to consider the dose of Risperidone prescribed as data shows Risperidone is not harmful up to 3.5 mg for up to 8 weeks for cognitive performance of children with ASC (Aman et al., 2008). This means that using a low dose (up to 2 mg daily in children weighing up to 45 kg and up to 3.5 mg daily in those weighing over 45kg) is less problematic (McCracken et al., 2002).

Methylphenidate, which is used in the treatment of attention-deficit hyperactivity disorder (ADHD) may also be used in the treatment of ASC (Pearson et al., 2013). In some cases children with ASC may also have symptoms of ADHD (See 1.3.2) such as problems about attention, hyperactivity, and impulsivity (Frazier et al., 2001; Goldstein & Schwebach 2004; Sturm, Fernell, & Gillberg, 2004; Lecavalier 2006; Pearson et al., 2006; Reiersen, Constantino, Volk, & Todd, 2007; Simonoff et al., 2008). This means methylphenidate is useful for children with ASC who have additional symptoms associated ADHD. Recent estimates state that around 58% of children with ASC and ADHD symptoms receive medication (Frazier et al. 2011; Pringle, Colpe, Blumberg, Avila, & Kogan, 2012) Methylphenidate can be helpful to reduce hyperactivity in children with ASC (Research Units on Pediatric Psychopharmacology Autism Network, 2005). On the other hand, Roth, Barson, Hoekstra, Pasco, & Whatson (2010)

states that using Methylphenidate can cause some side effects such as sleeping problems, reduced appetite, irritability, hypersensitivity, dermatitis and dizziness.

Melatonin is another medication given to children with ASC because it treats their sleeping problems (Malow et al., 2012). This is common because it is known that nearly 50-80% of children with ASC have sleeping difficulties (Couturier et al., 2005; Krakowiak, Goodlin-Jones, Hertz-Picciotto, Croen, & Hansen, 2008; Souders et al., 2009; Goldman et al 2011). Also, sleep problems can negatively affect core and related symptoms of ASC such as social problems, repetitive behaviors, and some problems related to ADHD (Schreck , Mulick, & Smith, 2004; Gabriels, Cuccaro, Hill, Ivers, & Goldson, 2005; Malow et al., 2006; Goldman et al., 2009; Goldman et al., 2011). Therefore, it is clear that Melatonin is helpful to treat children with ASC. In addition to its benefits, research shows Melatonin does not have problematic side effects (Cortesi, Giannotti, Sebastiani, Panunzi, & Valente, 2012).

Selective Serotonin re-uptake inhibitors (SSRIs) are another treatment used for people with ASC who exhibit problems such as depression, anxiety and obsessive-compulsive behavior (William, Brignell, Randall, Silove, & Hazell, 2013). It is claimed that using drugs related to SSRIs can help children with ASC, however, these drugs have some side effects such as maladaptive behaviors, weight gain, mood swings, urinary retention, agitation, seizures, liver damage (Branford, Bhaumik, & Naik, 1998; Roth, Barson, Hoekstra, Pasco, & Whatson, 2010). Also, the Committee on Safety in Medicines (UK) and the Food and Drug Administration (USA) warn that SSRIs may cause a risk related to suicide related behaviors (Murray, Wong, & Thompson, 2005; Nemeroff et al., 2007).

The use of medication for children and young people is controversial and it is well documented that the medication used in the treatment of ASC can have both positive and negative effects. For example, according to McCracken et al., (2002), risperidone is helpful to decrease in aggression, self-injury, and agitation for 70% of children with ASC, but there are also well documented side effects.

### **3.1.2. Animal-Assisted Intervention**

For many years, it has been believed that animals can positively affect human functioning. For instance, Florence Nightingale said that having birds in the hospital was beneficial for patients (McConnell, 2002). Reviews of animal assisted therapy suggest that this type of intervention can be helpful for conditions such as autism (Nimer & Lundahl, 2007). AAI refers to both animal-assisted therapy (AAT) and animal-assisted activities (AAA) (Griffin, McCune, Maholmes, & Hurley, 2011; Kruger & Serpell 2010). *“Animal assisted therapy is a goal-directed intervention in which an animal that meets specific criteria is an integral part of the treatment process. AAT is directed and/or delivered by a health/human service professional with specialized expertise and within the scope of practice of his/her profession. Key features include specified goals and objectives for each individual and measured progress.”* (Kruger & Serpel, 2010, p. 23). On the other hand, according to Kruger and Serpel (2010), *“AAA provides opportunities for motivational, educational, recreational, and/or therapeutic benefits to enhance quality of life. AAAs are delivered in a variety of environments by specially trained professionals, paraprofessionals, and/or volunteers in association with animals that meet specific criteria. Key features*

*include absence of specific treatment goals; volunteers and treatment providers are not required to take detailed notes; visit content is spontaneous.” (p. 23).*

Whilst AAI is generally seen as a positive intervention, infection from animals, allergy and bites can be risk factors of the intervention (Brodie, Biley, & Shewring, 2002). According to Martin and Farnum (2002), friendly relationship between children with ASC and dogs is useful to improve their social and communication skills. Similarly, some studies suggest that riding horses helps to develop skills of children with ASC (Bass, Duchowny, & Llabre, 2009; Benda, McGibbon, & Grant, 2003; Rothe, Vega, Torres, Soler, & Pazos, 2005; Bass, Duchowny, & Llabre, 2009). Other papers point out that dolphins can be useful to develop social and communication skills of children with ASC (Marino, & Lilienfeld, 2007). Smaller animals such as rabbits and birds are also used in AAI (Perelle & Granville 1993; Holcomb, Jendro, Weber, & Nahan, 1997). AAI can help to reduce stress, loneliness and isolation; and can improve social interaction and connection, and increase socio-emotional functioning (Friedmann & Son 2009; Wells, 2009). Nimer and Lundahl (2007) also report that AAI are helpful for people who have ASC in alleviating some behavioural problems such as childhood aggression or severe conduct problem. It is also known that AAI improves empathy, responsibility and people's moral (Daly & Morton, 2006; Poresky, 1990). It has been claimed that there is a special connection between animals and children with ASC (Cirulli, Borgi, Berry, Francia, & Alleva, 2011). This suggestion is supported by parents of children with ASC, as well. Christon, Mackintosh and Myers (2010) found that 62.7 % of parents of children with ASC found AAI to be a useful intervention for their children. Although these studies paint a positive picture of AAI, Lindgren and Doobay (2011) state that the scientific evidence of AAI is not strong for children

with ASC. For example, therapeutic horseback riding and dolphin-assisted therapy has no evidence base (Autism Science Foundation, 2018). Therefore, the effectiveness of AAI is open to argument.

### **3.1.3. Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH)**

Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH) is an intervention program for people with ASC (Virues-Ortega, Julio, & Pastor-Barriuso, 2013). This program was established at University of North Carolina by Eric Schopler in 1966 and focuses on the education and treatment of children with ASC (Schopler & Reichler, 1971; Mesibov, Shea, & Schopler, 2005). This program focuses on improving their children's skills and addressing interests, and needs (Butler 2007).

TEACCH is based on understanding and respect for autism. In other words, the TEACCH programme considers characteristics of autism which are unique abilities, weaknesses, and learning preferences of children with ASC. These points are referred to as "culture of autism" and this is a significant factor of TEACCH (Mesibov, Shea, & Schopler 2004). Also, TEACCH has some basic principles and concepts including improved adaptation, parent collaboration, assessment for individualised treatment, structured teaching, skill enhancement, and generalist training (The National Autistic Society, 2017). Among these principles, structured teaching is a fundamental factor; TEACCH's intervention approach is also called "Structured Teaching" (Autism Speaks, 2018b). Structured teaching is "*an array of teaching or treatment principles and strategies*" (Mesibov, Shea, & Schopler, 2005, p.33). Mesibov, Shea, & Schopler (2005) states that structure teaching is teaching in structured environment

which includes clear expectations, visual materials, schedules and work system to develop skills of children with ASC. Because of this, teaching is predictable for people, so they can make a transition to new practises and expectations more easily and with less stress because they can predict what is coming next (Mesibov, Shea, & Schopler, 2005).

If structured teaching is explained in detail, it constitutively focuses on a visual approach, within highly structured environments (Mesibov, Shea, & Schopler, 2005). The basic elements of structured teaching are physical organisation, schedules, work systems, and task organization (Lal & Shahane, 2011). Physical organisation at both school and home should be clear, interesting and manageable for children with ASC (Mesibov, Shea, & Schopler, 2005). Also, schedules which use visual cues should be employed in order to motivate the children to complete a task and show them what to expect during a day (Lal & Shahane, 2011). Routines, in combination with visual schedules, are another element of structured teaching because they help the children to understand the environment and be more flexible (Swanson, 2005). The use of work systems is also an important element for structured teaching. According to Mesibov, Shea and Schopler (2005), *“Individual work/activity systems are organizational systems that provide the answers to four related questions: 1) What task or activity the person is supposed to engage in? 2) How much work (or how many tasks) is required during the specific work period, or how long will the activity last? 3) How person will know that progress is being made, and that the activity is finished? 4) What happens next after the work or activity is completed?”* (pp. 43, 44). This shows that work systems provide plans activities through the day in detail. The last element of structured teaching is task organisation which is visually based because children with ASC tend to be visual learners (Rao &



Gagie, 2006). All tasks should have visual instruction, visual organisation and visual clarity (Mesibov, Shea, & Schopler, 2005). With these elements, “Structured Teaching” is created and aims to help children understand and predict what is happening in their environment, acquire new skills and generalise skills from one setting to another (Iovannone, Dunlap, Huber, & Kincaid, 2003). In this way structured teaching can play a role in improving adaptation and skill enhancement, which are core concepts of the TEACCH program. Consequently, the key components of “Structured Teaching” are physical layout, predictability, visual schedules, structured activities or work system and visual supports (Blubaugh & Kohlmann, 2006).

The TEACCH approach also places a high emphasis on parental involvement. According to Butler (2007), parents have a significant role to play in TEACCH-based home intervention. Parents of children with ASC work with professionals as co-therapists, so techniques or strategies can be continued at home by parents (Research Autism, 2017b). In other words, parents are practitioners of the TEACCH program at home. In addition to parents’ role in the program, the responsibilities of the TEACCH program to parents is also stressed, specifically: 1) TEACCH should respect parents’ knowledge related to their children, 2) the individuality of each family, 3) the love that parents have for their children, 4) the resilience of parents in finding solutions and ways of coping, 5) the contributions, 6) the needs of parents (Mesibov, Shea, & Schopler, 2005).

TEACCH also emphasises the importance of an individual approach, because TEACCH supports the individual's ability to understand and learn from their own situation and apply what they have learnt to other situations particular to their own life (Mesibov, Shea, & Schopler, 2005). Therefore, it can be said that

“Structured Teaching” should be planned according to personal factors and needs. Also, Howley and Preece (2003) stated that the individual elements in TEACCH program may develop learning and facilitate independence. This point clearly shows that independent learning is one of the benefits of the TEACCH program (Virues-Ortega, Julio, & Pastor-Barriuso, 2013). In addition, the principles, especially improved adaptation, structured teaching, and skill enhancement, aim to improve basic skills which are related to activities of daily living, communication, language, social skills, executive functioning, attention, and engagement (Schopler, 2005). Moreover, it is known that improved adaptation can help to reduce behavioral problems (Virues-Ortega, Julio, & Pastor-Barriuso, 2013). Finally, it should be known that the last concept of TEACCH program is that professionals in the TEACCH program are not specialists such as speech therapist and psychologists because they should understand all children (The National Autistic Society, 2017). This mean is that professionals should understand different conditions and be generalist.

It is important that TEACCH should use flexible ways to meet needs of individuals with autism (Rose & Howley, 2003) because TEACCH gives importance to individualism and uses individual's curriculum (Virues-Ortega, Julio, & Pastor-Barriuso, 2013). Therefore, flexibility as well as structure is necessary for TEACCH. Also, it is known that TEACCH is commonly used in schools (Hess, Morrier, Heflin, & Ivey, 2008) including mainstream schools. According to Ijichi and Ijichi (2006), children who are typically developed children should know and respect the “culture of autism” in mainstream classrooms. If these points and main factors related to TEACCH are considered, research suggests that TEACCH is largely successful in its aims. That is in developing new adaptive skills, developing environmental

modifications to accommodate the problems children with ASC face, providing, through teacher/parent, partnership a continuity of structured teaching in the daily life of children with ASC and preventing the development of further behavioural problems. TEACCH is also an evidence-based intervention (Mesibov & Shea, 2010).

### 3.1.4. Social Stories

It is known that individuals with ASC have social problems (See 1.3.1.1). Social stories were introduced to develop the social skills of children with ASC by Carol Gray in 1993 (Gray, 1998). These stories are short narratives which consist of essential social information (Gray, 2004; Özdemir, 2010). Providing “*practical, tangible social information*” (Gray, 1998, p. 169). Table 8 describes the scope of social stories in more detail and is taken from the National Autistic Society guidelines (The National Autistic Society, 2008).

**Table 8.** The National Autistic Society (2008). How to write a social story

Sentence type	What is this?	Examples
Descriptive	Answers the 'wh' questions where does the situation occur, who is it with, what happens and why? Descriptive sentences need to present information from an accurate and objective perspective.	Christmas Day is 25 December.  Most children go to school.  Sometimes I get sick.
Perspective	Refers to the opinions, feelings, ideas, beliefs or physical/mental well-being of others.	My Mum and Dad know when it is time for me to go to bed.  Teachers like it when students raise their hand to ask a question in the classroom.  Some children believe in Santa Claus.

Directive	Gently offers a response or range of responses for behaviour in a particular situation. It is important that these sentences have a positive focus and are constructed in ways which allow flexibility (ie avoid statements like I must or I have to).	<p>I will try to cover my mouth when I cough.</p> <p>I might like to play outside during lunchtime.</p> <p>When I am angry, I can:</p> <ul style="list-style-type: none"> <li>- take three deep breaths</li> <li>- go for a walk</li> <li>- jump on the trampoline.</li> </ul>
Affirmative	Statements that enhance the meaning of the previous sentence (which may be a descriptive, perspective or directive sentence) and can be used to emphasise the importance of the message or to provide reassurance to the person.	<p>(I will try to hold an adults hand when crossing the road). This is very important.</p> <p>(Thunder can be very loud). This is ok.</p>
Co-operative	Sentences which identify how others may be of assistance to the person (developed by Dr Demetrious Haracopos in Denmark).	<p>Mum and Dad can help me wash my hands.</p> <p>An adult will help me when I cross the road.</p> <p>My teacher will help me to try to stay calm in class.</p>
Control	Statements written by the person with autism to provide personal meaning to a particular situation and to assist them to recall and apply information.	<p>My body needs food several times per day; just like a steam train needs coal to stay running.</p>
Partial	Incomplete sentences, which allow the person to guess the next step in a situation, and may be used with descriptive, perspective, directive, affirmative, co-operative and control sentences.	<p>My name is _____ (descriptive sentence)</p> <p>Mum and Dad will feel _____ if I finish all my dinner (perspective sentence)</p>

According to Gray (2004), one directive sentence and at least two sentences of the other types should be used in a social story. In this way, social stories should not be simply a list of what to do (Gray, 1998). The stories should

encourage flexibility through the use of words such as “probably” and “sometimes” (Kokina & Kern, 2010). Another important point is that social stories should include visual materials to support attention and prevent misinformation (Karayazi, Evans, & Filer, 2014). These visual materials such as photos or pictures enable students to benefit regardless of their reading levels (Hanley, 2008). In order to support the child in relating the story to their own experience Social Stories are also written from a first person perspective (Wilkinson, 2010).

Crozier and Sileo (2005) discuss the use of social stories in educational contexts. According to them, when using the social stories, teachers should read the social story to the students and then ask some questions in order to convey significant points in the story. Students can also read the story themselves, or it can be heard from a recording. Care must be taken, however, when using social stories with reading difficulties and they should not be expected to comprehend the story without support.

Research into the use of social stories suggests that they can help to develop social skills of children with ASC (Samuels & Stansfield, 2012). According to Xin & Sutman (2011), these stories also develop the social interaction of individual with ASC. Social stories also appear to alleviate some behaviour problems such as crying, screaming and hitting, possibly because such behaviours stem from frustrations and fears associated with a lack of understanding about what will happen in daily life (Adams, Gouvousis, VanLue, & Waldron, 2004). It has also been suggested that Social stories can help children to develop empathy (Gray, 1994). Generally social stories are presented as being helpful in developing social, behavioral and communication skills (Reichow & Sabornie, 2009).

Despite reports of positive outcomes associated with social stories they are also reported to have limitations (Reichow & Sabornie, 2009). One criticism is that the stories can be complex and comprehending the information in the stories can be difficult for some children (Karayazi, Evans, & Filer, 2014). Also, according to Karayazi, Evans, & Filer (2014), social stories focus on developing only one anticipated event or situation at a time, consequently what is learnt may be difficult to generalise across a range of scenarios. In addition to these limitations, it should be emphasised that there are few studies that show social stories to be effective (e.g., Gray & Garand, 1993; Norris & Dattilo, 1999; Swaggart et al., 1995) and additional research-based evidence is a needed for this intervention.

### **3.1.5. Interactive Interactions**

Interactive interventions include a number of approaches, such as intensive interaction, floortime, dance therapy and music therapy (Zeedyk, 2012).

In 1982, psychologist Geraint Ephraim observed infants' non-verbal communication which consists of eye contact, facial expression, non-verbal vocalisations, and hand or body gestures with their parents in the pre-verbal period. After these observations, he focused on "augmented mothering" and it became the main concept of intensive interaction (Ephraim, 1986). In other words, the purpose of intensive interaction is increasing teachers, carers and other communication partners' responsiveness in order to teach the fundamental skills underlying communication (Nind & Hewett, 1988). Therefore, intensive interaction is a strategy to develop non-verbal communication and social skills of children with ASC (Kurtz, 2008). After 1982, this approach was developed by Phoebe Caldwell, who is an expert practitioner who has

developed this intervention particularly for non-verbal children with ASC (Caldwell, 2006; Caldwell, 2008;Caldwell, 2013). According to Caldwell, parents and other communication partners should know the child and their common behaviours. Because of this, practitioners (or carers) firstly should carefully observe the children. After this process, they can use a blend of direct imitation, non-verbal vocalisations, behaviour, touching and body language in response to the behaviours of the children. When using this, repetitions and rhythms are helpful, for example sessions may begin by simply listening to and mimicking the child's breathing rhythms. She also emphasised that the children are a focal point in this intervention and the process should be fun. Intensive Interaction is responsive rather than directive and children's preferences, behaviours and interests lead the sessions.

Another interactive intervention is "Difference, Relationship-Based (DIR)/Floortime". As the name suggests this approach involves getting on the floor to play. This approach was developed by Greenspan and Wieder (Greenspan & Wieder, 1997). Floortime focuses on "*relationships, social skills, meaningful, spontaneous use of language and communication, and integrated understanding of human development*" (Pajareya & Nopmaneejumruslers, 2011, p.3). Like intensive Interaction the sessions are led by the child's own interests or actions, but build on those interests to initiate new interactions. For instance, when a child taps a toy truck, the parent similarly taps a toy car. After that, the parent may put the car in front of the truck. Therefore, supporting the development of an action based conversation or interaction (Autism Speaks, 2018c). Also, focusing on "who they are" is more important than focusing "what their diagnosis says" in this approach (The Greenspan Floortime Approach, 2018). For example, children can be diagnosed as ASC, but they are different

from each other. Therefore, their integrated understanding or knowing personal points are important in this intervention. Some papers also show floor time has some positive effects on children with ASC (Mahoney & Perales, 2003; Solomon, Necheles, Ferch, & Bruckman, 2007). These benefits are developing self-regulation and interest in the world, engaging in human relations, two-way communication, complex communication, emotional ideas and emotional thinking (Autism Speaks, 2018c).

Other interactive approaches include music therapies. Peters (2000) states that *“music therapy may be defined as a planned, goal-directed process of interaction and intervention, based on assessment and evaluation of individual clients’ specific needs, strengths, weaknesses, in which music or music-based experiences (e.g., singing, playing musical instruments, moving or listening to music, creating or discussing songs and music) are specifically prescribed”* (p. 2). Music therapists use basic therapeutic methods such as dialoguing, mirroring, imitating and coping and advanced therapeutic methods such as extemporising and frame working in the therapy with some music techniques such as basic piano improvisation techniques (Wigram, 2004). At this point, it should be said that music therapy is often used with theoretical frameworks from related fields in the therapeutic process together (Kern, Rivera, Chandler, & Humpal, 2013). For example, while Brownell (2002) used social stories with music interventions, Carpenete (2009) combined the DIRH/Floortime Model with improvisational music therapy. Many studies have agreed that this form of therapy is useful for children with ASC (Gordon, 2001; Shore, 2002). For example, they can reduce stress and levels of aggression (Lundqvist, Andersson, & Viding, 2009), so music plays a positive role on the social and communication skills of children with ASC (Buday, 1995). Music therapy



interventions have a positive effect on developing communication, interpersonal skills, personal responsibility, and play in young children with ASC (Whipple, 2012). Therefore, it is clear that these points are relevant for the problems of children with ASC, so music therapy can be useful. Moreover, many parents, who have children with ASC, support the view that music therapy is helpful for them (Accordino, Comer, & Heller, 2007). However, according to Wigram (2004), there are some limitations of music therapy. For example, a lack of shared instruments, limitation of research about observation instruments in music therapeutic sessions, the non-systematic use and limited diffusion of these observation instruments.

In addition to music therapy, dance and movement can be used to develop the skills of children with ASC. Dance Movement Therapy (DMT) uses movements for improving people's emotional, cognitive, physical, and social integration (LaVine, 2015). This therapy can also play an important role in stress reduction (Bräuninger, 2012). Welling (2014) mentioned that DMT can be used to achieve a number of objectives, as it supports people in their social, cognitive and emotional lives. These points are relevant to symptoms and problems in autism, so it can be said that dance activities and techniques in DMT can overcome deficits in children with ASC. For example, mirroring in dance movement therapy develops people's natural empathy skills (McGarry & Russo, 2011). It may be shown as a reason for these improvements that DMT strives to connect people's body and mind (Rainbow, Lo, & Luk, 2015). Also, dance is a way to engage in the process of personal integration and growth for people in DMT which uses expressive movement (Payne, 2006).

Although many studies suggest that interactive interventions are beneficial, it should be emphasised that further scientific evidence is needed to show their effectiveness. For example, although floor time is a popular approach, there is a lack of scientific evidence to support the benefits of its use (Lindgren & Doobay, 2011). Similarly, music therapy is a non-evidence-based treatment (Autism Science Foundation, 2018).

### **3.1.6. Visual Aids**

It is clear that people can share their thoughts, expressions, desires, and needs with other people thanks to communication (Fitzer & Sturmey, 2009; Heward, 2013). Thus, it can be said that communication plays an important role in people's life. However, it is widely known that problems in communication are one of the core symptoms in ASC (See 1.3.1.1). Therefore, developing the communication skills of children with ASC is a need and using visual material is one of the strategies to develop this skill, because visual media can enhance the communicative skills of children with ASC (Hayes et al., 2010). In addition to communication, it is believed that visual approaches can also support wider development of children with ASC.

Visual approaches and tools can be in different forms such as real objects, tactile symbols, photographs, miniatures of real objects, line drawings, coloured pictures and written words; all of which might be useful to children with ASC (The National Autistic Society, 2016a). Their benefits are mentioned in Table 9.

**Table 9.**The different forms of visuals (The National Autistic Society, 2016a)

Timetables/schedules	Behavior - praise, demonstrate appropriate behavior, stop inappropriate behavior
Helping with sequencing	Behavior strategies
Transition and change	Social skills
Starting and finishing activities	Locating people and places
Introduction of new activities or situations – general knowledge, curriculum subjects, news	Safety
Instructions/reminders	Structuring the environment
Choice	Independent living skills
Understanding emotions and expressions	Sex education
Sharing information	Health

If we consider Table 9, it is clear that there are different areas where visuals may be useful. Timetables/ schedules consist of time periods which can be yearly, monthly, weekly, daily or short periods (Larkey, 2006). In other words, timetables can be used for long term activities or short term activities. For example, children with ASC can have daily timetables showing all the main activities in a day. Thus, a particular period can be planned and supported by visuals (Figure 4). Timetables can also show areas of work and reward in order to motivate children with ASC. For example, a child said that timetable helped me to see what I have to do next, so I do not feel upset and get confused (Reid & Batten, 2006).



**Figure 4.** An example of timetable for children with ASC

Visual aids can also support basic sequencing skills sequencing. For example, children with ASC can see steps related to washing hands on visuals (Figure 5).

 Washing hands	
	Water on
	Hands wet
	Rub hands with soap
	Rinse
	Water off
	Dry

**Figure 5.** The visual shows steps related to washing hands

Moreover, it is known that children with ASC tend to crave ordered routine and find change or unexpected events difficult (Gabriels, Cuccaro, Hill, Ivers, & Goldson, 2005). Consequently, transition from one activity to another activity is difficult for children with ASC (Schmit, Alper, Raschke, & Ryndak, 2000). However, visuals can support transition and change for them by allowing them to anticipate the series of events within a familiar, easy to understand framework (Table 9). Children with ASC also often feel more comfortable if they know the duration of particular events as well as the sequence (Table 9). If simple instructions are supported by visuals, recall of steps can also be augmented, thereby lessening anxiety about the unknown and supporting the learning of skills requiring adherence to a sequence (The National Autistic Society, 2016a). For example, if children with ASC forget a step related to washing hands, visuals can help to remind them. Visual aids can also help children with limited language to make choices (Table 9). For example, pictures

of snacks can be shown to the children and they can indicate which they prefer. Therefore, visual aids provide an opportunity for making decisions and engaging in independent study (The National Autistic Society, 2016a). It is also known that children with ASC have problems in understanding emotions (See 1.3.1.1). Visual aids can help children to match emotional states to expressions for example through using photographs of faces showing happiness, sadness etc. This can support the development of social skills and empathy. Besides these benefits, visuals allow information to be shared where there is little verbal communication. Importantly this can include praising appropriate behaviours, helping to stop inappropriate behaviour and behavioral strategies (Table 9). On a more practical level visual aids can also help children with ASC in locating people and places (e.g. Mary at home), staying safe (e.g. visuals related to fire safety), developing basic living skills (visuals related to needs to buy), and sex education (e.g. visual of underwear). The next benefit is that visuals can help to organise a structured environment, so visuals are useful for children to orientate themselves and understand what is happening around them. This also is one of the significant parts of TEACCH (See 3.1.3). Finally, visuals can be useful in health because children with ASC can show or describe a painful area of their body.

A range of specific visual tools and approaches are used to support children with ASC for example, augmentative and alternative communication systems such as GoTalks, DynaVox (Welch, 2010). Among these systems PECS is one of the most commonly used interventions for children with ASC. In this system, children with ASC first present a picture to show their needs or explain something and then the teachers respond to those needs (Frost & Bondy, 2002). Therefore, images become a form of communication between children and their

teacher, parent or caretaker. When using PECS, children also employ other basic skills such as looking at, reaching for, picking up, and handing the picture to their partner (Frost & Bondy, 2002). For example, if a child with ASC wants to take a pencil, s/he should first look at a picture of pencil, then reach for and hand over the picture. In response, their partner should give them a pencil.

In addition to augmentative and alternative communication systems, applications or “apps” in mobile devices such as iPads and tablets are also increasingly used to support individuals with ASC. Technology provides some beneficial learning opportunities for children who struggle with language and social interaction (Goldsmith & LeBlanc, 2004). Technology can be used to help children with ASC improve overall understanding of their environment, expressive communication, social interaction, attention, motivation, organisation skills, academic skills, self-help skills and overall independent daily functioning (Stokes, 2000). Consequently, the combination of technology and visual aids is proposed as being of particular benefit to these individuals. Tablets and iPads have benefits, such as their efficient storage, presentation of visual supports, being compact, portable and reinforcing for children, and research mentions their effectiveness (Murdock, 2013). Therefore, varieties of applications or “apps” in these devices are produced and used to develop the skills of children with ASC (Nath, 2013). Also, applications can be more effective than traditional strategies to develop skills of children with ASC. For example, the traditional picture card system is less effective than iPad (Flores et al., 2012). Also, applications can be useful in maths, reading comprehension, and speech (Nath, 2013). Therefore, iPad technology is named as a good device to develop school outcomes (Murray & Olcese, 2011). It may be generally believed that mobile apps can be enjoyable for the children to use and they can motivate and

support study and learning (Cardon, 2012). This point can play an important role to overcome deficits of children with ASC related to attention and motivation. Nevertheless, apps can have some limitations, for example, children with ASC may have poor motor skills which hinder their ability to use the device. Devices such as mobile phones and iPad may also provide too many distractions among children who need to learn about face-to-face interaction and language. Consequently, it is necessary to acknowledge that technological devices may not be suitable for addressing all the difficulties that children with ASC present (Nath, 2013).

In general, visuals can provide structure, encourage independence, help to reduce anxiety, develop people's understanding and offer people opportunities to interact with others (The National Autistic Society, 2016a). Also, PECS and mobile apps are evidence based intervention tools (McNaughton & Light; Schwartz, Garfinkle, & Bauer, 1998).

### **3.1.7. SPELL**

SPELL was developed by The National Autistic Society for the purpose of understanding and responding to the needs of individuals with ASC (The National Autistic Society, 2016b). Also, The National Autistic Society (2007) states that SPELL can "*reduce the effects of the impairments of imagination, communication and social skills that underlie autism*" (p. 46). The National Autistic Society (2016b) points out that this intervention consists of five main concepts which are "Structure, Positive, Empathy, Low arousal, Links" and SPELL is one of the evidence based interventions.

According to The National Autistic Society, (2016b), there are five main concepts of SPELL. One of them is structure. Structure is beneficial for children with ASC because they can know what they should be doing, how long they should be doing it for, and what will happen next. Also, the structure can be organised for level of understanding of children with ASC. Therefore, their environment can be more predictable, accessible and a safer place for them. Because of this, anxieties in process can be reduced, so they can independently focus on learning. Positive is another part of SPELL. Children with ASC should be supported as part of their learning potential. Hence, their skills and prior learning can be used and improved. At this point, it is important that chosen activities should be achievable, motivating and challenging, so children with ASC can have self-confidence and self-esteem. It is also should be emphasised that when assessing children with ASC to know their potential, the perspective should be broad. For example, a child with ASC can have serious communication and social problems, but this does not mean that he/she does not have potential. Therefore, the potential should not be ignored and should be carefully assessed. Empathy is one of the main parts in SPELL because teachers should be empathetic and respect potential and experience of children with ASC. Therefore, thanks to empathy, teachers can know important factors such as perspectives, motivates and interests of children with ASC. This improves their skills and reduces anxiety. Also, the approaches and environment should have low arousal, so it can reduce anxiety and increase attention and concentration of children with ASC. For example, noise levels, colour schemes, odours, lighting and clutter can be considered for low arousal. Thus, Low Arousal is other key factor in SPELL. The final concept is Link because strong links between components of the life of people with ASC is



important. For example, links between parents and teachers can encourage a holistic approach. Therefore, making plans together is significant and useful for children with autism.

### 3.1.8. Applied Behavior Analysis (ABA)

It is known that “*Applied Behavior Analysis is a behavioural science devoted to the experimental study of socially significant behaviour as a function of environmental variables*” (Virués-Ortega, 2010, p.387). It is also states that ABA is a method to educate and manage children and young individuals with ASC (Simpson, 2001). In other words, while using some techniques, increasing children’s correct or useful behaviours and reducing problems which may cause harm or interfere in the learning process for positive change in their behaviours (Autism Speaks, 2018d).

The basis of ABA is the Antecedent-Behavior-Consequence (ABC) Model and three steps of this model are shown in Table 10 (Morris, 2008).

**Table 10.** ABC Model

<b>Antecedent-Behavior-Consequence (ABC) Model</b>	
Antecedent	Giving a directive or making a request for children to do an act
Behavior	Behavior or response from children
Consequence	Reaction from the therapist

Table 10 shows that when using the ABC model, the therapist firstly should give a directive or make a request to start children’s action. After that, the child’s reaction is observed by the therapist. Finally, according to the child’s reaction, the therapist responds to the child. Llewellyn (2012) gives some examples about the process of the ABC model. For example, in the first step (Antecedent), the teacher tells the students to look at the board, but one of the students looks

around the room and at other children (Behavior). Because of this, the teacher continues the lesson and ignores this child. In another example, after the teacher tells the class to do 5 more problems (Antecedent), one of them turns around and pokes another student with a pencil (Behavior). After the teacher observed this act, the teacher tells the child, “get to work, Now!”. At this point, it should be said that the reaction from the therapist can be differential depending on the child’s reaction and they can be positive such as verbal praise, favourite activity, free time or negative such as telling an emphatic 'No' (Morris, 2008). It should be emphasised that this is not seen as punishment because the therapist’s reaction should reinforce the child’s behaviour.

ABA has many techniques today (Autism Speaks, 2018d). However, in 1968, Baer, Wolf and Risley introduced core factors of ABA, They are Applied, Behavioral, Analytic, Technological, Conceptual Systems, Effective and Generality as illustrated in Table 11 (Baer, Wolf, & Risley 1968).

**Table 11.**The core factors of ABA

Applied	ABA techniques should focus on problems which are for important for individual and society
Behavioral	ABA techniques should deal with observable and measurable behaviour
Analytic	ABA techniques should collect data on a regular basis
Technological	ABA techniques should be completely identified and described
Conceptual Systems	ABA techniques use a specific and identifiable theory related to behaviour analysis as base
Effective	ABA techniques should have strong effect on behaviour
Generality	After using ABA techniques, behaviour change should be generalised in new environment.

According to Baer, Wolf, and Risley (1968), the techniques should aim to change socially significant behaviours which are important for the person in

ABA therapy and society. Also, they should be measurable. Thus, after a behaviour which is firstly observed and recorded is changed, changes in behaviour can be measured. This is significant to know effectiveness of the techniques or interventions. Also, it is important that the data can be analysed. Measurable data is needed because it should be collected on a regular basis and discussed at every turn. Therefore, some points which are not effective can be changed after each week, so interventions can be stronger. In addition to this, ABA techniques or interventions should be completely identified, described, clear and have research based principles related to behaviour analysis. Therefore, it can be said that they should have strong and improving effects on behaviour changing. Moreover, these effects should be generalised in to new environments such as home, school, and park.

ABA has some benefits for children with ASC. ABA can develop some basic skills such as looking, listening, imitating and complex skills such as reading, conversing and understanding another person's perspective (Autism Speaks, 2018d). ABA is also useful to develop daily living skills, academic performance and communication skills (Eikeseth, Smith, Jahr, & Eldevik, 2007; Remington et al., 2007). Also, it has positive effects for integrating into school (McEachin, Smith, & Ivar Lovaas, 1993). Researchers also suggest that ABA can have a positive effect on communication, social relationships, play, self-care, school and employment (Autism Speaks, 2018d). Finally, it should be emphasised that Applied Behavior Analysis (ABA) is another scientific-based intervention (Lindgren & Doobay, 2011).

### **3.2. Using the intervention in Turkey and England**

Given the focus of this thesis it is useful to consider available information about interventions for children with ASC in Turkey and the UK. There are limited studies related to the use of these interventions in Turkey. In England, Research Autism which focuses on interventions in the UK includes the interventions outlined above (Research Autism, 2018). Therefore, it may be said that these interventions are used in England. However, it is not completely known which strategies are used in Turkey because there is no similar national database related to interventions for children with ASC. There are, however, some studies related to the intervention in Turkey including a case study by the current author (Yazıcı & McKenzie, 2018). This study shows that teachers report a variety of approaches and interventions currently used in Turkish special schools to support children with ASC. These include peer education, alternative therapies, artistic activities, sport activities, educational games, school and classroom rules, tongue, mouth and voice exercises, social stories, visual strategies, role modelling and memorisation. This study also shows although teachers believed that these strategies have positive effects on children with ASC, some points require more examination. For example, teachers said that they used alternative strategies such as art therapy, dance therapy, music therapy, sport therapy and drama therapy, but that they were not trained in their use resulting in some misunderstanding of standard approaches. For example Turkish teachers believed that PECS cannot be useful for children with ASC because visual aids do not generally appear in their environment. Turkish families who have children with disabilities believe that early interventions are useful for their children (Sazak-Pinar, 2006). However, these families also state that they did not feel satisfied with the interventions on offer

(Sazak-Pinar, 2006). Similarly, according to Sipal and Bayhan (2010), families stated that the interventions provided did not help their children. There are a number of possible reasons for this outcome. For example, the aspirations and expectations of Turkish families with a child with autism may be different to those in England, Turkish teachers may lack necessary training or interventions developed in western Euro American cultures may not be appropriate in a Turkish context. Additional research is needed in order to clarify this issue.

### **3.3. Research questions**

The current study is partly a response to the need for additional research into autism related beliefs, interventions and care in Turkey compared with England. As the previous chapter suggests the thesis also seeks to explore the influence of cultural norms associated with interpersonal relatedness on responses to autism in both countries. These aims lead to the following research questions:

1. Are there similarities and differences between interventions used to support children with autism in the two settings?
2. Are there similarities and differences in views and beliefs about autism expressed by parents, teachers and clinicians in the two contexts?
3. If there are similarities and differences how are these linked to concepts of Interpersonal Relatedness within and between cultures

## **CHAPTER-4.METHODOLOGY**

This study focuses on parents' views and teachers' interventions for developing skills of children with ASC and clinicians' evaluating diagnostic criteria for autism in two different cultural contexts. The primary aim of this study is to explore care and treatment of children with autism in two cities, one in Turkey and one in England with an emphasis on interpersonal relatedness.

### **4.1. Research methods**

This study used a mixed research design (See 4.1.2); including quantitative and qualitative research methods, to collect data and find answers to the research questions. Mixed research methods are chosen because this is used when one data resource may not be enough (Creswell, 2017). This research looks at the views of different types of participants in different countries, different types of schools and also seeks to explore the influence of cultural concepts. As such it is a complex study with several data sources and for this reason mixed methods were felt to be most appropriate. Also, according to Creswell (2017), if the research has multiple phases or cases, this is a reason to use mixed research methods. In the current study, data was collected from different schools in Turkey and England. In other words, the research includes different cases. Therefore, using mixed research methods was a need for this research.

This research used the convergent parallel mixed method design among three basic mixed methods designs (Creswell, 2017) and concurrent triangulation was used among mixed methods design strategies (Creswell, 2017).

#### **4.1.1. Quantitative and Qualitative Research Methods**

To better understand the methodology of this research, the main points, and the advantages and disadvantages of quantitative and qualitative research methods will be explained and discussed.

##### ***4.1.1.1. Definition of quantitative and qualitative research methods and their differences***

In this research, quantitative research methods were used to focus on numerical data, while qualitative methods were used to consider participant's views, approach, and opinions on the research topic. In other words, quantitative research generates statistical data while qualitative research collects detailed subjective data (McLeod, 2008). Hence, it is clear that these two research methods have a different basis (Teddlie & Tashakkori, 2009). It is useful to understand their principle differences, in relation to the research project.

According to Anderson (2006), there are some differences between these two research methods. Quantitative research methods are said to be more objective because the researcher is separate while the researcher is a part of research process in natural setting when using qualitative research methods. Therefore, qualitative research methods are subjective. Also, quantitative research methods allow for reduction, control, precision. On the other hand, qualitative research methods focus on discovery, description, understanding, and shared interpretation. Thus, quantitative research methods focus on concise, narrow and finding uniqueness data while qualitative research methods focus on broad and finding general data. Also, quantitative data is measurable, logistic and deductive while qualitative data is interpretive, dialectic and inductive. In

addition to these all points, Anderson (2006) also states sample size is not a concern for qualitative research methods and gives an example. This example shows quantitative research methods are used for counting the bean. However, qualitative research methods ask which beans are worth counting. In this piece of research the quantitative data was used as an initial insight into views and beliefs of parents and to measure differences and similarities between the two populations on measures of interpersonal relatedness and associated cultural orientations. These initial findings were explored in more breadth and depth by using qualitative methods to fan out from the family to others around the child, specifically educators and clinicians.

#### ***4.1.1.2. Advantages and disadvantages of quantitative, qualitative and mixed research methods***

Discussing the advantages and disadvantages of quantitative and qualitative research methods can be useful to our understanding of the research methodology and in comprehending mixed research methods. In this section, the advantages and disadvantages of these two research methods are discussed in detail based on Johnson & Christensen (2008).

It can be said that quantitative and qualitative research methods have various positive features. Firstly, it can be said that quantitative research methods have more validity and reliability because such methods are objective, and are structured by generating hypotheses before collecting data. Also, researchers' views are less likely to affect the data. Another advantage is that a large number of participants are suitable for use with these methods, so quantitative data can be generalised by the researcher. Despite such a large population, it is not particularly time-consuming to collect and analyse such data. The data can be



quickly collected and analysed using statistical software, even though there are a large number of participants in this research. Due to this large number, the validity and reliability of the data are increased and the data can thus be generalised. In the current study, the researcher wanted to include the views of as many parents as possible and also measure certain constructs and be able to generalise about Turkish and English families within the two cities.

On the other hand, quantitative research methods have some negative points (Johnson & Christensen, 2008). Although the methods are structured which are mentioned as an advantage, this might result in false representation. This means that the researchers' structure, including any hypotheses, in the methods and quantitative data might reflect the researchers' views instead of those of the participants. Also, quantitative data gives general results. In other words, it is not detailed and can be superficial. For these reasons the current study established broad research questions rather than specific hypotheses in order to be structured but also open minded.

Johnson & Christensen (2008) also state the advantages of qualitative research methods. The first thing to note is that qualitative data is usually detailed and complex because the methods focus on a case in detail. Therefore, it can be said the methods reflect participants in natural settings. Also, they are not particularly structured, so they create a certain "openness". In other words, during the process, participants can direct the research. These points are also reflected in this research because semi-structured interviews can be used to collect detailed data. Hence, it is clear that participants can direct the research questions according to their own opinions. Also, the research questions focus on their personal experiences and views.

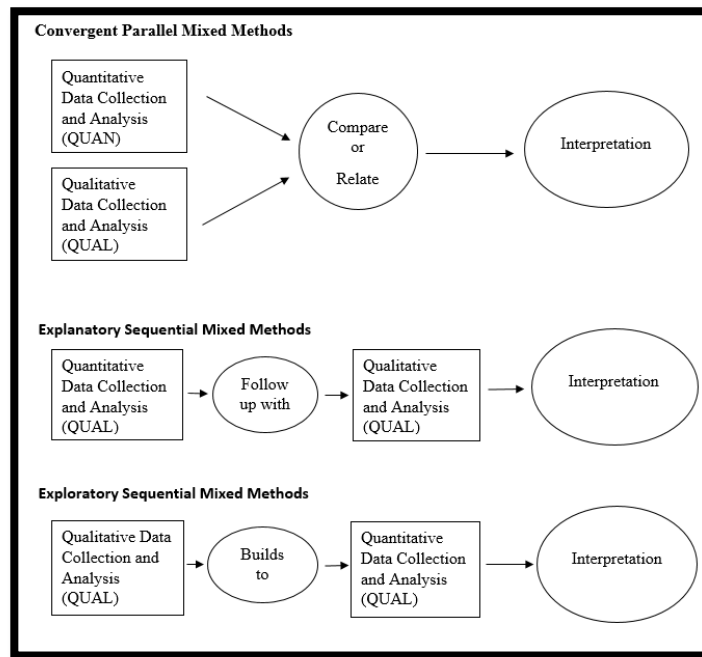
However, qualitative research methods also have a number of drawbacks (Johnson & Christensen, 2008). One of these is that the data cannot be generalised because the number of participants is not large and the data is unique to each participant. Another negative point regarding these methods is that they are time-consuming, because the collection and analysis of qualitative data necessarily requires considerable attention. Another disadvantage of qualitative research is that the researcher is a part of the research. In other words, researchers' views might affect the data.

Mixed methods contain the advantages and disadvantages of both quantitative and qualitative research (Brannen, 2005). This means that mixed research methods contain features of both quantitative and qualitative research methods. However, mixed research methods have some potential to address the problems inherent to each (Creswell, 2017). Therefore, mixed research methods are discussed, with their possible advantages and disadvantages in terms of this research, in the next section.

#### **4.1.2. Mixed Research Methods**

It is known that mixed research methods include both quantitative and qualitative research methods in the social and human sciences (Creswell, 2017). In early definitions, Greene, Caracelli, and Graham (1989) stated that "*In this study, we defined mixed-method designs as those that include at least one quantitative method (designed to collect numbers) and one qualitative method (designed to collect words), where neither type of method is inherently linked to any particular inquiry paradigm.*" (p. 256). Creswell and Clark (2007, p. 5) stated that "*Mixed methods research is a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves*

*philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems that either approach alone.”* These points show “mixing” arises from the basic points of quantitative and qualitative research methods. Therefore, one might consider that all the characteristics, both the advantages and disadvantages of these two research method designs, are similarly expressed in mixed research methods. It can be said that the strengths of mixed research methods can offset the disadvantages of quantitative and qualitative research methods (Creswell & Clark, 2011). This means that although mixed research methods have the characteristics and advantages of quantitative and qualitative research methods, mixed research methods can also be used to overcome their individual weaknesses. In this particular chosen type of mixed research method, the design strategy can play an important role, which in this case is that of concurrent triangulation. According to Creswell (2017), this design strategy supports the use of two or more methods to confirm, cross-validate or corroborate data. This is aimed at overcoming the limitations and disadvantages of quantitative and qualitative methods alone by using concurrent triangulation. It is also known that there are three basic mixed method designs (Figure 6).



**Figure 6.** Three Basic Mixed Methods Designs (Creswell, 2014, p.220)

Among these mixed method designs, the convergent parallel mixed method design are used in this research. Figure 6 shows that after comparing qualitative and quantitative data, they should be interpreted together. At this point, according to Creswell (2014, p.219), *“In this approach, a researcher collects both quantitative and qualitative data, analyzes them separately, and then compares the results to see if the findings confirm or disconfirm each other”*. Also, as a design strategy, this research used concurrent triangulation because this strategy aims to overcome a disadvantages of one method (quantitative or qualitative research methods) with other’s advantages (Creswell, 2003). Similar to this method’s design, in this research, quantitative research methods and qualitative research methods were analysed sperately then findings compared to check outcomes. This approach supports the possibility of overcoming the individual disadvantages of quantitative and qualitative research

methods. For example, where quantitative data can be numerical and generalised, qualitative data can contain considerable detail about the same aim. Therefore, the results can be both generalised and detailed. Also, according to Greene (2007), "*In its classic sense, triangulation seeks convergence, corroboration, or correspondence of results from multiple methods*" (p.100). This is also aimed by this research, so this is another reason for using mixed method and this design.

Tashakkori and Teddlie (2003, 2009) state that mixed methods can be used by a researcher in a complex educational or social context. This is another important reason for using mixed methods in this research because performing research with children who have been diagnosed with autism is complicated and the research is conducted in a variety of contexts in two cultural settings. Hence, mixed methods allow for a better understanding in complex research situations. Mertens and McLaughlin (2004) also state that some research questions are difficult to answer using one approach alone and mixed methods can be useful in this regard. In other words, using quantitative and qualitative methods requires the use of different techniques and perspectives, so using them together can be a powerful way to look at the research questions from different perspectives, thus providing answers that might not otherwise be possible.

On the other hand, despite overcoming the individual disadvantages of qualitative and quantitative research methods, mixed researched methods have some specific weaknesses. According to Johnson and Onwuegbuzie (2004), researchers need more time to collect data, more data analysis skills, and must understand quantitative and qualitative approaches. These possible limitations

were carefully considered at the beginning of the study, and a suitable planned timescale was devised.

#### **4.1.3. Case Study Research Method**

This project draws on case study methods as an example of a mixed approach (Spratt, Walker, & Robinson, 2004). Johansson (2003) stated that when case study researchers have some common points about “case”, they are considering a complex functioning unit, investigated in its natural context with a multitude of methods. With these points in mind, Bromley (1990) stated that case study is a *“systematic inquiry into an event or a set of related events which aims to describe and explain the phenomenon of interest”* (p. 302). In recent years, according to Johnson and Christensen (2008, p. 406), the case study approach results in *“research that provides a detailed account and analysis of one or more cases”*. Another definition states that *“A case study is a research approach that is used to generate an in-depth, multi-faceted understanding of a complex issue in its real-life context”* (Crowe, Creswell, Robertson, Huby, Avery & Sheikh, 2011, p.1). Given the complexity and multiple settings of this research a case study approach seems well suited.

Case studies can be designed in different ways with variation in presentation and usage. Yin (2009, p.27) states that a research design should have a number of components, which can be defined as *“a study’s questions; its proposition, if any; its unit(s) of analysis; the logic linking the data to the propositions; and the criteria for interpreting the findings”*. In addition to these general components of the research design, it can also be stated that the design of a case study should be undertaken with regards to these conditions: i) the research questions starts with “how” or “why”, ii) there is no need for

behavioural control, iii) there is a need to focus on a contemporary event or events (Yin, 2009).

The definitions, components and other specific factors regarding case study research design aim to capture everyday experience. In summary, it can be said that *“the case study method allows investigators to retain the holistic and meaningful characteristics of real-life events- such as individual life cycles, small group behavior, organizational and managerial processes, neighbourhood change, school performance, international relations, and the maturation of industries”* (Yin, 2009, p.4). These points are common amongst most case studies; accordingly, they are similar to this research as well. This research have two cases: provision for children with autism spectrum conditions (ASC) in two cities. According to Yin (2014), this research is an example of multiple case designs because the study tests conclusions, avoids extraneous variations, provides a larger picture, and compares content from different countries and cultures.

## **4.2. Participants**

This research was undertaken in two medium-sized cities in Turkey and England and these cities also have similar basic features and opportunities for people (See Table 12).

It is important to stress that the research compared two cities in Turkey and England and findings may not be representative of beliefs and practices across the two countries. In the research, both the Turkish city and the English city are more homogeneous than some other cities in the respective countries. For example, İstanbul and London are more cosmopolitan than these cities.

Nevertheless, the Turkish City is similar in ethnic make up to many cities of a similar size in Turkey and consequently some generalizations about cultural beliefs can be tentatively suggested. The English city is, however, very homogenous in ethnic make-up compared to many other English cities of a similar size and consequently it is not representative of many diverse cities across England which include citizens from various cultural and ethnic backgrounds. For this reason generalisations based on the findings from this English city cannot be discussed to the same degree and any tentative conclusions have been considered with caution. Part of the study involved the Turkish researcher learning about the English context and this is a developing understanding of how the contexts differ in many ways including cultural diversity. Having said these two cities were well matched and comparisons between the cities can be made as well as some generalisations particularly in the Turkish case.

**Table 12.** Comparing participant Turkish and English cities

Turkish City	English City
Population: 758 237 people. It is 28th of 81 cities in Turkey	Population: 259,175 people. It is 21st of 66 cities in the UK.
The Turkish city is the largest city in Eastern Black Sea Region	The English city is the largest city in Devon
Overall rate of employment in Turkey is nearly similar with employment rate in the Turkish city.	Overall rate of employment in the UK is nearly similar with employment rate in the English city.
There is a university and this university has education institute including special education department	There is a university and this university has an education institute including special education department.
In the Turkish city, there are hospitals where there are clinicians who approached treating children with autism.	In the English city, there are hospitals where there are clinicians who approached treating children with autism.



<p>The Turkish city is extending along a sea and there are pools in the city. Therefore, there are opportunities for swimming. In addition to swimming, there are different sport opportunities in the city.</p>	<p>The English city is extending along ocean and there are pools in the city. Therefore, there are opportunities for swimming. In addition to swimming, there are different sport opportunities in the city.</p>
<p>There are cinema and theatre hall in the city. Also, there are many opportunities such as restaurants, café, shopping mall, museum, parks and green areas for social life.</p>	<p>There are cinema and theatre hall in the city. Also, there are many opportunities such as restaurants, café, shopping mall, museum, parks and green areas for social life.</p>

This study involved children with autistic spectrum conditions including high-middle and low-functioning autism (comparable to severity levels 1, 2 and 3 as defined in DSM-5), parents who have children with autistic spectrum conditions (ASC), teaching staff (For background details on staff see Appendix 1) who work with children with autistic spectrum conditions at the primary and elementary level age range(children from 7 through 15 years), and clinicians (For background details on clinicians see Appendix 2). It should be emphasised that there are only children with ASC, who cannot follow the national curriculum for typically developing peers, in Turkish special schools. The state also provides Special Education and Application Centres (Schools) that cater for these children with ASC and mental problems (The Ministry of National Education, 2012). Therefore, in Turkish special education schools, there are no high functioning children with ASC. However, in England, special education schools can have low, middle, and high functioning children with ASC together in the same school. In addition, such children can be mixed into support centres in an English mainstream school. However, in Turkey, only children with ASC who able to follow the national curriculum for typically developing peers are integrated into special education classrooms in Turkish mainstream schools. In other words, low functioning children with ASC should not be in these schools. Therefore, the research involved children from special education schools and

mainstream classes (including support centres in England and special education classrooms in Turkey) in both countries so as to include children with different levels of autism from each country.

Observations were also made in Turkish and English schools. In each country, all classrooms in the special education schools were observed. In Turkish special education schools, 25 teachers and 44 children with ASC (25 children with primary level and 19 children with secondary level) were observed in their 10 classrooms. Similarly, in English special education schools, 9 teachers, 48 teaching assistants and 89 children with ASC (50 children with primary level and 39 children with secondary level) were observed in 9 classrooms. In addition to special education schools, Turkish and English mainstream schools were observed. In Turkey, all 4 special education classrooms in mainstream schools were observed in 4 mainstream schools. 20 children with ASC (12 children with primary level and 8 children with secondary level) and their 10 teachers are observed. Also, in 2 English mainstream schools, 2 autism support centres were observed. In these centres, 23 children with autism and their staff (4 teachers and 10 teachers assistant) were observed. In addition to them, in all schools, all other people such as school principals, SENCO and typical developed children were observed.

A questionnaire was completed by 78 parents in Turkey and 59 parents in England. In both countries, 16 members of staff (10 from special education schools and 6 from mainstream schools) who are responsible for teaching children with ASC became a part of the research. Also, there is one teacher who is not a member of staff in a mainstream school. This particular individual is a teacher in a mainstream school, but she visits the autism centre with her

students. In total, these 33 people (see Table 13) took part in the semi-structured interviews. Another group of participants in this research was clinicians trained to diagnose autism and four clinicians took part in semi-structured interviews in each country (See Table 13).

**Table 13.** Participants

PARTICIPANTS										
1. SCHOOLS										
SPECIAL EDUCATION SCHOOLS (SES)			MAINSTREAM SCHOOLS (MS)							
SES in Turkey (PL and SL)		SES in England (PL and SL)		4 MSs in TURKEY				2 MSs in England		
				S1 (PL)	S2 (PL)	S3 (PL)	S4 (SL)	S1 (PL)	S2 (SL)	
<b>I N T E R V I E W</b>	10 Staff (10 T)		10 Staff (7T & 3TA)		1 Staff (1T)	1 Staff (1T)	1 Staff (1T)	3 Staff (3T)	5 Staff (2T & 3TA)	2 Staff (2T)
	44 C (25 PL & 19 SL) and 25 Staff (25 T)		89 C (50 PL & 39 SL) and 57 Staff (9T & 48TA)		4 C and 2 Staff (2 T)	4 C and 2 Staff (2 T)	4 C and 2 Staff (2 T)	8 C and 4 Staff (4 T)	12 C and 7 staff (2T & 5TA)	11 C and 7 staff (2T & 5TA)
<b>O B S E R V A T I O N</b>										

<b>2. PARENTS</b>		
	<b>PARENTS FROM TURKEY</b>	<b>PARENTS FROM ENGLAND</b>
<b>Q U E S T I O N N A I R E</b>	78 Parents	59 Parents
<b>3. CLINICIANS</b>		
	<b>CLINICIANS FROM TURKEY</b>	<b>CLINICIANS FROM ENGLAND</b>
<b>I N T E R V I E W</b>	4 Clinicians	4 Clinicians
C: Children MS: Mainstream School MSs: Mainstream Schools PL: Primary Level S: School		SES: Special Education School SL: Secondary Level T: Teacher TA: Teacher Assistant

### **4.3. Instruments**

This study included the use of three different instruments: the questionnaire for parents (Appendix 3), the oral interviews with school staff and clinicians (Appendix 4). Also, observations (narrative observation) were carried out in schools.

#### **4.3.1. Questionnaire**

The questionnaire included questions taken from previously used measures (McKenzie, 2017) in order to assess parents' views on topics relevant to the proposed study; specifically, i) levels of interpersonal relatedness, ii) impact of interpersonal relatedness, iii) goals, iv) self-esteem, v) sense of control and support and, vi) interaction with services.

In the questionnaire, there are three sections. Exploring differences between groups in terms of interpersonal relatedness is complex and requires the exploration of known characteristics of interpersonal relatedness such as personal control, acceptance of uniqueness, happiness orientation, relational harmony/constraints and goal orientation; this was the purpose of questions 1-34 in section 1, based on well-known research and previously used measures in this field including studies conducted by Lachman and Weaver (1998), Markus & Kitayama (2010), and Kasahara & Turnbull (2005). Furthermore, perceived emotional support from services, a sense of personal control and relational harmony are known to have an impact on affect and wellbeing (e.g., Uchida, Kitayama, Mesquita, Reyes, & Morling 2008). In addition, previous studies suggest that parents of children with disabilities may be influenced by their culture in their interactions with services. The exploration of interaction with services among this particular group of parents is explored through questions 35-52 in section 1 and the questions in sections 2 and 3.

#### **4.3.2. Oral Interviews**

The semi-structured interview were carried out with teachers and clinicians to explore details about their roles, their methods of intervention to improve the skills of children with autism, their relationships with parents, their experience

and their expectations regarding improving provision for children with ASC. To learn details about the opinions of these groups, particular topics were discussed with them (See Appendix 4). Also, to be clear, some questions were asked in different ways to participants. Similarly, when their answers were not very clear, they were given more details. Therefore, any misunderstanding was prevented.

#### **4.3.3. Observation**

Children's symptoms, responses to interventions and interactions with staff were also be assessed through narrative observation. To this end, two months were spent in schools in each country, and all classes in all schools were observed. In each school, observation was stopped after noting a repeat in behaviour (e.g., the teacher using the same practice as they had several days previously); it was assumed that no further observations were necessary past such a point.

#### **4.4. Ethical considerations**

Ethical considerations are important to the research process. Therefore, ethical principles have been considered while designing and conducting this research. At this point, according to the British Educational Research Association (2011), five principles of respect for the person, knowledge, democratic value, the quality of educational research and academic freedom are important in educational research. Similarly, The British Psychological Society (2014) states four principles regarding ethical standards. They demand respect for the autonomy, privacy and dignity of individuals and communities, scientific integrity, social responsibility, maximisation of benefit and minimisation of harm. This

research follows and emphasises these principles. Therefore, the study aims to deal with all participants in the research, and indeed the researchers, fairly, sensitively and with dignity. Additionally, the research treats people who have personal differences such as age, gender, sexuality, race, ethnicity, cultural differences equally during all processes. Also, respect for the knowledge gained from participants is considered in this research. Democratic values such as information being offered voluntarily by participants, as another ethical principle, are taken into consideration in this research. Conducting high-quality research is also an ethical principle and aim of this research. It is believed that academic freedom can play an important role in this, so this research aims to freely learn new ideas and ask questions. In addition to these principles, there are also some ethical responsibilities that must be extended to the participants, the sponsors of the research, the community of educational researchers, educational professionals, policy makers and the general public (British Educational Research Association, 2011). Similarly, the research emphasises ethical responsibilities to its stakeholders, who are considered during all processes.

After considering these basic ethical principles, further ethical considerations should be discussed in this section. According to Curtis, Murphy and Shields (2014), there are a set of common ethical considerations, namely anonymity, confidentiality, informed consent, potential harm to participants, gaining ethical approval for your research from an ethics committee, and writing up the research. These ethical considerations are considered and adapted to this research. Therefore, for this study, an ethical approval form, parent information sheet and consent form (Appendix 5), head teacher/school information sheet and consent form, teacher information sheet and consent form and clinician's

information sheet and consent form have been submitted to the Ethics Committee to gain permission to conduct this research. This project has been reviewed following the procedures of the University Research Ethics Committee and has been given a favourable ethical opinion for conduct. While the information sheets provided information related to significant and essential points of the study, consent forms requested permission for participation in the questionnaire from parents, and the interviews for teachers. Also, consent forms requested permission from head teachers and parents to allow the children with ASC to be a part of the study. Verbal assent was also sought from the children. All these papers were translated into Turkish from English. Similarly, research instruments such as the questionnaire were translated into Turkish from English. Afterwards, all Turkish papers were back-translated from Turkish to English and then compared with the original English versions. Therefore, possible problems regarding language were negated. This point is crucial before collecting data because *“translation-related decisions have a direct impact on the validity of the research and its report”* (Birbili, 2000, p.1). Turkish versions were then approved by the Directorate of Turkish National Education. After both Turkish and English versions of the consent forms were obtained, these papers were examined by the parents, head teachers, teachers and clinicians. Also, permission was requested from teachers to participate in interviews, and permission was sought immediately prior to each interview. After giving a verbal debriefing in each case, the parents, teachers, head teachers and clinicians in both Turkey and England were asked to sign these papers. Another important point with regards to the subject of ethical considerations was that all of the participants and schools as codes (Appendix 6), and it was stated that these codes would be used instead of their real names. Furthermore, the name of the school was not mentioned.



These points were explained to the head teachers and all of the parents, teachers and clinicians. Thus, only the content of the questionnaire, interviews, observations and participants' names and personal information was not disclosed. Also, the data were not shared with other people, and were stored securely by the researchers. This point was also explained to participants. Finally, the researcher aimed to record and write up the research data reflecting accurately the information gained from participants.

#### **4.5. Data Collection Procedure**

This section explains the procedure used in this study, which included the pilot questionnaire, the formal questionnaire, the semi-structured interviews, and observation. Before explaining the data collection process, it should be emphasised that when the data is collected through mixed research methods, according to Creswell (2014, p.222), "*The key idea with this design is to collect both forms of data using the same or parallel variables, constructs, or concepts*". This research emphasises these factors when collecting data. Also, given these the factors, a pilot questionnaire was needed to determine whether there were any gaps or any areas that needed to be developed within the questionnaire. There was a need for a Turkish questionnaire because the English version of the questionnaire was used previously. However, a Turkish version had not been previously used to collect data, hence checking accuracy of translation was important. Because of this, the pilot questionnaire was a useful process, in identifying any possible errors or misunderstandings of concepts. The pilot questionnaire was devised with input from a Turkish head teacher and was shared with a number of Turkish parents who did not participate in the research but had children with ASC, before sending the final questionnaires to the

participating parents. The planned timescale for collecting the questionnaire data was three months for each country, with 78 parents from Turkey and 59 parents from England completing the questionnaire. Similarly, a one-week timescale was allocated for the interviews with the teachers, to accommodate their work time. Also, before each interview, I explained the aims of this research with the participants in the schools and I emphasised you can share clearly your ideas because researchers will not share your personal information with others. Children with ASC were observed in their classroom in different schools over two months. During the observation process, each teacher introduced me to their students and then I started to observe the classroom during teaching time. Also, some teachers wanted me to join their some activities with children because they believed their students would become more comfortable with me if I interacted with them. I generally did not take any notes during teaching process and I took notes about the observation in each break time. However, in some classes, I sometimes took some notes from the staff's words for using direct quotation (in break times or not during teaching process). For each country, I had an observation book to record all process of my observation. Finally, interviews were held with four clinicians in each country. Finding clinicians was difficult in Turkey because the number of clinicians who can diagnose autism is very limited. Because of this, to manage time, I contacted with Turkish clinicians by e-mail, phone and by skype to explain the research. After they feel everything is clear, we created a timescale and I visited their office in Turkey for the interview.

My position as a Muslim Turkish Man deserves reflection not only in terms of what I bring to this research project but also in how I am perceived by participants. My own experiences as a teacher in a non-western country, for

example, led me to have certain preconceptions about English schools and interventions. I believed that I would come to the UK and learn new and effective strategies, teaching techniques and gain a better class of understanding about autism. This position initially blinded me to the many strengths of Turkish approaches to education and intervention and consequently influenced my interpretation and analysis of interactions, observations and more formal data. Reflective conversations with my supervisors helped me to see that the practices in my own country were of value and in some cases more beneficial for children with autism.

In my own country my position as a Turkish Muslim man who was also a teacher allowed me to gain access to schools with relative ease and to communicate with teachers and head-teachers confidently. It is important to note that parents and teachers may be in conflict in Turkey and Turkey is more hierarchical than England. This may have influenced my interactions with parents who may have felt obliged to speak to me, despite feeling that they were not the experts in their own lives.

Reflecting on how my own position affected participants in England is more difficult because I am not aware of many subtle cultural and social rules and agendas. My supervisors were helpful in introducing me to schools and I took great care to explain my own background, experience and studies. There were a number of issues, which through discussion I came to realise may have influenced how I was received by participants in England. For example, some English people have developed fear and anger towards Muslim people due to limited knowledge about fundamentalist beliefs. They may also have very different religious principles. In addition most teachers in England are female

and gender inequalities remain in England. This may have made teachers feel wary but also obliged to engage with me. The English social class system is also complex and difficult for foreigners to fully understand. For all of these reasons it was important to take great care in explaining my work, where I was from and my own intentions and beliefs. It was also a very important part of my learning journey to discuss and reflect on my own developing position as an international researcher working with vulnerable groups.

#### **4.6. Data Analysis**

To analyse the numerical data from the questionnaire, Statistical Package for the Social Sciences (Nie, Bent, & Hull, 1970) was used, and statistical data created accordingly. Quantitative data from the questionnaire for parents was analysed using Independent Samples t tests and correlational analysis. Choice of statistical test included consideration of how best to conceptualise data from Likert scales. This has been a long-standing debate which is beyond the realms of this thesis. The key issue stems from whether Likert data should be seen as continuous or categorical and consequently whether parametric or non-parametric statistical tests should be used. This issue remains unresolved, but there is evidence that the question is to some extent trivial (De Winter & Dodou, 2010) comparative analysis with parametric and non-parametric tests (t test and Mann-Whitney) on the same data revealed that if there is a difference between groups either test will detect it and differences in power are minimal. For this reason, the data were regarded as continuous and t tests and correlational analysis were deemed to be appropriate statistical tests for the data. Responses to the open ended questions in the questionnaire were thematically categorised, as described below, through a process of reading, re-reading,

coding and grouping into types of response. This includes both qualitative analysis and numerical recording of numbers of participants who gave similar responses to the questions.

When analysing the data from the semi-structured interviews and the observations, the Turkish recording was first translated into English. Resulting data were analysed using a thematic approach. Thematic analysis is described as *“a method for systematically identifying, organising, and offering insight into patterns of meaning (themes) across a data set”* (Braun, Clarke, & Terry, 2012, p.57).

**Table 14.** Six-phase process of thematic approach

<b>Six-phase process of thematic approach</b>	
1)	Familiarising yourself with the data
2)	Generating initial codes
3)	Searching for themes
4)	Reviewing potential themes
5)	Defining and naming themes
6)	Producing the report

Table 14 is based on the work of Braun & Clarke (2006), who provide six steps of thematic analysis. In this study qualitative data was analysed according to these steps. Firstly, step-1 is familiarising yourself with the data, which should be clearly understood by the researcher. *“it is vital that you immerse yourself in the data to the extent that you are familiar with the depth and breadth of the content”* (Braun & Clarke, 2006, p.16). Because of this, the research data were read and considered repeatedly. The same was performed for verbal data, because this kind of data must be carefully transcribed into a written form. Therefore, before analysing, there cannot be any misunderstanding or lack of clarity regarding any of the data. Also, during all transcribing process, some

approaches were followed. According to Bailey (2008, p. 127), “*Transcribing appears to be a straightforward technical task, but in fact involves judgements about what level of detail to choose (e.g. omitting non-verbal dimensions of interaction), data interpretation (e.g. distinguishing ‘I don’t, no’ from ‘I don’t know’) and data representation (e.g. representing the verbalization ‘hwarryuhh’ as ‘How are you?’)*”. These approaches were considered when transcribing the recordings in the research. After the transcribing process was completed, initial codes were generated (Appendix 7). The codes came from reviewing the literature. For example, during the interview, “music” was given a code which was applied to all data regarding teachers’ interventions associated with music. Coding was done manually by highlighters. In the next steps, those of searching for themes and reviewing potential themes, themes were found, and relevant codes were allocated to these potential themes. For example, “visuals” is a theme in teachers’ interventions. This theme was created due to the extensive number of codes related to visuals such as timetable, photos, real objects, PECS, etc. In this step, the creation of a concept map was used to look at similar codes on the same page. After this step, themes were defined in detail, and a theme name was created for each. Finally, all themes were edited and the work written as a report.

During this process, all the data was collected by the Turkish researcher. However, the data was explored by Turkish and English researchers within the supervisory team. This involved discussion of contextual information related to each cultural situation and also aspects of language especially where metaphors or sayings were used which were unfamiliar, or where the meaning of a given word may be misunderstood. When analysing all data, therefore, Turkish and English data was interpreted after discussions between Turkish and

English researchers regarding the subtleties of language and related context, concepts and understandings that may be missed by non-native speakers. Therefore, the data was interpreted and analysed from both Turkish and English perspectives and conclusions drawn after lengthy discussion.

Regarding data analysis, it should also be said that if some of the questions had not been answered, or the answers were incomprehensible, they were subsequently excluded from the analysis process.

#### **4.6.1. Translation issues during analysing data**

According to Jeffrey and Jeffrey (2006) translation to academic English is always problematic. In this research, before collecting data, an attempt was made to limit this kind of translation issue. After collecting data, there was still the need for further translation because all Turkish qualitative data needed to be translated to English. However, the most important issue is the meaning of the data. For example, in interviews with Turkish teachers, these teachers shared their ideas regarding the interventions they used in Turkish. The researcher is a native Turkish speaker and while the data was translated into English. When listening to the recording and translating them to English, the emphasis was placed on retaining the meaning of answers given.

The next translation issue during data analysis arose from the interviews with people in England. As a non-native English speaker issues can arise from the researcher transcribing verbatim from the recordings. Every effort was made for the researcher to clarify with the participants the meaning of what was said. Consequently, despite the potential for errors in transcription, the emphasis was placed on preserving meaning. Despite potential difficulties with transcription, it

was necessary for the researcher to transcribe all data for ethical reasons. Specifically, for example, teachers shared their students' names, including their surnames, during the interview thereby compromising issues of anonymity and confidentiality.

#### **4.7. Limitations of the Study**

Firstly, collecting data from two different countries was not easy because I physically contacted with all participants. In this study, one of the biggest issues was also time. In total, semi-structure interviews were given by 41 people in Turkey and England. Because semi-structured interviews are very time-consuming for teachers, their free time was determined and a plan created for each teacher. Also, the observations in all classes at Turkish and English schools took a considerable amount of time. Similarly, explanations were provided for each parent before they filled in the questionnaire, and again this takes a considerable amount of time for all 137 parents. In addition to the above, finding clinicians prepared to be interviewed was very difficult and time-consuming in Turkey because of the fact that there are few specialist clinicians in Turkey. In addition the analysing process took considerable time due to the large amount of data and the mixed methods used.



## CHAPTER 5. FINDINGS

This chapter will present the findings from the data analysis to support discussion of the aims of this research. In this section, there are quantitative data analysis from the questionnaire and qualitative data about culture, policy and practice (including practices).

### 5.1. QUANTITATIVE DATA ANALYSIS OF THE QUESTIONNAIRE

The data from the questionnaire for parents was analysed using t tests and correlational analysis. For the ease of the reader the following section also includes reference to qualitative data in response to open-ended questions in the questionnaire.

#### 5.1.1. The data from the open-ended questions in the questionnaire

In Table 15 and Table 16, Turkish and English parents' answers to two open-ended questions from the questionnaire are shown. Analysis of the open-ended data did not show any marked differences between parents of children in mainstream and special schools, despite the fact that in Turkey the severity of symptoms differs considerably between these two types of schools. Data was categorised according to types of answers. Summaries of common answers with numbers of respondents in the two countries appear below:

**Table 15.** Responses to open-ended question 1

**Question 1.** *Why do you feel your child needs extra support from professionals and services?*

Answers given	Number of Turkish parents giving each answer	Number of English parents giving each answer
a) Teachers are educated and have experience	10	1

b) My child's skills can be improved with help from professionals in order to solve problems. Therefore, there is a need.	10	37
c) For being a self-supporting person	7	3
d) As a parent, I cannot be successful without professional support because I am not an expert in autism.	28	9
e) My child cannot be successful without professional support	2	2
f) My child is different from other typically developing children, so my child needs extra support.	8	1
g) My child is a person in our society. The support is his/her legal right	2	0
h) My child deserves extra support	0	2
i) My child's future can be better with support from professionals	6	5
j) My child's personal skills and potential can be discovered and improved by them	2	1
k) When parents are busy, education can be continued by professionals	3	1
l) I am not sure the support is a need because I am not happy about the service	1	0
m) More education is useful for my child	1	2
n) Having Extra support is difficult for us	0	7
o) They don't need extra support because my child does not need to think that there is something wrong with her and feel different from others	0	1
p) I do not think my child is getting enough support at school	0	3
q) No answer or Not applicable	12	6

The Turkish parents were very focused on the fact that the professionals were needed as the parents did not have the same expertise, education and experience as professionals (Answers a and d). Answers a and d accounted for 38 out of 78 responses among the Turkish parents but only 10 out of 59 responses among the English parents. Hence, the perceived need for

professional expertise was not such a high priority for English parents. The English parents were more focused on professionals helping their children to improve skills and solve problems (answer b) with 37 out of 59 English parents giving this response compared to only 10 out of 78 Turkish parents. There were similarities in other answers given by the remaining parents in both contexts.

**Table 16.** Responses to open-ended question 2

**Question 2. What do you feel are the most important things services and professionals should provide to help you and your child?**

Answers given	Number of Turkish parents giving each answer	Number of English parents giving each answer
a) Parent / Family support	9	16
b) Professionals and services should give importance to parent's ideas	5	3
c) They should believe parents can improve the children's skills	1	2
d) Staff should be more understanding about autism and the children's personal condition	16	9
e) They should find the interest, potential and more personal skills of each child	8	3
f) Opportunities (resources and training) and practical support should be improved	9	16
g) One to one teaching	5	3
h) Adapt to our society	6	0
i) Improving social skills	5	5
j) Improving self-care skills	7	0
k) Improving academic skills	3	0
l) Improving communication and language skills	8	4
m) Improving motor skills	2	1
n) Should improve my child' skills for living independently in real life	0	4
o) Non-discrimination against children	2	0
p) Staff and parent should collaborate more	8	8

q) I am happy with services	4	0
r) Legal rights should not be ignored	1	0
s) I do not have any idea	1	1
t) This question is too late for my child	0	1
u) No answer or Not applicable	20	8

Parents in both contexts felt that professionals should give support to families (response a), but this was more marked among the English parents (16 responses) than the Turkish parents (9), possibly reflecting greater need for support among English nuclear families. In both contexts, parents wanted professionals to understand their child. Turkish parents were more focused on professionals understanding their child's personal difficulties, interests and potential as a priority (responses d and e) with this accounting for 24 out of 78 answers among Turkish parents, and 12 out of 59 answers among English parents). Parents in both contexts also saw opportunities and practical support as important (answer f) although this was more marked among English parents with 16 response among English parents compared to 9 responses among Turkish parents. The answers referring to opportunities were difficult to disentangle, however, and in some cases it was difficult to ascertain if the parents were referring to opportunities for staff or parents. Some parents referred to resources and training, but details about level/type of training, and for whom, were not given. There were similarities in the remaining responses given by parents in both contexts, for example, 8 parents from each context felt that parents and services should be more willing to work together (answer p). Additionally 5 parents from each country felt that professionals should provide support in improving social skills (answer i).

### **5.1.2. Statistical data from the questionnaire**

The analysis was based on the following four questions, which were informed by the need to respond to the overall research questions regarding cultural similarities and differences in beliefs, feelings and interpersonal relatedness, including relational harmony and relationships within families and between families and services:

1. Are there differences in interpersonal relatedness between the parents in the two countries?
2. Are there differences in sense of control, self-esteem, priorities and beliefs about support between the two countries?
3. Are there differences between the two countries in response to questions about Relational Harmony?
4. Is interdependent/independent orientation associated with patterns of responding on other aspects of the questionnaire?

#### ***5.1.2.1. Question 1. Are there differences in interpersonal relatedness between the parents in the two countries?***

As described in Chapter 3.2, we would predict that cultural norms and behaviour associated with interpersonal relatedness would differ in Turkey and England. We would expect the parents from Turkish context to be more collectivist or interdependent in their outlook and the parents from English context to be more independent in their outlook. We would, however, also expect individual differences in interpersonal relatedness within cultures. In order to explore differences in interpersonal relatedness both between and

within cultures we included questions from the Independent-Interdependent Self-Construal Scale (Singelis, 1994). In line with Singelis' scoring procedure, an overall measure of interdependence/independence was calculated by subtracting the interdependent orientated items (19 and 20) from the independent items (17 and 18). Higher scores indicated stronger interdependent self-construal. An independent-samples t-test on the resulting scores revealed a significant difference between the Turkish ( $M = -0.47$ ,  $SD = 2.2$ ) and English ( $M = -1.9$ ,  $SD = 3.5$ ) parents  $t(136) = -2.8$ ,  $p = 0.006$  such that the Turkish parents were significantly more interdependent in their self-construal compared to the English parents.

The questionnaire also included questions from the Interdependent Happiness Scale (Hitokoto & Uchida, 2015) designed to measure aspects of happiness associated with an interdependent sense of self. Specifically the scale measures sense of happiness in three areas known to characterize an interdependent outlook: relational harmony, ordinariness, and quiescence. As described by Hitokoto and Uchida (2015), the sum of items 21-26 was calculated to give an overall score of interdependent orientated happiness with lower scores showing agreement with interdependent orientation. An independent-samples t-test on the resulting scores revealed a significant difference between the Turkish ( $M = 11.95$ ,  $SD = 3.6$ ) and English ( $M = 15.13$ ,  $SD = 8.1$ ) parents:  $t(137) = 3.07$ ,  $p = 0.003$  showing that the Turkish parents were significantly more interdependent in their responses.

Cultural constructs of independence and interdependence are known to result in differing motivations and consequent goals. Interdependent cultures foster goals, which encourage social cohesion, conformity and relational harmony

whereas independent cultures foster goals, which are based on personal achievement, uniqueness and efficacy (Markus and Kitayama, 1991, 2010; Kitayama, Karasawa, Curhan, Ryff & Markus, 2010). The questionnaire includes items, which explore parenting goals from an interdependent and independent orientation. For example question 6 “I would like my child to behave in the same way as other children” contrasts with question 7 “I would like my child to develop their own unique qualities”. An overall measure of goal orientation (interdependence/independence) was calculated by subtracting the interdependent orientated items (5 and 6) from the independent items (7 and 8). Higher scores indicated stronger interdependent goal orientation. An independent-samples t-test on the resulting scores revealed a significant difference between the Turkish (M= -0.30, SD=1.26) and English (M= -1.05, SD=1.31) parents:  $t(134) = -3.4, p = 0.001$  such that the Turkish parents were significantly more interdependent in their goal orientation compared to the English parents. Overall the questionnaire suggests that the Turkish parents in this study were more interdependent in their cultural orientation than the English parents, but also that there was variation in the degree to which parents were independent/interdependent within the two contexts. The findings related to differences in interpersonal relatedness are summarised in Table 17.

**Table 17.** Differences in interdependence/independence between Turkish and English parents

Measures		Mean	SD	<i>p</i>
Independent-Interdependent				
Self-Construal Scale	Turkish	0.47	2.2	0.006
(↑ scores= ↑ interdependence)	(N=78)			

	English (N=59)	parents	-1.90	3.5	
<hr/>					
Interdependent Happiness					
Scale (↓ scores = ↑ interdependence)	Turkish (N=78)	parents	11.95	3.6	0.003
	English (N=59)	parents	15.13	8.1	
<hr/>					
Goal orientation -					
interdependent vs independent (↑ scores = ↑ interdependence)	Turkish (N=78)	parents	0.30	1.3	0.001
	English parents (N=59)		-1.05	1.3	

**5.1.2.2. Question 2. Are there differences in sense of control, self-esteem, priorities and beliefs about support between the two countries?**

**5.1.2.2.1. Control over their child's situation**

The findings for the items exploring a sense of personal control over what happened to their child and perceived constraints on what they were able to do were somewhat mixed. For example on items 13 and 14 there were significant (or approaching significant) differences between Turkish and English parents on their perception of personal control. In response to statement 13 “I am able to do anything I set my mind to in order to help my child” English parents (M= 2.08, SD=0.79) were significantly more likely to disagree than Turkish parents (M= 1.55, SD=0.77):  $t(138)= 4.03, p <0.001$ . A similar trend was found in response to statement 14 “When I want to do something to help my child usually I can find



a way to succeed". English parents ( $M=1.90$ ,  $SD=0.73$ ) were more likely to disagree than Turkish parents ( $M=1.67$ ,  $SD=0.74$ ), although the findings were only approaching significance  $t(137)= 1.86$ ,  $p= 0.06$ , suggesting that Turkish parents felt that they had more personal control over their child's life than English parents.

There were, however, no significant differences between Turkish and English parents regarding sense of personal control in response to statement 15: "Whether or not I am able to get what I want for my child is in my own hands"  $t(137)= 0.81$ ,  $p= 0.42$ . Similarly for statement 16 "What happens regarding my child in the future mostly depends on me", there were no significant differences between English parents and Turkish parents  $t(138)= 0.26$ ,  $p= 0.80$ . These findings suggest that all of the parents felt that they were primarily responsible for their child's future.

Responses to the items exploring perceived constraints on control were also mixed. There were no significant differences between English and Turkish parents on statements 11: "I often feel helpless in dealing with my child's problems"  $t(138)=0.18$ ,  $p=0.86$ , and statement 12: "What happens to my child is often beyond my control"  $t(138)=1.68$ ,  $p=0.10$ . These findings suggest that all parents felt constraints on their ability to help their children at times. There were, however, significant differences between English parents ( $M=2.67$ ,  $SD=0.92$ ) and Turkish parents ( $M=3.34$ ,  $SD=0.93$ ) in response to statement 9: "Other people determine most of what happens to my child". English parents were significantly more likely to agree with this statement  $t(138)= 0.26$ ,  $p= 0.005$ . Turkish parents ( $M=2.20$ ,  $SD=0.99$ ) and English parents ( $M=2.76$ ,  $SD=0.93$ ) also significantly differed in their responses to statement 10: "There is little I can

do to change important aspects of my child's life"  $t(136) = 3.42, p = 0.001$ . With Turkish parents being more likely to agree. The findings imply that English parents are more likely to feel that others often control what happens to their child. Turkish parents are more likely to believe that the parents cannot change aspects of the child's life. Although parents in both contexts sometimes felt helpless and constrained in their ability to help their child, they also all felt some control over their child's life. There were key differences, however in how the English and Turkish parents viewed control over their child's situation. A Summary of key differences related to perceived control is provided in Table 18.

**Table 18.** Differences in sense of control over child's life

Statements			Mean	SD	<i>p</i>
"I am able to do anything I set my mind to in order to help my child" (↓ scores = ↑ agreement)	Turkish (N=78)	parents	1.55	0.77	0.001
	English (N=59)	parents	2.08	0.79	
"When I want to do something to help my child usually I can find a way to succeed". (↓ scores = ↑ agreement)	Turkish (N=78)	parents	1.67	0.74	0.06
	English (N=59)	parents	1.90	0.73	
"Other people determine most of what happens to my child" (↓ scores = ↑ agreement)	Turkish (N=78)	parents	3.34	0.93	0.005

	English (N=59)	parents	2.67	0.92	
"There is little I can do to change important aspects of my child's life" (↓ scores = ↑ agreement)	Turkish (N=78)	parents	2.20	0.93	0.005
	English (N=59)	parents	2.67	0.92	

#### **5.1.2.2.2. Self-esteem**

The questions in the self-esteem section are taken from the Rosenberg Self-Esteem Scale (Rosenberg, 1965). The scale assesses global self-worth by measuring both positive and negative feelings about the self. The scale is believed to be uni-dimensional. All items are answered using a 4-point Likert scale format ranging from strongly agree to strongly disagree. An overall score was calculated by subtracting total scores for negative feelings from total scores for positive feelings. There were no significant differences between Turkish and English parents on overall self-esteem  $t(137) = -0.12, p = 0.99$

#### **5.1.2.2.3. Priorities for services**

There were no significant differences between Turkish and English parents in response to the following questions: "The professionals who work with my child give me advice on how to solve problems"  $t(134) = 0.55, p = 0.58$  "The professionals who work with my child congratulate me when things go well"  $t(135) = -1.62, p = 0.11$  Suggesting that Turkish and English parents felt that

professionals gave them advice and congratulated them when things went well to some extent.

In response to the statement: "The professionals who work with my child understand how I feel and care for me" There were significant differences between the Turkish parents ( $M=2.19$ ,  $SD=1.11$ ) and the English parents ( $M=3.10$ ,  $SD=1.01$ ):  $t(135)=-4.97$ ,  $p< 0.001$  In response to the statement: "The professionals who work with my child have a high regard for my opinion" There were also significant differences between the Turkish parents ( $M=2.19$ ,  $SD=1.02$ ) and English parents ( $M=1.76$ ,  $SD= 0.96$ ):  $t(136)= 2.50$ ,  $p=0.01$ . Showing that Turkish parents were significantly more likely to feel cared for and understood by professionals, but were significantly less likely to feel that the professionals valued their opinions.

There was a lot of agreement between Turkish and English parents around what services should provide and parents acting in partnership with services (questions 43-50) with no significant differences found between responses except in response to the statement:

"Services should listen to what parents want for their children" where there were significant differences between Turkish parents ( $M= 1.80$ ,  $SD=0.83$ ) and English parents ( $M=2.11$ ,  $SD=0.94$ )  $t(135)= -2.08$ ,  $p= 0.04$ . In response to the statement: "Help for children with autism and related developmental disorders should mainly focus on supporting them to develop or improve spoken or alternative forms of language" there were also significant differences between Turkish parents ( $M=2.11$ ,  $SD= 0.82$ ) and English parents ( $M=2.59$ ,  $SD=1.06$ ):  $t(136)= -3.01$ ,  $p=0.004$  such that Turkish parents were more likely to agree that services should listen to them and that help for their children should focus on

communicative skills. There was a lot of agreement between Turkish and English parents in that services gave them support, congratulated them to some degree when things went well and should aim to work in partnership with parents. Nevertheless, there were also some key differences. A summary of key differences between the Turkish and English parents in their priorities for services is shown in Table 19.

**Table 19.** Summary of differences in priorities for services

Statements			Mean	SD	<i>p</i>
“The professionals who work with my child understand how I feel and care for me” (↓ scores = ↑ agreement)	Turkish (N=78)	parents	2.19	1.11	<0.001
	English (N=59)	parents	3.10	1.01	
“The professionals who work with my child have a high regard for my opinion” (↓ scores = ↑ agreement)	Turkish (N=78)	parents	2.19	1.02	0.01
	English (N=59)	parents	1.76	0.96	
“Services should listen to what parents want for their children” (↓ scores = ↑ agreement)	Turkish (N=78)	parents	1.80	0.83	0.04
	English (N=59)	parents	2.11	0.94	
“help for children...should mainly focus on supporting...spoken or alternative forms of language”	Turkish (N=78)	parents	2.11	0.82	0.004
	English (N=59)	parents	2.11	0.82	

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(↓ scores = ↑ agreement)

English	parents	2.59	1.06
(N=59)			

### **5.1.2.3. Question 3. Are there differences between the two countries in response to questions about Relational Harmony?**

Items 27-30 explored beliefs about relational harmony with friends and family. There were no significant differences between English and Turkish parents in response to statement 27: “My family and friends understand the way I feel about things concerning my child”  $t(138)=1.05$ ,  $p=0.30$ ; or statement 28: “My family and friends care about me and my child”  $t(138)=0.60$ ,  $p=0.55$ . There were, however, significant differences between English parents ( $M=2.02$ ,  $SD=1.04$ ) and Turkish parents in response to statement 29: “I can rely on my friends and family if I have a serious problem regarding my child”  $t(138)=2.70$ ,  $p=0.01$ . There were also significant differences between English parents ( $M=2.03$ ,  $SD=0.93$ ) and Turkish parents ( $M=1.40$ ,  $SD=0.63$ ) in response to statement 30: “I can talk to family and friends honestly about my worries regarding my child”  $t(138)=4.56$ ,  $p<0.001$ . The means suggest that although all parents believe their friends and family care for them and understand their situation Turkish parents are significantly more likely to be able to talk about serious concerns and elicit support from friends and family in times of crisis.

Items 31-34 refer to perceived relational constraints. All parents believed they experienced constraints with regard to friends and family and there were no significant difference in response to the following statements:

31) "My family and friends often criticise the way I deal with my child"  
 $t(138)=0.84, p=0.40$

32) "My family and friends make too many demands on me when I am caring for my child"  $t(138)=1.00, p=0.32$

33) "My family and friends often let me down when I need them to help with my child"  $t(138)=-0.96, p=0.34$

34) My family and friends often get on my nerves regarding their views about my child"  $t(138)=1.53, p=0.13$

**5.1.2.4. Question 4. Is interdependent/independent orientation associated with patterns of responding on other aspects of the questionnaire?**

As we might predict correlational analysis revealed that high scores on the items from the interdependent/independent scale indicating interdependent orientation regardless of country of origin were associated with interdependent goal orientation  $r = .162, n = 134, p=0.03$ , and interdependent happiness orientation (interdependence on this measure was associated with low scores)  $r=-.561, n = 134, p<0.001$ . High interdependent scores across both contexts were also found to be significantly negatively related to perceived constraints on parental control of the child's situation  $r = -.223, n=136, p=0.005$  such that those who had an interdependent orientation felt helpless or unable to make changes to alleviate their child's problems. High interdependent scores were also associated with difficulties in coping with their child's situation  $r = -.615, n=137, p=0.001$  such that those who were strongly interdependent felt they were as good as anyone else at coping, but were still failing their child. Furthermore, high interdependence scores were significantly negatively correlated with self-

esteem  $r = -.313$ ,  $n=137$ ,  $p= 0.001$  indicating that interdependence was associated with lower self-esteem scores; and priorities for services where high interdependence was related to a belief that help for children with autism should focus on socio-communicative skills and building relationships with child and family  $r = -.250$ ,  $n=138$ ,  $p=0.002$ . As expected all measures related to interdependence/independence were highly correlated but there were also significant relationships between and interdependent orientation and other beliefs as summarised in Table 20.

**Table 20.** Key significant findings regarding the relationship between high interdependence scores and other measures

<b>High Interdependent scores x</b>	<b><i>r</i></b>	<b><i>N</i></b>	<b><i>p</i></b>
perceived constraints on parental control of the child's situation	-.223	136	0.005
difficulties in coping with their child's situation	-.615	137	0.001
self-esteem	-.313	137	0.001
Belief that priorities for services should focus on socio-communicative skills and building relationships with child and family	-.250	138	0.002

Table 20 illustrates that within countries the degree to which a parent has an interdependent orientation influences self-esteem, coping, perceived constraints and their priorities for services. Other quantitative findings also demonstrate significant similarities and differences between the parents in the two countries. The key overall findings comparing the English and Turkish parents are summarised in table 21 below:



**Table 21.** A summary of overall quantitative findings comparing English and Turkish parents

<p>No significant differences between Turkish and English Parents</p>	<ul style="list-style-type: none"> <li>• Degree to which they felt they were primarily responsible for child's future</li> <li>• Degree of helplessness</li> <li>• Self-esteem scores</li> <li>• Beliefs regarding services giving advice</li> <li>• Agreement that parents should act in partnership with services</li> <li>• Degree to which they believed friends and family cared for them</li> <li>• Degree to which they experienced demands and criticism from friends and family</li> </ul>
<p>Significant differences between Turkish and English Parents</p>	<ul style="list-style-type: none"> <li>• Turkish parents significantly more interdependent in orientation</li> <li>• Turkish parents more likely to believe they have some control over child's life</li> <li>• English parents more likely to believe others have control over child's life</li> <li>• Turkish parents more likely to feel aspects of their child's life cannot be changed</li> <li>• Turkish parents felt more cared for by professionals but were less likely to feel the professionals valued their opinions</li> <li>• Turkish parents were significantly more likely to value support focusing on child's communicative skills</li> <li>• Turkish parents felt more able to talk to friends and family about serious matters concerning child and to get help from family or friends in a crisis concerning the child.</li> </ul>

## 5.2. QUALITATIVE DATA ANALYSIS OF OBSERVATIONS AND INTERVIEWS

The framework for analysis of the observation and interview data was taken from the Inclusion Index (Booth & Ainscow, 2002), the main headings of which are Culture, Policy and Practice. The analysis began with a consideration of the research questions:

1. Are there similarities and differences between interventions used to support children with autism in the two settings?

2. Are there similarities and differences in views and beliefs about autism expressed by parents, teachers and clinicians in the two contexts?
3. If there are similarities and differences how are these linked to concepts of Interpersonal Relatedness within and between cultures

It was expected that the Culture heading would largely respond to research questions 2 and 3 and Policy and Practice would largely respond to question 1.

The main similarities and differences between interventions were initially explored under the inclusion index headings. From this first step sub themes emerged which were adapted from the Inclusion Index sub-themes based on the data available and the focus of the study. For “Culture” the following sub-themes emerged: school ethos interpersonal relationships, and wider culture. For “Policy”, the following sub-themes emerged: organisation of schools and classes, teaching approach in schools, curriculum, assessment, the physical environment (buildings), staffing, resources and training. For “Practice” the following sub-themes emerged: the interventions used in all Turkish and English schools, the interventions commonly used in Turkish and English special education schools, the interventions used in only Turkish schools, the interventions used in only Turkish special education school, the interventions used in only Turkish mainstream schools, the interventions used in only English schools, the interventions used in only English special education school and the Interventions used in only English mainstream schools.

## **5.2.1. CULTURE**

The data from interviews and observations regarding school ethos, interpersonal relationships and wider culture will be explored below, in terms of similarities and differences between Turkish and English contexts.

### **5.2.1.1. School ethos**

In this section, the data about the ethos or culture of Turkish and English schools will be reported. This will include the data about the staff's beliefs about symptoms of autism, school atmosphere and social language in the schools.

#### **5.2.1.1.1. Beliefs about the symptoms of autism**

##### *The data from observations in Turkish and English schools*

In English schools, during observations, when talking about the symptoms of autism, the staff focused on talking about the children's problems and symptoms based on DSM-V and to a lesser extent mental health problems. However, during observations in Turkish schools, staff sometimes discussed the universally recognised symptoms of autism but also often talked about intellectual disability, mental health problems and social issues. For example, some Turkish staff said that some children with autism appear lazy because of societal views about disability, specifically; their parents have the view that they should be kind to their children and do everything for them. This is because they believe that the children are already coping with their condition, so the parents should do what they can to make them happy.

### The data from interviews in Turkish and English schools

All staff in both contexts expressed the view that the children with autism were different from their peers because of core symptoms as outlined in DSM-5: social, communication and behavioural problems (See Appendix 8).

In contrast to English schools, some Turkish staff also used “lazy” as an adjective to describe some of the children’s behaviour. For example, TSEST9 stated:

*“Also, I believe these children are a little bit lazy, this is because I think other people support and help them for their all responsibilities and personal care”*

TMST2 also stated:

*“The children were not lazy, but their environments became the reason for their lazy life style. Because, they [the parents] always do all of their tasks instead of the children. Therefore, the children formed habits around this way of being”.*

In this way, the Turkish staff often referred to societal beliefs about disability or autism to explain the dependency of the children.

During interviews, the staff in Turkish schools generally said the many children with autism have intellectual disability and the parents were even more likely to encourage dependency among these children in an effort to be kind to them. The staff said this attitude among parents was regardless of whether the perceived intellectual disability appeared in their diagnosis report or not.

### The data from interviews with Turkish and English clinicians

Table 22 and Table 23 showed the clinicians’ answers about the symptoms of autism. It was clear that all symptoms mentioned were based on DSM-V.

**Table 22.** Turkish clinicians' answers about the symptoms of autism

<b>Code</b>	<b>Symptoms by Turkish clinicians</b>
<b>TC1</b>	Limited communication, language difficulties, limited attendance skill, limited imaginary world.
<b>TC2</b>	Speech and language delay, problem about eye contact, communication problem, social problems are their common and main problems. Also, they often have aggression and sleep problem. Seizures and attendance problem are also often observed
<b>TC3</b>	Poor eye contact, communication problem, speech and language delay, language problems, they do not look other after calling out to them, indifference, friendship problems, swing, clap, irrelevantly playing with objects. Among these problems, poor eye contact, not being able to speak or talking with little expression or repeat the same phrase over and over and being no communicable are main points.
<b>TC4</b>	Social and communication problems, aimless and obsessive behaviours are the main criteria.

**Table 23.** English clinicians' answers about the symptoms of autism

<b>Code</b>	<b>Symptoms by English clinicians</b>
<b>EC1</b>	The language problems such as quality of, as well as quantity of language, both expressive and receptive. Social and communication problems and behavioural problems are quite common for all children with autism.
<b>EC2</b>	Problems about basic social skills, perception of speech and language and abilities to interpret abstract language, poor eye contact, their sense of humour, facial expressions, gestures, repetitive behaviours, sensory problems and mind blindness.
<b>EC3</b>	Repetitive behaviour patterns, difficulty with abstract thinking, preference for routine, difficulty with interpersonal boundaries, preference for own subjects of conversation, language difficulties, sensory issues, difficulty understanding other people's point of view.
<b>EC4</b>	The difficulties in managing social interactions (falling out with peers, struggling in developing new friendships, trying to engage or maintain interactions in kind of non-typical ways that are a bit blunter), difficulty understanding some of the language that other might use, so particularly some of the idioms, some of the non-literal sort of language. Also, according to C4, when they do formal assessments, the speech and language therapist will often see they can have good language skills but poorer abstract language skills. Also, difficulties about frame of mind, difficulty understanding other people's points of view, interpreting and responding to other people's emotions, speaking in a quite monotone manner, so differences in tone and rhythm, intonation and perhaps speaking in a more formal and adult-like manner are common.

When talking about the symptoms of autism, all of the clinicians similarly believed that international criteria such as DSM-V do not list all symptoms of autism, they also disagreed with the criteria in some cases because they

believed that the symptoms are more complex and individual than the criteria suggests. For example, EC1 stated:

*“I do not believe eye contact is really important criteria for autism diagnosis”*

Similarly, TC4 stated:

*“The children can have a good eye contact, but they can be children with autism”*

Therefore, although clinicians mentioned common symptoms in both contexts they agreed that children do not have to have all of them to receive a diagnosis of autism.

The interviews also showed that the clinicians in English city emphasised that there are two types of children with autism. Firstly, there are two or three years old children, who clearly have very significant symptoms of autism such as no language or very little non-verbal language, very little intent in communicating, social problems, problems in interaction, very stereotypical repetitive behaviours and strong reliance on routine. The English clinicians described these children as “low functioning”. The other major group referred for diagnosis were often seven or eight-year-old children. Presence of spoken language was often not an issue for these children, but the quality of language is problematic. Receptive language, understanding humour and subtleties of language, with consequent lack of friendships are problematic for these children. Also they are very literal in their interpretation. The clinicians in Turkish city did not identify these two major groups. They said, for example, that they cannot link ability or severity according to the age at referral. For example, TC3 stated:

*“The children can be seven, eight or nine years old, but we cannot say the children who have these ages generally have good communication skills. They may have no language or very little non-verbal language”*

Possible reasons for these differences in perception between the clinicians in Turkish city and English city include disparity in identification and referral processes, availability of clinicians and views about disability.

In addition, Turkish clinicians believe that the children with autism have mental health problems. For example, TC4 stated:

*“I think 70% of children with autism has minimum middle level mental problem. Particularly, for middle and low functioning children with autism, doctors can have dilemma”*

#### **5.2.1.1.2. School atmosphere**

The staff in Turkish and English schools generally believed that a positive school atmosphere is important because they believed that children should be happy at school. Underlying this was a sense that if the children were comfortable and happy they would be more likely to learn. All teachers believed that education should be flexible and the children should have fun at school and be provided with a positive environment. Despite common general ideas being expressed in both Turkish and English schools, the observations and interviews revealed differences as well as similarities in perspective and practice.

##### **5.2.1.1.2.1. Flexible Teaching Approach**

###### *The data from observations in Turkish and English schools*

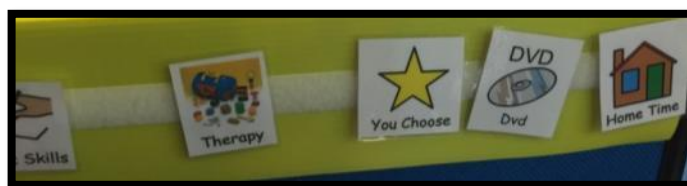
In both contexts, flexibility is valued as a way of providing an appropriate, relaxed calm and motivating learning environment. Therefore, all staff believed this approach supports a positive school atmosphere.

In Turkish and English schools, the observations showed that the staff believed their teaching process should be flexible in that staff should organize educational processes according to the students' mood, needs and symptoms. In both contexts a lack of flexibility was felt to lead to unhappiness and negative behaviour. The observations and associated discussions also revealed that teachers regarded flexible teaching as adding to motivation. For example, during O19 in TSES, the student was bored with the lesson and became angry. In response, the teacher took her to the playground for a break. The teacher explained that he took his student to the playground when she is bored, angry or cries because it has a calming effect, but also has a motivational influence in later work as the student likes it there. It was found to be similar for English schools. For example, during O6 in ESES, there was a hailstorm and the students became distracted by it. The staff suspended the lesson and talked about the weather and storms. The teacher believed that this was the best course of action, to direct their learning to the current experience.

Despite the fact that the ideas and aims of the Turkish and English staff were similar, the observations clearly show that English schools provide more choice than Turkish schools. For example, in EMST1, if the students really do not want to study maths, staff do not put this lesson on their daily timetable. Also, the children are routinely given a lot of choices during the school day. For example, *what do you want to drink, where do you want to play (outside or inside)?* Also, there is a part of each student's timetable labelled "you choose" (Figure 7) when each child can choose what they want to do. In addition, the children also have a lot of freedom in class to follow their individual wishes. For example, during teaching, if the children want to take off their shoes or sit on the floor, they feel



free to do so. According to the English staff, the students should feel that school is a relaxed place for them.



**Figure 7.** Student's timetable labelled "you choose"

On the other hand, this is not the same for Turkish schools. For example, the students generally sit on their chairs during teaching time and the staff generally chose the activities to do in TSES. The children had less choice and the opportunities for pursuing individual goals or wishes were limited. Although observations showed that Turkish and English staff have similar ideas about the need for flexibility, they have different approaches to flexibility and different perceptions of what flexibility means.

### *The data from interviews in Turkish and English schools*

During interviews, all staff in Turkish and English schools said school time should be organised according to the students' mood, needs and symptoms, in other words, it should be child centred. Otherwise, they believe focusing on lessons became difficult for the children. There was also some indication of wanting to discourage behaviour that was disruptive for other pupils. On this point, ESET5 stated:

*"For example, one of the students cannot concentrate on reading activity because she wants to look at the computers first. If you do not allow her, the reading activity will not be efficient for the student. For this reason, I allow her to play with the computer for ten minutes without disturbing others".*

The interview data supported the observations in that staff in Turkish and English schools believed that, if the school time was not flexible, the students would not feel relaxed and happy in the school. Despite similar ideas in both of the contexts, there were differences between the contexts in how this was played out. Turkish staff generally said that knowing the students and trying to understand their feelings are key to being flexible. For example, TSEST2 stated:

*“I understand my student sometimes is not happy when doing some practises, so I changed my activity”*

On the other hand, the staff in English schools said that flexibility is about asking the students what they want and directly learning about their wishes. TSEST3 stated:

*“I am always asking students what they want”*

This difference in emphasis relates to the literature around cultural differences in interpersonal relatedness. In interdependent cultures the concept of choice is seen as somewhat immature in social contexts. For example, when you visit someone’s home the host is expected to know what the guest requires or what is best for them. In the same way, the Turkish teacher is expected to pervasively monitor and “know” the children in his care and to be able to anticipate what they need. Hence flexibility involves adapting the class experience according to identified needs of the student. In independent cultures, individuals are not expected to monitor and anticipate the needs of others in the same way. Asking a person what they want is perceived to be a positive act as providing choice is linked to a respect for internal goals and is

seen as an individual right. Hence, choice and individual freedom are perceived to be of high importance (Markus & Kitayama, 1991).

#### **5.2.1.1.2.1. Teaching through fun**

##### *The data from observations in Turkish and English schools*

During observations, the staff demonstrated their belief that the children need to have fun to feel happy at school. In both contexts, fun was thought to increase happiness and motivation.

It was clearly observed that the frequency of using fun activities is different among schools. In general, it can be said that the staff in English schools use this approach much more than the staff in Turkish schools. The staff in English schools generally behaved like the student's friend when playing with them or spending free time together. For example, during O4 in ESES, a teacher played a football match on the game console with his student. He said his main aim is not education and it is just for having fun with his student. However, the staff in Turkish schools although generally kind, showed a clear distinction between the children's peers as friends and the role of the teacher. Consequently, the Turkish staff do not behave as their friend. The Turkish staff usually have a strong and loving regard for the children, in some cases observations suggested that they felt similar to a parent. They wish, however to maintain a sense of hierarchy and to keep discipline within a professional environment, because they believe the students should know this place is their school, not home. For example, in TMS3, a child did not listen to the teacher's explanation despite being asked to concentrate carefully. The member of staff said "please do not do it again [you must listen to me] because I am your teacher".

Therefore, although English schools have more rules and stricter discipline this is compensated by a friendly environment which seems to make the children less aware of the rules and structure around them. Turkish children, on the other hand, seemed to feel that the environment and teachers behaviour was stricter than English students. Turkish staff did not engage in fun activities outside of lessons where they were in the role of 'friend'. They did express the desire for lessons to be enjoyable but this was observed to be less prevalent than in English schools.

#### *The data from interviews in Turkish and English schools*

According to all staff in Turkish and English schools, their students are children and their teaching should not be boring. By using fun activities, the students feel relaxed and happy during teaching time. This happiness can support the interventions and effective teaching. This idea is the same for staff in the both of contexts. At this point, ESEST2 has explained:

*"Students only engage with learning when it is fun".*

Similarly, TSEST8 stated:

*"If the students don't have fun at the school, the education process cannot be effective because it is boring for them"*

In some ways the fun activities for the English teachers encouraged a homely feeling within the school. It was clear, however, that the staff in Turkey generally felt the students should know there is difference between school and home, whilst the staff in English schools generally emphasised that school and home should feel similar.

### **5.2.1.1.3. Social language in the schools**

#### *The data from observations in Turkish and English schools*

During observations, Turkish and English staff used different words for calling out to the students in addition to the students' name. In English schools, it was generally 'Darling' and 'Dear'. On the other hand, these words were not used in Turkish schools. They generally use 'My son' and 'My daughter'.

The observations revealed that in English schools the terms used although affectionate were not descriptive of a close personal relationship, rather a kind professional relationship. On the other hand, the Turkish staff expressed and demonstrated a close emotional bond with the children similar to that of a parent. For example, in Turkish schools, some staff became sad when their students were crying and hugged the children. However, in English schools, it was clear that the staff did not show any emotional reaction when their students were crying.

#### *The data from interviews in Turkish and English schools*

During interviews, staff said they use the words such as 'Darling' and 'My son' to be closer to the children. Also, they said that the choice of affectionate terms was not planned and is their personal choice.

Also, when talking about these words, the staff in Turkish schools generally said that they felt very close to their students and the use of terms like 'my son' felt appropriate and natural. On the other hand, the staff in English schools tended to use affectionate terms as a means to an end. For example, they said the use

of affectionate terms was useful in making the children feel happy and more relaxed. For example, TSEST5 stated:

*“I spent a lot of time with my student at the school. More than with my own child. So, I have a strong relationship with my student. You also know if you feel a good relationship with a child, we ‘as Turkish people’ use ‘my son’ and ‘my daughter’ when we call out to them.*

On the other hand, EMST3 stated:

*“When I say ‘darling’ to the children, I am seeing their happiness on their face”*

### **5.2.1.2. Interpersonal relationships**

In this section, the similarities and differences regarding interpersonal relationships in Turkish and English schools will be reported. This section will explore the relationship between the staff and the students, the relationship among children with autism spectrum conditions (ASC), the relationship between children with ASC and typically developing children, relationships among the staff in classrooms, between the classrooms and school principals, the relationship between the staff and parents, between school and clinicians, the relationships between clinicians and parents, between schools and other professionals such as therapists and the relationships between the schools and community.

#### **5.2.1.2.1. The relationship between the staff and the students**

##### *The data from observations in Turkish and English schools*

In all schools, the staff had a strong relationship with the children with ASC. However, these good relationships differed in the two contexts. In Turkish schools, the observations revealed that the focus of the staff was on the

emotional experience and relationship with their pupils. For example, during observations in Turkish schools, some of the staff said 'I feel my student is part of my family'. On the other hand, in English schools, the staff tended to focus on their professional role. Many English staff referred to the need to be professional and develop professional practice in order to support the children. Therefore, for example, in comparison with Turkish staff, during observations in English schools, staff said 'We are part of a team with the children'. Turkish staff generally spoke in a more emotional and relational way about the children and their support of them. For example, they often referred to relationships based on a sense of family. Hence, in Turkish schools, I was introduced to the children as their 'older brother'. During all observations in Turkish schools, the staff used this term to describe me and explained that their brother wanted to stay with the children in the class. In addition, teachers were concerned about the child's emotional state regarding their diagnosis and felt that highlighting that they were a child with autism would make the children sad. On the other hand, in English schools, teachers stressed their role as being one of conveying information and helping the children to understand the facts. All teachers in English schools clearly explain my position and my aim to the children in their classroom during observations. They explained that I was a researcher at university who worked with children with autism. They went on to state that I needed to observe their classroom and talk with the children. The staff also explicitly stated that the children should know they have autism and they should feel it is not abnormal.

### The data from interviews in Turkish and English schools

In Turkish and English schools, the staff expressed that their relationship with children with autism is always strong because the children are very special. For example, TSEST3 stated:

*“I was a primary teacher and completed a course to work with children with autism. They are not typical children and are special. I learned I should also be special because of this. This is because if I compare my work with typically developed children, this is very different”*

All teachers emphasised that they are close with their students. Nevertheless, the emphasis on the relationship between staff and pupils differed. Turkish schools are like home in terms of relationships because the staff have emotional ties with the children, but they want to create a professional environment. At this point TSEST5 stated:

*“If my student understands that I love the child very much, managing teaching in the classroom can be difficult. Therefore, I sometimes do not want to show my love to my student”*

In general, the view of staff was that because the children were not ‘typical’ they should not be ‘typical’ teachers. In other words their style of teaching reflects the children. This was hard to marry with on the one hand the desire to have family-like’ relationships and on the other hand the need to be professional.

In contrast to the Turkish environment the English schools were not like a home in terms of relationships, but the environment was set up to be more homely. To make it clear, the interviews showed that the children can eat something when listening to the staff during teaching time or they take off shoes and lay on the floor (Figure 8).





**Figure 8.** An example of relaxed place in a classroom

However, this kind of behaviour is not acceptable for the staff in Turkish schools because they believe the children should learn that this place is their school and their behaviour should not be same as home. For example, TSEST1 stated:

*“The children need to adapt to different environments. So, they should learn this place is their school and they need to manage their behaviour. In this way, they can learn how to behave in different places”*

These findings relate to the literature exploring family structure, hierarchy and relatedness in Turkish culture. Studies exploring changing family life in Turkey suggest that a strong emphasis on interpersonal closeness within families remains alongside a respect for family hierarchy. Typical children in Turkey are increasingly encouraged to develop autonomy (to think for themselves) but not at the expense of interdependent cultural ideals or obedience towards parents or other older family members (Kagitcibasi & Ataca, 2005). Consequently perceptions of parental control differ in Turkey and other interdependent

cultures compared to more independent cultures. For example, in Turkey and other interdependent cultures children have been found to associate parental control with parental warmth, a finding that is not reported among American or Western European native children (Kagitcibasi, 1970; 2005).

#### ***5.2.1.2.2. The relationship among children with autism***

##### ***The data from observations in Turkish and English schools***

In Turkish and English schools, the relationship among children with autism is very different. In Turkish schools, the children have nearly no communication and spending little time together in TSES although there is some limited contact in TMSs. On the other hand, in all English schools, the relationship between the children generally is strong. The observations revealed two factors, which played a role in these differences. One of them is the severity of the children's symptoms. Within the schools observed the Turkish students' symptoms were generally more problematic and complex than English students (See 5.2.2.1.3). This had a negative impact on their ability to communicate and build relationships with their peers. Also, Turkish staff tend to only engage in one-to-one teaching which limits opportunities for the children to interact. However, English staff used group work frequently, so the children were more often taught together, consequently friendships could develop more easily.

##### ***The data from interviews in Turkish and English schools***

The interviews showed the relationship among children with autism in English schools is stronger than Turkish students. Turkish staff generally said their students' condition played a role in this, so they do not or cannot improve the

relationship. Turkish staff in particularly TSES also said that they do not want to support contact between the children because of their behavioural problems.

For example, TSEST1 stated:

*“Our students have some behavioural problems, if their relationships become closer, they learn these bad behaviours from each other”.*

Similarly, TSEST8 stated:

*“I tried to improve this relationship before, but I observed the children really learn bad behaviours from each other instead of good behaviours.”*

In contrast, all staff in English schools said they always support their students to improve their relationships with other children with autism in their schools. For example, EMSTA5 stated:

*“Each child learns from each other every day and improves social and communication skills”*

In English schools, the staff believed that relationships between the children are particularly useful for improving social and communication skills. However, the interviews showed that Turkish staff did not believe their students can improve their social and communication skills through interaction, because their basic abilities in these areas are too low.

#### ***5.2.1.2.3. The relationship between children with autism spectrum conditions and typically developed children***

##### ***The data from observations in Turkish and English schools***

During observations, it was clear that the relationship between children with autism spectrum conditions (ASC) and typically developed children is stronger in Turkish schools than English schools. In special education schools, there are

not any typically developing children. However, different from ESES, Turkish students in TSES have an opportunity to connect with typically developing peers during integrative teaching sessions (See 5.2.3.1.13). Also, it was clear in MSs, that the students in Turkish schools have more time with typically developing students than in English schools. For example, in EMS1, the children with autism did not have any time together with typically developing children at school.

The observations also showed that children with ASC are much more accepted by typically developing children in Turkish schools. For example, in TMS1, typically developing children visited the special education classroom and invited the children with ASC to their classroom for inclusive teaching sessions. In another example from EMS2, when the children with ASC had a class with typically developing peers the relationship between them was very poor since there was very limited or no communication between the children. It was clear that in England, the children with ASC only have contact with their TA in the classroom and no one else talks with them.

During observations, it was also clear that Turkish staff supported the relationship between children with ASC and typical children. This was apparent in Turkish schools, but not in English schools. For example, in EMS1, the staff waited until the typically developing children left the playground to allow their students to pass through there. However, there were some exceptions, in TMSs, students spent break time in the playground with typically developing children.

### *The data from interviews in Turkish and English schools*

The interviews showed that Turkish staff support their students to make contact with typically developing peers in order to improve their social and communication skills. However, it was not the same for English staff. In English schools, staff believed that relationships between children with ASC and typical children can be problematic for children with ASC, and may even be hazardous because they believe they cannot understand each other and may hit each other. EMS2 differed from the other English schools, however, in that the children with ASC spent time with typically developing children during integrative teaching sessions (See 5.2.3.1.13). However, the staff in EMS2 stated that they did not actively support the development of relationships between the children and the relationship depends on the children.

EMST6 stated:

*“Some of them [typical children] are supportive, but some of them are not”*

On the other hand, in Turkish schools, the staff said the typically developing children were very welcome visitors to the children with autism in their classroom. TMST3 stated:

*“The [typical] children adapt to all kind of different things such as autism more readily than adults.”*

### **5.2.1.2.4. The relationship among the staff in classrooms**

#### *The data from observations in Turkish and English schools*

The observations showed that although the relationships between members of staff were strong in all English schools, the relationships were not very strong in Turkish schools. In TSES, the staff had little communication during their time in

the same class because every member of staff concentrated on their own pupil/pupils. It was observed that the Turkish special education staff only shared their experiences with each other in break times. In Turkish mainstream education classrooms, however, the staff had a stronger relationship during all teaching time in TMSs because they engaged in informal team teaching, taking care of usually four pupils together. Officially, each teacher is responsible for two of the four children, but the teachers see benefits in teaching together for themselves and the children. During observations, the Turkish staff reported that each member of staff deals with all four students in mainstream schools. Because of this, the staff said they are closer in their classrooms than the classrooms in special education schools. However, they also said that there is a small number of staff who deals with children with ASC at classrooms in TMSs, so the scope for getting to know other members of staff was limited. Therefore, they said they tend to have strong relationships with one other member of staff who shares teaching with them.

On the other hand, it was observed that the staff have strong relationships in English mainstream and special schools. They share their ideas and support each other in teaching times and break times.

#### *The data from interviews in Turkish and English schools*

In all Turkish and English schools, all staff said there is a strong relationship among teachers. They said they try to build strong relationships among all staff in the schools because they believe it improved the school atmosphere and it is useful to share knowledge with each other. TMST6 stated:

*“I was a primary teacher and had a certificate to work with children with autism. In our class, another teacher is a special education teacher. We support each other and learn from each other thanks to having a strong relationship”*

Similarly, EMSTA5 who believed having a strong relationship is useful for them stated:

*“Staff are learning from each other every day”.*

Despite similar ideas around staff collaboration in the two contexts, the interviews showed that there were some differences with regard to contact between members of staff. For example, In TSES, the staff said their students were their sole responsibility, although they have other students in the same class. Therefore, they said they generally deal with their student/s. However, the staff in English schools said they have a responsibility to teach all children with autism at the school. Therefore, having good communication among the staff is necessary. The staff in TMSs were aware that teachers in other countries such as the UK work more collaboratively and they generally viewed this positively. The Turkish teachers were keen to emphasise that in some circumstances they did work collaboratively. For example, where two members of staff shared the teaching for four students together they would need to contact each other frequently.

#### ***5.2.1.2.5. The relationship between classroom and school principals***

##### ***The data from observations in Turkish and English schools***

During observations, it was clear that there was very strong relationship between the staff and school principals in TSES and ESES. On the other hand, the relationship was poor in EMSs and TMSs. Despite these similarities in

Turkish and English schools, the observations also showed there some important differences between the two contexts.

Firstly, despite the school principals having a strong relationship with children and staff in ESES, the relationship was stronger and closer in TSES. For example, during observation, the deputy manager of the Turkish school stated:

*“A child cried last weekend and wanted to see me. His parent contacted me and I met him. It was my holiday, but it does not matter. The child is the most important thing for us”.*

In addition, during observations, the head teacher in TSES said:

*“We are interested in solving families’ problems if they share their problems with us. We try to help them because the problems can negatively affect our students as well”*

This head teacher also stated:

*“We are very close to the children and their education. This positively affects our relationship with the staff. Our aim is the feeling that we are a family in the school.”*

This quote may reflect cultural differences in how family is perceived between the two countries. For example, in Turkey historically families were extended and also hierarchical. This perception of families persists to some degree. Schools in Turkey may be based upon this traditional model of a hierarchical extended family. This also links to previous observations which suggest that teachers behave and are perceived more as parents in Turkish schools whereas in England teachers are perceived as professionals who may also at time behave as a friend to the children.

It was observed that the relationship between staff and school principals was similarly poor in EMSs and TMSs, but there were also significant differences



between Turkish and English schools. In TMSs, the staff often needed to contact the school principals. Despite these meetings, during observations, the staff generally said their relationship was poor. For example, during an observation, TMST4 stated:

*“To be honest, saying poor relationship is not the right definition for our relationship. We have a negative relationship with them [school principals]. I have spoken with many teachers from special education schools. They don’t have problems about school principals because they [the school principals] have been trained in special education. Similarly, it [training] is a need for our schools as well because ours [school principals] do not know what autism is and about our teaching”*

Generally, the observations showed that the staff were not happy with school principals in TMSs. Some of them even said they are a barrier to their teaching because they have a negative relationship with them. However, in EMSs, the role of the SENCO was found to mediate between staff and school principals. Staff and children generally had good relationships with SENCOs. For example, during the day, SENCOs often visit support centres to talk with children, listen to staff and share their ideas about teaching and the official issues regarding the school. Their relationships always seemed very positive and strong. This seemed to provide a positive link between staff and principals leading to less negative feelings towards senior staff.

#### *The data from interviews in Turkish and English schools*

During interviews, all staff stated that school principals are important for quality education in the school and should understand the children, teachers, and the education in the classrooms.

For special education schools, during observations, the staff had similar positive ideas about school principals in Turkish and English schools and they believed

that the school principals were very aware about autism. For example, EMST3 stated:

*" they know about autism and are always trying to improve teaching in the school"*

Similarly, TSEST4 stated:

*"Our school principals have knowledge about children with autism and they are open minded about using teaching methods and trying to improve our teaching".*

On the other hand, for TMSs and EMSs, the staff generally said they did not have strong relationships with school principals. In TMSs, the staff are generally not happy with their school principals. Except TMST1, all other participant staff believed that the roles of school principals in special education classrooms are problematic. About this, TMST2 stated:

*"School principals are not aware of issues about our students and education. For example, I believed a child was not suitable for my classroom and should go to a special education school because of his low abilities. However, the head teacher said you should deal with the children and do not try to change the child's class"*

In addition, TMST4 stated:

*"School principals do not place importance on special classes in mainstream schools. Other classes are more important than ours according to them. I feel this is a very serious problem for education"*

Similarly, TMST6 stated:

*"Their lack of awareness about special education negatively affects us and our students. For example, on the door of our classroom in many schools, there is a signboard and "special education class" is written on this. We would like to support our students to be like other typically developing children in the school. However, it shows the children are different from others and typically developing children think we are not the same as them"*

TMST1 seemed to be an exception however and stated:

*“Despite many classrooms in TMSs having the signboard, our class doesn’t have this because our school principals are very aware and give importance to our education in the classroom. The head teacher is a psychological counselling and guidance teacher. I think this is the exact reason for his awareness”*

Similarly, all staff in TMSs said the school principals should be knowledgeable about autism. In EMSs, the interviews showed that although the staff did not have a strong relationship with school principals, it was not wholly negative. All participant staff in EMSs referred to the fact that SENCOs are knowledgeable about autism and aware of necessary teaching approaches. SENCOs are knowledgeable about the formal procedures in schools that involved children with special educational needs instead of the school principals. For example, EMST6 stated:

*“XXX [SENCo’s name] is a key person to support our teaching at the centre and manage formal procedures”*

#### **5.2.1.2.6. The relationship between the staff and parents**

##### *The data from the observations in Turkish and English schools*

The observations showed that the staff in both contexts believed that maintaining a strong relationship with parents was important. For example, During O5 in TSES, a teacher stated:

*“My student wants to play computer games at home very much. Therefore, the child did not come to school. I contacted the parents and they said the internet connection is very poor at home. Because of this problem, they suggested the child could use the internet at the school. In this way, the child accepted coming to school. We sometimes allow him to use the internet for playing games. So, he is not aggressive during his time at school thanks to building a good relationship with the parents”.*

Similarly, O17 in TSES, a teacher stated:

*“My student’s father is very interested in our educational approach and we are close. For example, he is a painter and he invited us to his painting exhibition. Also, he regularly contacts me for face-to-face meetings, phone calls, and messages. Also, he often records videos about his child at home, so I can observe him at home. For example, when the child has dinner, I can observe him because I am working with the child about eating unaided. So, I have strong relationship with the parent and I really believe he is very willing and this is a key point”*

Despite these examples in observations, it was clear that the relationships between parents and staff were different in the frequency, type of contact and the quality of the relationship. In English schools, for example, parents were frequently invited to school and formal procedures encouraged regular contact. In Turkish schools, contact was more adhoc at school and limited information during observations suggested that staff were more likely to visit parents at home. English school used a variety of ways to encourage parents to communicate with them and visit the school. In Turkish schools, it was observed that only parents who come to school with their child in the morning and pick up their child from school at the end of the day are regular visitors to the schools. When they come to the schools, they also talk about their child’s education. Hence, where relationships are strong it is incidental and initiated by the parents in Turkish schools.

In Turkish and English schools there are regular meeting with the parents to discuss and explain their educational approach. Additionally, in English schools, each child has a school-home book and it is used every day by staff and parents. At the end of the day, important things that have happened during school-time are written by staff in the book to inform the parents. Similarly, parents write information which should be known by the staff in the book. For example, in EMS2, a parent wrote:

*“My child did not sleep well, so he will be tired today”*

Staff then considered the child's lack of sleep when teaching the child. This book was also used by TMS1 in Turkey, but the staff used this for only educational aims such as describing a practice to use at home. The staff in TMS1 also invited parents to the class to do some practice with the children. This was not observed however in any other Turkish classrooms.

In ESES, there was a family project (See 5.2.3.7.3). The observations also revealed some social events with parents in the English schools. For example, 'Book Day Quiz' was observed in ESES. This event involved inviting parents to the school and they joined the quiz with their children to answer to the questions about the books, which were read by the children because they believed this event supported strong relationships between parents and staff. Also, after the event, parents visited the children's class. It was observed that they did some activities such as drawing pictures or reading a book with the children. According to the staff in England, through these activities, parents feel part of their child's education and this supports a good relationship between staff and parents.

During observations in Turkish schools, it was interesting that a mother came with the child's shoes in TMS2 during class time and demanded that he wear the shoes. Her demeanour was not positive and it was clear the relationship between her and the staff was strained. After the mum left, the teacher (TMST2) said:

*"This child is not suitable in a mainstream class. He should go to a special education school. However, his mother does not want to change his school. I have said many times to her and the school principals, but he is still in my class because of his parent's decision. This is a problem because his mother believes I do not like her child. Our relationship is not good because of this. Therefore, she does not respect me and my teaching. Her behaviour shows that she believes I am her child's carer. However, I am not his carer. I am his teacher".*

There is a frustration here which reveals that there can be discrepancies between the beliefs of parents and teachers in Turkish schools. This was not observed in special schools. In the mainstream classes the parents had a tendency to believe that the teacher favoured the typical children and did not care for their child to the same degree. There was also a view among the teachers that these children were not in the appropriate school. The teachers believed that the children with autism needed more specialist one-to-one help and they were not able to provide this. In other words they did treat the children in their class similarly, but this caused frustration for the parents who believed their child was not cared for by the teacher and the teacher who felt they could not provide appropriate support. During observations, many Turkish staff said they had similar problems or they know colleagues from different schools who have encountered difficulties building relationships with parents because of similar issues.

#### *The data from the interviews in Turkish and English schools*

All participants think parents are an essential part in the educational life of children with autism. According to Turkish and English staff, trusting each other is the most important factor in keeping a good relationship. For example, EMST7 stated:

*“I think it's important to be respectful, honest and tell the truth to parents rather than just trying to get on with them”*

Similarly, TMST2 stated:

*“Trust is a key point to have a good relationship with them”*

In order to facilitate trust, they emphasised that they should have regular contact with each other. On this point, the staff in Turkish and English schools commonly said that parents do not initiate contact with the schools. For example, TSEST2 stated:

*“I initiate contact with my students’ parents every time. I have had this job for 14 years and I did not see any parent who was very interested in initiating contact with me”*

About this, Turkish and English staff believe the parents have different daily responsibilities and they generally believe this cannot be easy for them. Therefore, they may be too busy or tired to keep regular contact.

In discussing ways to maintain contact with the parents, the staff in Turkish and English schools stated they often contact with parents who pick up their children from the school and often call by phone to other parents. Despite similarities between Turkish and English schools, it was clear that the procedures for contact were more formal in English schools and consequently the contact within school was more regular. Techniques such as the home-school book encouraged on-going contact in English schools.

About this, EMST6 stated:

*“We do have a home-school book. We write in each lesson and parents can see if there’s a problem, they’ll get right back to us and we look at that every morning and night”.*

Similarly, ESEST7 stated:

*“This is very useful because teachers and parents can know what has happened in the children’s day”*

Therefore, all staff said they try to encourage the parents to write in the book. In addition to the book, during interviews, the English staff said they send home

'regular newsletters' to parents. The staff believed that the newsletter keeps the parents updated with what is happening in the school and stresses the importance of home-school communication. Also, English staff generally said that they invite the parents for some special day events such as Mother's Day, Christmas and Easter. Also, they commonly said that they invite the parents to drink tea or coffee at the schools. Although the English parents regularly visit the school, staff felt that they were mainly initiating and promoting this contact rather than the parents themselves ESEST8 stated:

*"Parents do not tend to come to the school. We invite them here most of the time with these events"*

Although parents generally visited frequently in English schools, it was very limited in Turkish schools. The interviews showed that Turkish staff generally spent time with parents outside of school. All staff in Turkish schools said that they visit their students' home to meet with families and observe the children's home life. They said this responsibility was not a formal obligation, but the staff in Turkish schools generally wished to visit the home in order to develop and maintain good relationships with parents. For example, TSEST4 stated:

*"Almost all teachers visit their student's home termly. For example, I visited my student's family this term and had a meal with the parents and my students at their home. Also, my students showed their room to me. My students and their parents feel I am close to them. I think it is a good way to keep a good relationship"*

Also, Turkish teachers said they visited social events with the children and their families together. For example, TMST5 stated:

*"We go to the cinema, theatre etc. with parents and the children. Therefore, we share time in our social life and this is very useful to maintain good relationships with parents"*



The interviews showed the frequency of meetings between staff and parents was greater in English schools compared Turkish schools. In Turkish schools, the frequency of contact seemed to be driven by the quality of the relationship.

For example, TMST3 stated:

*“If the parents and teachers know each other well and trust each other, they do not have any problems and easily maintain a strong relationship. Therefore, they spend more time together. In Turkish schools, this is commonly a problem”*

Because of this problem, TMST5 believed:

*“In Turkey, some parents and staff don’t trust each other because of spending less time together. Therefore, parents’ attitudes may not be good towards teachers”*

The interviews revealed that a common problem in relationships between teachers and parents in mainstream schools stemmed from differences of opinion around the teachers role. Parents often believed the teacher should be primarily a carer for their child and did not acknowledge that their child could make educational progress. This may have been exacerbated by comparisons with typically developing children in the school. Related to this issue was the perceived need to improve the allocation procedure for children to ensure they attended the right school. TMST2 and TMST6 said they currently had this problem. For example, TMST2 said:

*“The parent believes I have to make her child eat, get dressed. According to the parent, I should have a carer’s role for her child. My main aim is teaching and she does not respect this”*

The staff in Turkish schools believed that these attitudes are generally observed among the parents whose child is low functioning, because they believe their child cannot improve their skills and their expectations about the child are low. Therefore, for them, education is not useful for their child.

However, TSEST5 felt it was not about the child having 'low skills' and stated:

*"It is not only about low skills. We don't have this kind of problem in special education schools. I think the parents compare their students with others who have high skills in special education classrooms or typically developing children in the mainstream schools. Therefore, authorities should be careful to choose the right school for the children who have low skills."*

Sometimes parents seemed frustrated by their child's abilities when comparisons were made with typical children and this was reflected in their opinions regarding the teachers support and education of their child. For example, TMST6 stated:

*"My student does not have low functioning autism and he should stay in a special education classroom within a mainstream school. So, he is in the right place. However, I feel I am a carer or parent's assistant. The parents are oppressive towards me. Because the parents have a high social status and they also bought a computer and some other equipment for the class. They feel I can manage the class and they quickly want to see their child's development. Also, I think they secretly think why has my child got this problem?"*

One outcome of such problems was that the staff in Turkish and English schools believed that increasing parental awareness was important. In Turkish schools, the staff particularly emphasised the importance of 'parent education' and they believed such education would be very useful for parents to understand autism and school practice. It would also support continuation of interventions at home. Also, similarly, Turkish and English staff believed education is useful to reduce parents' concerns (See Appendix 9).

#### **5.2.1.2.7. The relationship between the schools and clinicians**

##### **The data from observation in Turkish and English schools**

During observations, it was clear that clinicians did not visit Turkish and English schools. However, in English schools, some staff said they or school principals

contact clinicians and share information from clinicians with other members of staff at the meetings in the schools.

*The data from interviews in Turkish and English schools*

In Turkish and English schools, the staff believed contacting the children's doctor can be useful to know their children well. In English schools, the staff also said it is necessary to understand their diagnosis. About this, ESET3 stated:

*"We contact with clinicians about the children's diagnostic statements. Children still have access to their own doctor and we often have phone conversations. We still have the school doctor that comes in and sees the children and when that happens we will go with the child usually and discuss and we learn from their [the doctor's] advice. We have a higher level of contact with the educational psychologist and he will come in and do observations and write reports"*

All English staff said the schools have a good relationship with clinicians. The interviews showed, however, that Turkish schools do not have any contact with the clinicians. They generally said only parents contact with clinicians, not schools. TMST3 stated:

*"My students do not have any contact with a doctor after the autism diagnosis"*

Suggesting that even families have limited contact with clinicians in Turkish city. This may reflect the fact that there are less clinical staff than in English city and clinicians are very over-stretched in Turkey.

*The data from interviews with clinicians in Turkey and England*

During interviews in Turkish and English cities, all clinicians emphasised that special education is a crucial need for the children. Similarly, they also said medications are not a solution for the children and that education is the right path. For example, TC1 stated:

*“Medications are used to solve problems about ADHD, aggression, agitation, attention and obsession. Although the medications are helpful to solve these problems, it is not a solution for autism”*

Similarly, EC3 stated:

*“Medication is used to manage behavioural problems, reduce anxiety. This is not a solution”*

On this point, TC2 stated:

*“I believe there is only one way for improving the children’ skills and this is special education”*

Therefore, the clinicians in Turkish and English cities similarly said they gave importance to special education. Despite this common idea, the interviews showed while the relationship is strong in English city, it is generally very poor in Turkish city.

In English city, clinicians said they would go into schools to do an observation and would speak to the teacher about any concerns they have in school. All clinicians also said they visit schools and it is a part of their responsibility related to autism diagnosis. They also believed good communication with schools is useful for them although parents can give information about their child’s school and education to them. On this point, EC2 stated:

*“Our visiting is more useful to observe and understand the child’s social interaction at the schools”.*

About their visiting, EC1 also stated:

*“This is also obviously training for teachers around autism”.*

Although the clinicians in Turkish city have similar ideas as the clinicians in English city, they said they have no contact with the schools, except TC4. In explaining this lack of contact, all clinicians in Turkish city said they are very busy in state hospitals because numbers of clinicians are very limited in cities and they can only allocate a short time for each child. Because of this, they said parents became a bridge between the schools and the clinicians. On the other hand, TC4 who had a strong relationship with the staff in schools stated:

*“I contact with teachers by phone or they visit here. I must maintain contact with them because teachers’ ideas are important for analysing the children’s condition. Working together with schools is useful because we can share our ideas for the same children. About this, I should state that I can do it because I work at my private clinic. This is a key point because I have not a set employment period and I have flexible time and longer time for diagnosing each child. This is not the same for state hospitals and also visiting schools is not among clinicians’ responsibilities in state hospitals”*

Similar to TC4, the doctors within state hospitals in Turkey confirmed that contact with schools was not among their responsibilities.

#### **5.2.1.2.8. The relationship between clinicians and parents**

##### *The data from interviews with Turkish and English clinicians*

During interviews, all clinicians similarly believed that the relationship between clinicians and parents were really important. This is because they believed that parents are generally the first people to notice the children’s problems. Thus,

autism diagnosis process and the relationship between parents and clinicians are started by parents. TC4 stated:

*“If parents notice their children’s problems, they come to see me. Otherwise, I cannot meet with the children”*

Although there were similar ideas between Turkish and English clinicians, it was clear that coming for the first meeting with clinicians is earlier in English city than in Turkish city for a variety of reasons. About these reasons, TC2 stated:

*“According to my experience, families which have high socioeconomic level come to our place with 2-3 years old child when families which have low socioeconomic level come for diagnosis with 5-6-7 years old child.”*

Also, TC1 stated:

*“Parents’ age is also an influence in Turkey. I think older parents generally wait to come to diagnose their children. Therefore, in general, Turkish younger parents’ children can have earlier diagnosis than older parents”*

On the other hand, clinicians said that socioeconomic levels and parents’ age are not very influential in seeking the first meeting in the UK and many parents generally visit them when their children are very young in English contexts.

Also, different from English clinicians, the Turkish clinicians said that the first meeting with high functioning children with autism particularly happened later, but this was more pronounced in the past For example, TC3 stated:

*“Parents do not want to face their children’s problems. It is general among high functioning children with autism. It was very general in the past. However, today it is much better. Therefore, it can play a role on increasing the number of diagnosis in Turkey”*

Similarly, TC4 stated:

*“Today is much better than in the past. For example, in the past, one of the parents interestingly asked me ‘Can he solve the problems if my young boy gets married’.”*

About high functioning children with autism in Turkey, TC3 stated:

“Some parents believe delayed speaking is not a serious problem for boys and they do not apply professional help for this because they believe their children look like a typical child”

Turkish clinicians believe that Turkish parents’ react in this way because of the effect of culture, although they believe this is better today. English clinicians made some similar points. Although they said their city was not multicultural place and mostly people of British origin live there, these examples can be clearly observed in the UK among families who have a different culture. For example, EC4 stated:

*“For example, in Birmingham and London, there are different cultural forms. Although national culture is British, their home culture is different”*

After the first meeting with the parents, the relationship between clinicians and parents are also different in Turkish and English cities. For example, in Turkish city, if the children do not use medication, clinicians will say that the next meeting depends on parents. However, if the children have medication, clinicians invite the children to attend to check their progress. For example, TC2 stated:

*“The children who do not use medication, I suggest the children and parents should come here once every six months. However, it still depends on parents. I am saying the date to come here. However, coming here is their responsibility”*

On the other hand, English clinicians said they try to see all children after diagnosis. It is not about using medication. They said that keeping strong relationships is their responsibility. EC4 stated:

*"I always invite parents here. Also, not only parents came to me for a clinical appointment. I would go to the school and would meet with the parents at school"*

#### **5.2.1.2.9. The relationship between the schools and extra services to support children with autism**

##### *The data from observations in Turkey and English schools*

It was clearly observed that the students and staff do not have any communication with any experts or services for extra support in Turkish schools. However, the observations showed that English schools do have contact with therapists. For example, in ESES, An occupational therapist worked closely with the staff to support the students. Also, in EMS1, EMST4 explained that the school had some contact with speech and language therapists and that she had sought advice from a speech and language therapist over the telephone.

##### *The data from interviews in Turkish and English schools*

The interviews showed in Turkish and English schools, that the staff said their students had some extra support. However, this was more apparent in the English schools.

In Turkish schools, the staff said the government financially supported the students to go to the rehabilitation centre after school-time for extra support. All staff in Turkish schools believed that the centres are very useful for the children



because they receive additional educational input after school hours. However, most of the staff also said they did not know anything about what the centres provided, as communication between the schools and the centres was poor. Therefore, they emphasised that the schools and centres work with the children separately. TSEST1 stated:

*“The relationship between the schools and centres depends on teachers’ willingness because this is not their responsibility and they are a separate centre from the schools. Therefore, they do not have to communicate with each other”*

On this point, TMST3 also stated:

*“I think this poor relationship is a problem in Turkey. Because of this, I have contacted with the teachers at the centre and we organised educational activities together. Therefore, the child has the same subjects in the school and at the centre. [After this] I observed that education became more effective than before. Therefore, I believe all people who are directly relevant to the children’s education should have a good relationship”*

On the other hand, during interviews, the English staff talked about the strong relationship between staff and visiting therapists within the schools. The interviews showed that the therapists sometimes worked together with the staff to support the children. This contact also provided opportunities for staff training by visiting specialists. The staff said they were motivated to keep this strong relationship in order to receive quality training from visiting therapists.

#### ***5.2.1.2.10. The relationship between schools and community***

##### ***The data from observations in Turkish and English schools***

The observations revealed that there were no visitors to Turkish schools from members of the wider community. There were visitors in all English schools during all observations. Visitors to English schools were typically given a tour of

the school including information about autism and the school from staff. Visitors often observed classroom sessions. Children may also talk to visitors or spend time with them in class.

### *The data from interviews in Turkish and English schools*

During interviews, all staff said they have a relationship with the wider community. There were differences, however, in how this was expressed. In English schools, the staff said that members of the community were invited into the school in order to maintain a positive relationship. EMSTA5 stated:

*“We always encourage [members of the community] to come to this school, we like visitors, we volunteer to improve autism awareness in our community”*

Similar to EMST5, the staff in English schools said they invite people to their schools to maintain a relationship. However, in Turkish schools, it is very different. No one visits the schools. The staff and children go out of the school into the community. For example, TSEST1 stated:

*“We go to the cinema, restaurants, the theatre and shopping hall together”*

Despite different approaches, both English and Turkish schools did have relationships with the community and were interested in improving autism awareness in wider society. Their primary aims in building such relationships were, however, somewhat different. In English schools the main aim was to raise the profile of the school in the community. For the Turkish staff the main aim was to support the children to cope with and learn about ‘real life’ within the community. For example, TSEST9 stated:

*“When we go to out of the school with my student to improve his skills, I generally talk with people in places such as the market and restaurants. I*

*observed that my talking with them and my student's visiting became very useful for these people's autism awareness".*

### **5.2.1.3. Wider Culture**

The staff in Turkish and English schools explained their beliefs about wider cultural influences on autism education and care including the impact of family structure, society and religion in different cultures.

#### **5.2.1.3.1. *The impact of family structure on the children with autism spectrum conditions***

##### *The data from the interviews in Turkish and English schools*

The staff in Turkish schools focused on the extended family when talking about Turkish life. They also said that the members of extended families are very close to each other in Turkey. They believed that the extended family provided the children with a range of experiences and skills communicated by different family members who care for them. In discussing the impact of Turkish extended families on autism, TMST4 stated:

*"I think, children with autism need to improve their social and communication skills. Because of this, if they have more people around them, it is useful for them. I observed my students. If the children strongly connect with maternal uncle, paternal uncle, maternal aunt, paternal aunt, grand mum, granddad, their social and communication skills improve quickly"*

On the other hand, the staff in English schools said the families are generally nuclear families, so mothers and fathers take care of their children and make decisions about their children's life. However, similar to the staff in Turkish schools, they also generally said connections with extended family can be beneficial for the children because they can interact with a variety of people that

love and care for them. However, ESEST8 believed that for some children who move between cultures having to adjust to different family circumstances can be difficult and stated:

*“It can be useful. However, I was born in Zimbabwe and I came to the UK when I was a very young child. My family culture and English culture are very different from each other. My family was an extended family in Zimbabwe, but the families in England were different. These differences probably can be a problem for the life of children with autism”*

In addition to general positive ideas about extended families, English and Turkish staff felt that grandparents had a positive role to play in the children’s and the parent’s lives and were commonly supportive. On this point, ESEST3 stated:

*“Instead of parents who have full-time work, grandparents’ visiting is useful because they can provide support to parents in learning about the activities. Therefore, we invite them to the school”*

Likewise, TMST1 stated:

*“For example, my students’ mum and dad don’t have time because of their work. I also know the members of the extended family help parents look after their child. This is very useful for parents because they can have time for their personal daily life”*

However, some staff had reservations about grandparents input in parenting in both Turkey and England. The staff believed that structured life and rules are very important to shape the children’s social life. Parents try to do this, but grandparents may not adhere to the rules and routines parents put in place. In Turkish contexts, this may often be related to cultural beliefs about the need to behave respectfully towards older people. About this, TMST2 stated:

*“For example, the child wants to eat a chocolate before having dinner, but mum says you can eat it after having your dinner. However, grandmother can say you should give him the chocolate because the child feels sad. So, mum gives it to their child because of this talk. If the mum says no, I cannot [give him the chocolate] because these are our rules, people around them may think this is a*

*disrespectful attitude towards older people. There are many families like this in Turkey. I think this is a compromise to break the rules sometimes. But the children learn how they can break the rules and parents' authority"*

In English schools, grandparents were also often thought to break family rules set by parents ESET7 stated:

*"This is not for only children with autism. For example, my child is a typically developing child. My mum is aware and does not step in my and my husband's rules. However, my husband's mum has a habit of breaking the rules. I tried to solve this, but I could not. Anyway, love is love".*

About these situations, the staff in both cities believed that some grandparents who are very close to the children think that people should give in to their requests. Despite this general similarity between Turkish and English schools, the direct quotations given above and all interviews clearly showed that the place of elders particularly grandparents are socially more dominant in the Turkish families. As a result of this, the staff said being respectful to elders is important in Turkish culture. Therefore, some older relatives can interfere in the life of the nuclear family and have sanction over the child, which can be undermining for the parents. For example, TSET7 stated:

*"Grandparents in some families can say 'Why do you upset the child?'. Accusatory behaviours may arise against the mother"*

The interviews showed that although the staff talk about only grandparents in English schools, the staff in Turkish schools talked about many members of the family such as grandparents, uncle, aunt, cousins etc. The Turkish staff emphasised the fact that the parents generally had a very close relationship with wider family members in Turkish context. Despite all staff in Turkish and English schools believing that positive relationships with wider family are

beneficial for children and parents, they also emphasised that the benefits of the family environment depended on its member's behaviour and understanding. Where family members were not supportive or were not knowledgeable about the condition this could have negative consequences for the child. For example, TSEST10 stated:

*"My cousin has Down's syndrome, our attitude towards her is so positive. We provide a social environment for her. For instance, we do several activities with her, along with other cousins, uncles, aunts. She is getting used to the crowded environment and becomes socialized and develops language skills. Therefore, she has no difficulty in other environments because she is used to crowds. However, we cannot say the same thing for every family. For example, some family members cannot understand the children's condition. Because of close relationships in our [Turkish] families, this can often negatively affect the children."*

About the same subject, ESET2 stated:

*"Some cultures that generally have extended families can be very strict, very rigid and very discipline based. Children with autism communicate sometimes through their behaviours and some families will punish those behaviours because they see them as badly behaved children. Not the behaviour being a consequence of a child having autism. You should understand why they are behaving that way and what they are trying to communicate. There are some families who try and stop them. That's not going to fix and change the behaviour and that's quite a tricky one. Particularly some kinds of Asian culture, Japanese, Chinese. They are very strict in regiment with their behaviour and their approach is very behavioralist. And children with autism need a very different approach"*

About the problems about extended families, TSEST1 stated:

*"Extended family structure can be a reason for some problems. However, today, the influence of extended families is more positive than in the past. I think having an extended family is an opportunity for Turkey. If more members of families became aware about autism, they could be consciously supportive to the children and the parents. This is important because this support is in the child's real life, not at school. Thus, more effective"*

TSEST8 also similarly stated:

*"I sometimes observed that some family members are more effective than parents. This depends on their upbringing. Therefore, we need to educate*

*members of the families. Because of their close relationships they [wider family members] are more useful for support in our families [than in other countries]*".

#### **5.2.1.3.2. The impact of the community on the children with autism**

##### *The data from the interviews in Turkish and English schools*

In Turkish and English schools, all staff believed that culture influenced the local community and the children within that community. Staff believed that the influence of culture might be more pronounced for the children with autism because they have social and communication problems. Staff in Turkish and English schools believed that today autism awareness is much better than in the past thanks to movies such as rain man, broadcasts on TV and public service advertisements, nevertheless they said that their communities needed to improve autism awareness because of some people's negative or unsupportive attitudes. For example, TMST2 stated:

*"If the students show impulsive behaviour in any social area, some people are scared and run away".*

TSEST9 also stated:

*"One of the vessels of my student's eye was blocked. Her mother and myself went to the doctor with her to comfort her. Nevertheless, she was worried and got angry. The doctor and patients were worried that a possible problem would arise. For this reason, she had less care compared with other patients there. This is an unforgettable day in my professional life."*

Similarly, in England, ESEST1 stated:

*"Negative attitudes are really stressful for the children and their families dealing with it. Sometimes that's quite upsetting for the families because they're just doing their absolute best but other people don't necessarily understand. They might think it's just a child being naughty or having a temper tantrum but they don't understand this is because of autism"*

EMST4 also pointed out:

*“Some people can think the children are just naughty and their parents have no control because they do not understand the condition”*

According to the staff in both cities during interviews, people within the general population and the local community do not know about autism and they compare the children with autism with typically developing children. This is partly because autism is an ‘invisible’ condition and partly due to a lack of knowledge about symptoms and associated behaviour. The staff similarly believed that these factors become reasons for people developing some negative bias about autism. This lack of understanding was not seen to be linked to people’s social economic and sociocultural levels. For example TMST5 stated:

*“Understanding autism is a problem in society. Even, some teachers who are working with typically developing children ask whether they [the children with autism] can learn to read and write. If the child has low functioning autism, they can compassionately ask ‘do you educate this child?’. They are the teacher and they should have autism awareness. However, some of them do not”*

Similarly, ESET10 stated:

*“My friends who are teachers of typical children said I cannot work with children with autism. This is interesting because they do not know children with autism. They should know them before deciding this”*

To aid understanding within communities, Turkish and English staff believed that people should meet and spend time with children with autism. In this way they can learn how to communicate with the children. In support of this idea, TSEST2 stated:



*“When people see them, they are worried because they do not know how to connect with them. Even I was worried before working with them because I did not meet any children with autism before working at the school.”*

EMSTA5 support this idea and stated:

*“People generally are not afraid, [they are] confused. They don’t know how to be with them and what the child needs”*

During interviews, Turkish and English staff despite being from different cultures described similar ideas and problems in their communities and wider society. However, it was clear that the effects of such problems on the children and their parents were different. TSES4 stated:

*“We keep the children at home more compared to western countries because children have problems in the street. For example, when a child goes out, he may sit on the road or wants whatever he sees. The child is not aware of how to behave in society. For these reasons, families are also worried. Therefore, they prefer to stay with their child at home. We have children who just have a cycle of going from home to school or vice versa. There are even some children who never go out except to school.”*

The staff in Turkish schools generally described that some parents are ashamed of their children when they go out and they are usually worried because of the reactions of others within society. The interviews revealed that some parents in English contexts feel similarly, but they do not tend to stay at home because of others’ ideas or reactions. Also, it was clear that parents in the UK are less likely to have extended family to draw on when they need someone to take care of their child. Societal and cultural differences mean that parents often have to take their children with them to the supermarket, to appointments etc. Parents often find it difficult to get babysitters who are prepared to care for their child or knowledgeable about autism. However, in Turkish context, the parents can quickly find people such as member of their

extended family, or one of their neighbours who can look after the children at home when the parents are away (See 5.2.1.3.1.). Consequently for some children in Turkish context the family provided the primary social context sometimes the only social context. This was not true of all families, however, For example. TSEST3 stated:

*“My students’ mum goes everywhere with him. The mum said if we have a problem with my child outside, I try to solve this. From day to day, she observed that her son is adapting to life in society and, the society is also adapting to her son. Therefore, the parents should spend time outside with their child”*

About this TSEST1 stated:

*“Our making social visits to public places with the children encourage the parents to go out. Therefore, parents are more willing to go out with their child today than in the past”*

TMST4 also supported this idea and stated:

*“Despite it still being problematic, today, spending time with the children in social life happens more than in the past for the parents. It is really useful because the society needs this....I would say close relationships in our society are an opportunity for our students to quickly adapt to social life. Therefore, we firstly need to improve people’s knowledge and interaction with children with autism. If we can do it, I absolutely believe Turkish society will become much more supportive to families and their children than western cultures. Therefore, we need to encourage all parents to be everywhere with their children in social life”*

This was an on-going aim in Turkish schools and the staff explained that they often took the children out of the school environment and worked hard to extend knowledge of autism and the children’s symptoms and needs within the community. There was a significant difference in this regard between Turkish and English schools in that the English schools rarely took the children out into the community. The emphasis in English schools was on improving social and communicative skills of the children whereas the Turkish staff believed the

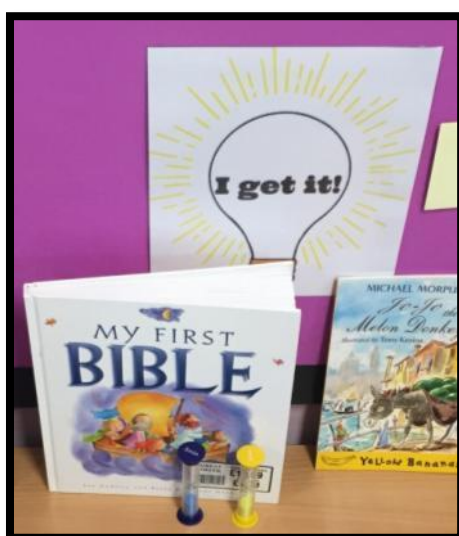
community had to change social ways of being with these children to understand them and this was seen as being more helpful and sustainable in the long run. For example, TMST4 stated:

*“In addition to improving the students’ social and communication skills, I also believe we need to change typically developing people’s social and communication styles towards the children. Because it is much easier [than changing the children’s behaviour] and building good relationships is not only the children’s need and responsibility”*

### **5.2.1.3.3. The impact of religion**

#### *The data from the observations in Turkish and English schools*

During observations, the staff and the pupils sometimes had Christian activities such as reading a bible in English schools (See Figure 9). In Turkish schools, they also had activities about mosques (See Figure 10). However, in English schools, the staff did not discuss religion as an influence on their practice. Different from this, in Turkish schools, the observation showed two teachers said autism is providential, so we try to find useful ways to improve their skills instead of saying why this child has this problem.



**Figure 9.** A book about the bible in an English School



**Figure 10.** An example of drawing about mosques in a Turkish School

*The data from the interviews in Turkish and English schools*

During interviews, the staff in Turkish and English schools similarly believed that religion is a part of culture and can affect the children's lives. However, during interviews, the staff did not volunteer any information about the effect of religion on autism in English schools. On the other hand, in Turkish schools, the staff said that some people are influenced by Islam in their belief that if a child has problems, then those around the child should be unconditionally positive towards them and need to look after them very well. For example, TSEST5 stated:

*"This behaviour is from Islam because some parents believe that God can bless them and they can go to the paradise if they behave very well towards their children"*

Similarly, TMST2 referred to the influence of religion on beliefs about the care of children with autism and stated:

*“Despite the fact that the number of this kind of parent is lower today, there are still some people who have this idea, some of them are even teachers”*

#### *The data from the interviews with Turkish and English clinicians*

During interviews, in English city, the clinicians did not discuss any point about religion. However, in Turkish city, clinicians said that some parents’ reaction towards the autism diagnosis was influenced by Islam. For example, TC3 stated:

*“After saying your child is a child with autism to some parents. They said this has come from God and they became more calm”*

About this, TC4 also pointed out that people of lower socio economic status, who may be less educated were more likely to believe the diagnosis was ‘from the God’ TC4 stated:

*“Socio-cultural and socio-economic statutes play a role on this reaction”*

#### **5.2.2. POLICY**

In this section, I will report the data about the organisation of schools and classrooms, teaching approaches, buildings, staffing, resources and training in schools in terms of similarities and differences between Turkish and English contexts.

### **5.2.2.1. Organisation of schools and classes**

#### **5.2.2.1.1. Which student, which school?**

##### *The data from observations in Turkish and English schools*

All of the observations showed that all of the English schools have all level of children with autism in the same school. However, it was not the same for Turkish schools. During observations, the staff stated that low functioning children with autism should enrol in special education schools and high functioning children with autism should enrol in mainstream schools. For example, during O8 in TSES, a teacher stated:

*“Only children with autism who have low skills and cannot follow the national curriculum which is created for typically developing children should enrol in special education schools in Turkey. Other students who have good skills should enrol in mainstream schools”*

However, during observations, it was clear that the skills of some students in TSES are much better than some students in TMSs. Similarly, the skills of some students in TMSs is similar or of lower severity than some students in TSES. During the observations, many staff stated that the allocation of children to appropriate schools was problematic in Turkish context. This was particularly a problem for staff in mainstream schools. For example, during observations, TMST4 many times said that one of her students had severe symptoms, so she said working with the children in the class was very difficult in her class.

##### *The data from interviews in Turkish and English schools*

The interviews showed that choosing schools for students involves different processes in Turkish and English contexts. All participant staff in English schools said that all skill levels of children with autism can be enrolled at the

same school because there is no set rule for children with autism when choosing any school. For example, EMSTA5 stated:

*“Different levels of children with autism can enrol in our school. We do not have any rules about that”*

However, in Turkish context, as a rule, the staff emphasised that the children with autism should enrol into different schools according to their levels. For example, TMST7 stated:

*“Ministry of national education in Turkey emphasised the children should go to different kinds of school according to their skills. For example, in our school [mainstream school] the students should be high functioning children with autism. On the other hand, the students have low level skills should be in in special education schools”*

The Turkish staff stated that the children who cannot follow the curriculum prepared for typically developing children should go to special education schools. On the other hand, the children who can follow the curriculum prepared for typically developing children should go to the special education classrooms in mainstream schools. For example, TMST3 stated:

*“Our students should be able to follow the national curriculum which is created for typically developing children. Therefore, they should have good skills to enrol in our school [mainstream school]. On the other hand, if the children do not have the ability, they should enrol in special education schools”*

This finding reflects differences in the perception of inclusion, educational priorities and also differences in classroom practice. In the English schools there was an understanding that mainstream schools should accommodate the needs of the children and that differentiation (preparing work for children of differing ability) should be in place in teaching plans. The interpretation of inclusion in English context was that all children should in theory be able to be

educated in differentiated mainstream classes. For the Turkish teachers one issue was whether the children in mainstream schools could access the undifferentiated curriculum developed in accordance with criteria related to the education of typical children. Where this was not possible the most beneficial outcome was believed to be education in a special unit or special school where their needs could be met. An additional factor here relates to educational priorities. For the Turkish staff priorities for the children were not so focused on academic attainment. For example, TSEST5 stated:

*"I cannot improve my students' academic skills because he is not able to do the tasks to learn the skills. I think it is general in our schools [special education schools]. Improving academic skills of many students is difficult and limited".*

When choosing appropriate schools, the local authorities have an important role in both Turkish and English contexts. For example, in discussing the choice of schools for children in England, EMST4 stated:

*"It is decided by this panel. Professionals from the city council include people like an educational psychologist, a doctor, a teacher and a few other people on the panel; and then they get all the requests from the all the schools in the city and then they go through every single one and they look at the spaces that they have in special schools, the spaces that they have in mainstream and the space that they have in support centres; and then they decide which children go into those different places"*

In Turkish schools, the staff said the 'Counselling and Research Centers' (CRC), which are local authorities in the cities and belong to the Ministry of national education in Turkey, decided which schools the children would attend. Also the interviews showed that the CRC decides which children should go to special education schools and mainstream schools. Therefore, they indicated that the responsibility of CRCs is very important. To explain the importance, TMST3 stated:



*“For example, in special education classrooms, the students that have gained self-care abilities, have a certain level of speaking and are able to engage in writing should come to our class. However, we are sometimes allocated children that are not suitable for this context and then problems arise”*

Similarly, according to all staff in Turkish schools, the decisions of the CRC are sometimes very problematic. TMST4, who experienced a problem about similar a case, explained:

*“There was a student that was not suitable for my class and should have been in special education. We observed the child for 45 days and prepared a report. Then, we met with the family to ask questions about the child and the family accepted it. If the family does not accept, the student cannot change school. At this point, the family has an important role in encouraging someone from CRC to come and observe the child again. We still had difficulty sending him to a different school.”*

The Turkish staff believed that sending the students from their school to another more suitable school was really difficult in Turkey because of the importance placed on the parent’s decision. In TSES, parents tended to be happy if the staff said their child’s skills were not low and they should go to a mainstream school. Despite not being sure about approaches to autism in the schools, they tended to accept the need for their child to go to another school. However, for TMSs, the staff said for parents to accept that their child should move from a mainstream to a special school is really difficult for the parents because of unconscious attitudes of parents. Turkish teachers felt that parents can think that the staff want to move the child to a special school because the staff do not want to educate a child with low skills. . For example, TMST3 stated:

*“Parents generally become unhappy if we say your children are not in the right place, so they should go to special education school”*

Similarly, TMST2 stated:

*“Some parents are really problematic because they believe the teacher does not like or has difficulty working with their child, so the teacher wants to change my child’s schools. However, our aim is to find the right place for the child”*

Similarly, the staff emphasized that parents generally do not understand the staff. Because of all of these difficulties, the staff believed that the CRC should make their first decision about suitable schools very carefully. The teachers also believed that the relationship between clinicians and the CRC was often poor and this could lead to poor initial decisions being made. The CRC just check clinicians’ report about the children and they do not have any meeting with them.

A CRC employee TMST1 stated:

*“In addition to this poor relationship between clinicians, schools and CRC, another problem is that a teacher can be accepted to any CRC after graduation. Namely, they can work in there without any experience with children in schools and knowing an exact evaluation of student performance. This causes problems in guidance of students. Another problem in CRCs is that there are differences among CRCs. For example, I worked for a CRC in another city. When I consider this CRC, there are differences between them. Criteria should be defined and students should be guided according to these standards in Turkey.”*

#### **5.2.2.1.2. Differences between Primary and Secondary Level in both countries**

##### *The data from observations in Turkish and English schools*

The observations in Turkish schools showed that all educational process were similarly designed at both primary and secondary levels and the staff use similar interventions, support mechanisms and activities despite differences in the curriculum. For example, during observations in all Turkish schools, teachers’ academic aims were generally similar for their primary and secondary levels. However, in English schools, the observations showed that the teachers use different interventions and support processes for these different levels. For

example, it was clear that education for primary level employed more visual and structured activities. The observations in English schools showed that there were differences in interventions used in primary and secondary schools, depending on academic expectations. For example, in primary level of ESES, a teacher was teaching basic maths skills such as addition. On the other hand, at secondary level, the students were learning more complex math skills.

### *The data from interviews in Turkish and English schools*

During interviews, while the staff in English schools said there are some differences between primary and secondary level, the staff in Turkish schools found this a problematic topic.

In English schools, the staff generally said that interventions and activities employed at primary level were very straightforward and very structured because of their needs. At secondary level this simplified structured approach was not felt to be necessary or available. ESESTA5 stated:

*“There is a lot of additional support for children in primary schools. A lot of students in primary level who are receiving high level of support, one to one support, small group support. But it is different in secondary schools”*

English teachers also stated that there were differences in academic expectations of the children in primary and secondary education which informed the kind of support and intervention they received. The assumption being that children at secondary level would have progressed academically to the point where less support was necessary.

On the other hand, For the Turkish teachers the interviews showed that identifying differences between support and intervention at primary and

secondary level was difficult for the staff. This was felt to be because they did not have an expectation that the children would necessarily have academically progressed sufficiently to warrant different support. Because of this point, they believed that planning for class allocation should be changed and the students should be placed according to their academic level, not age. On this point, TSEST5 stated:

*“My class is secondary level. My student condition is not well, but other child in the same classroom is much better than my students. My students interrupt other’s work many times. Therefore, I believe they should not stay at the same classroom. This problem is the same for primary level. Therefore, I believe children with autism should be at the same classroom according to their condition and autism level”*

Similarly, TMST5 stated:

*“Our students are secondary level, but I know many children with primary level can have much better condition than them. Therefore, age should not be important. The children should be at the same classroom according to their autism level”*

This is a complex issue, which may relate to the inappropriate allocation of children to mainstream or special schools in Turkish context and the lack of differentiation in classroom activities discussed previously. In addition, educational priorities appeared to differ in the two cities, with Turkish schools placing less emphasis on purely academic achievement. For example, TSEST6 stated:

*“My first aim is not improving academic skills because life skills are more important for our students. Parents also believe this”*

Similarly, TMST5 stated:

*“Academic skills are of course important for students. However, some students have not enough social and communication skills. Therefore, we firstly focus on*

*these skills. If we do not improve these skills, we cannot improve academic skills”*

On the other hand, during interviews, it was clear they give more importance to improve academic skills. Even, EMST6 stated:

*“Our first aim is improving our students’ academic skills”*

### **5.2.2.1.3. Differences between children’s conditions in both countries**

#### **The data from observations in Turkish and English schools**

During observations, it was clear that the children’s level of severity between Turkish and English schools was different. There was a disparity in what was meant by the terms ‘high functioning’ and ‘low functioning’ with the English students given this label being more able than the Turkish children similarly described. Similarly, low functioning children with autism in English schools were generally more able than Turkish low functioning children with autism. For example, low functioning children with autism in Turkish schools generally cannot speak. The reasons for this disparity were unclear, it could be about allocation to schools, differences in diagnostic processes or differences in interpretation of the terms used.

#### **The data from interviews in Turkish and English schools**

The interviews with staff and clinicians showed Turkish and English children in the schools studied had generally different severity levels. It was clear that the English pupils were more able than Turkish students. The evidence from the interviews suggests that differences in the interpretation of diagnostic criteria

may be the cause of these differences. For example, when I described the profile of 'high functioning pupils in English context, Turkish staff stated that these children would not receive a diagnosis in Turkish context because they believed them to be typical children who could fit in to society without support. For example, TSEST7 stated:

*"I did not observe these kinds of students [English high-functioning category] in our schools. I think the meaning is different for Turkish and English students"*

#### **5.2.2.2. Class Size**

##### *The data from observations in Turkish and English schools*

In Turkish classes, each member of staff responsible for children with ASC have a maximum of two students. Also, the maximum number of the staff in a classroom is three in TSES, and two in TMSs. The staff in TSES also said the number should be a maximum of two, but the school did not have enough room to accommodate this rule. In contrast, in English schools, the class sizes were different from each other and more crowded than Turkish classes (See Appendix 10). For example, in Class 3 in ESES, there were 12 children and 6 staff (See Appendix 10). Consequently, mathematically each staff has around two children with autism they are responsible for in English schools. However, more of them are together in the same classroom than in the Turkish schools.

Generally, the observations clearly showed that because of class size, interaction and mutual support among people in English schools was more prevalent than in Turkish schools. For example, in TMSs, there were some children whose symptoms were quite severe so the staff were not able to run whole class sessions as they were busy supporting the children they were responsible for. However, in English classrooms, there were also children with

severe symptoms but they could engage in whole class sessions in English classrooms because their class sizes were bigger than Turkish schools. For example, in English schools, many times, it was observed that if a child has a problem in class, some of the staff deal with the child while the others do a whole class session. For example, in EMS1, a child suddenly started to cry at the classroom. A TA stopped his task and played with him. Within this period, other children and staff continued to do their tasks. However, it was not possible in Turkish schools because of the limited number of staff in the same classroom and they just focused on their own student. Therefore, it was clearly observed that the class sizes in English schools were more supportive to class management and improved social and communication skills than Turkish schools.

#### *The data from interviews in Turkish and English schools*

With regard to class size, in Turkish schools, all staff said each member of staff can have a maximum of two students. However, in English schools, the staff said there were no rules about this. The staff in Turkish and English schools also had different perceptions about class size.

In Turkish schools, the staff believed that working with another member of staff in the same classroom was good for them. As well as their support for each other, TMST5 pointed out:

*“In addition to sharing our pedagogic ideas and experiences, one of us is a witness for the other one. For example, when one of our students has a problem, the child can cry and be aggressive. Parents and school principals would like know what the reason is for the child’s behaviour and how it was dealt with. Explaining the process to them can be difficult for a teacher. Therefore, working with another teacher in the same class can be useful for this”*

Turkish teachers, generally said working with another member staff and four students is ideal for their classrooms. Even, the staff in TSES generally believed that each member of staff should have one student. They also agreed that the classroom should not be crowded. For example, TSEST8 stated:

*“I think having two students is also too much for us. Our students have very low skills. Therefore, a teacher cannot work with these two students together. I think having one student is an ideal for a teacher in special schools”*

On the other hand, in English schools, the staff believed that their students needed to improve their social and communication skills. For this reason, they stated that working with more staff and more children in the same classroom was beneficial. They believe their class sizes are, therefore, ideal for the children. EMST5 stated:

*“We have some children who could not stay at their classroom. So, they are in a separate room with a member of staff. It is good for them. However, I think if it is possible, the students should stay with their peers in the classroom because you know they need to improve their social and communication skills. A teaching assistant is not enough for this”*

### **5.2.2.3. Teaching approach in schools**

#### *The data from observations in Turkish and English schools*

The observations showed despite the staff in Turkish and English schools using one-to-one teaching and small group study, the frequency and balance of use for these approaches was very different. For example, in TSES, the Turkish staff always used one-to-one teaching and did not use any group study. On the other hand, in ESES, the English staff used only one-to-one teaching for some of their students for whom they felt group study was too challenging. Therefore,



the staff used one-to-one teaching with these students in a separate room. Generally, the observations in Turkish and English schools revealed that one-to-one teaching is much more commonly used in Turkish schools.

In addition, despite some staff using small group study in TMSs, it was limited. However, it was clearly observed that all English schools use group study. They generally used group study initially and if necessary used follow up one-to-one teaching.

The observations suggested that one-to-one teaching was not always well managed in Turkish special schools. When one child is given individualised instruction they are sometimes removed from the classroom especially where problems have arisen. The member of staff's other student stays in the classroom however. Other staff in the classroom just observed the children and the child became passive or just looking around or playing with the iPad until their teacher came back. During observations this occurred at some point each day and the staff themselves described this situation as problematic. In TMS the need to withdraw children at times was not problematic, however, because two staff deal with all four children. Thus, when a member of staff was giving individualised instruction, the other member of staff worked with the remaining three students.

#### *The data from interviews in Turkish and English schools*

In Turkish and English schools, the staff said they used one-to-one teaching. All staff in both contexts also said these students receive individual teaching. However, the interviews also showed that many staff in Turkish schools use

only one-to-one teaching with their students, but one-to-one teaching is not common in English schools. For example, ESESTA5 stated:

*“Some students have sensory problems, so sitting in their place in the class, and focusing on the lesson is difficult, along with complex social and communication problems. One-to-one teaching should be used with them. Otherwise, they become very angry”*

The interviews confirmed that, in Turkish schools, only one-to-one teaching is commonly used, but can be problematic. In TSES, the staff stated that they generally have two students who have severe symptoms and it can be difficult to engage in one-to-one teaching effectively. TSEST5 stated:

*“I have two students. My two students cannot work together because of their severe symptoms. When I work with one of them, the other student sometimes becomes angry or bored. So, I start to be distracted by the other child. I sometimes withdraw one of my students from the classroom. My other child is waiting for me. Sometimes, they are waiting up to an hour”*

Similarly, TSEST2 stated:

*“It is a really serious problem for our school. However, we cannot solve it; therefore, we should have only one student. In our schools, some teachers have only one student. It is more effective”*

Regarding group study, the interviews showed that the staff in English schools used this approach more than Turkish schools. The staff in Turkish schools explained that this approach is not possible for their students and classrooms. For example, the staff in TMSs believed that group study is useful and want to use it, but they also said that opportunities to use it are very limited because each class in TMSs generally has low functioning children with autism, which they felt was a barrier to them engaging with group study.

#### **5.2.2.4. Curriculum**

##### *The data from observations in Turkish and English schools*

During all observations, it was clear that the use of curriculum depended on their students' ability in both Turkish and English schools.

Turkish and English special education schools always used individualized education programs for each child. Consequently during observations, the staff in these schools said each child had a different level of the learning. Therefore, they believed an individualised approach was a need for them. It was also observed that each child had different tasks to achieve different aims in the same classroom. As for mainstream schools, EMS1 had a similar approach to the special education schools. However, EMS2 and TMSs used the national curriculum which is also used for typically developing peers. It was clear that the students could follow the curriculum. However, some staff in TMSs also needed to create individual plans for some students despite trying to follow the curriculum. Hence, many staff said some students could not follow the curriculum.

##### *The data from interviews in Turkish and English schools*

Similarly, all participant Turkish and English staff said they have a national curriculum. However, they also similarly said completely following the curriculum for all children with autism in the classrooms is difficult for many schools. For example, Turkish and English staff in special education schools said following the national curriculum with the children was impossible. Therefore, they said they needed to create an individual teaching program. About this, TSET2 stated:

*“The children are different from each other and they have different skills and limitations. Therefore, their educational processes should be different from each other”.*

About this, similarly, they also said that they read the curriculum and then create an individual program for their students in special education schools.

TMST1 stated:

*“Fourth year in primary level, there is a subject about communication instruments. I also have the same subject from the national curriculum. However, I organised and planned the content according to my students’ level”*

EMST4 also stated:

*“We have a national curriculum, but this curriculum should be adapted to the children”*

The interviews showed individual programs were created for all children in TSES and ESES. This is also the same for some children with ASC in mainstream schools. For example, the staff in EMS1 stated that although they follow the national curriculum, each child has an individual program because their level and learning processes are not the same. However, EMST7 in EMST2 stated:

*“They follow exactly the same curriculum with typical students in the school”.*

Similarly, the staff in Turkish mainstream schools said according to official papers their students should follow the national curriculum which is created for typically developing peers. However, they said some students were not able to follow the curriculum. Therefore, the staff said they needed to create personal teaching programs for these students.

### **5.2.2.5. Assessment**

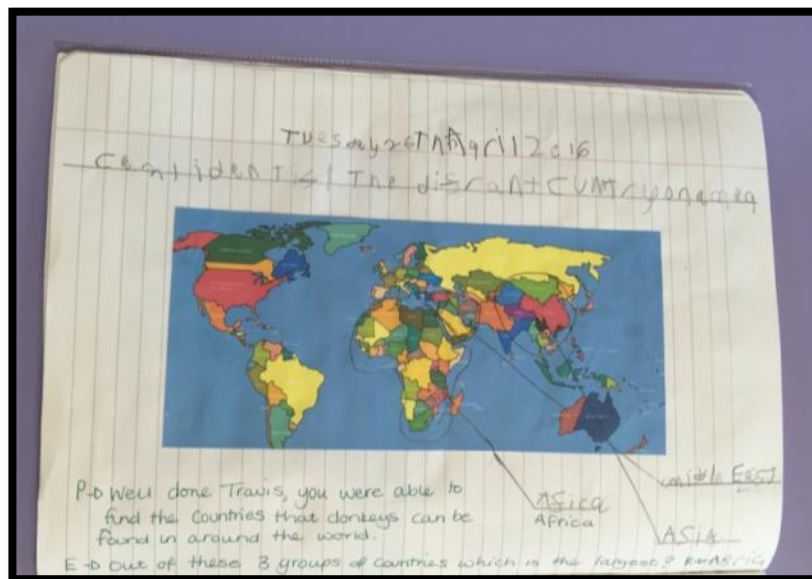
#### *The data from observations in Turkish and English schools*

The observations showed that assessment in the special education schools and mainstream schools are different from each other in Turkish and English contexts. However, it was also clear that English staff were more vigilant in recording students' work in English schools than Turkish schools. During observations, the staff in English schools said this improved the quality of assessment.

For special education schools, in ESES, all educational processes were recorded by staff. For example, they had a "reading record" (Figure 11) and "writing record" (Figure 12). In addition recording progress in notebooks, English teachers also took many photos for recording motor and life skills. After taking the photos, they put the photos in their "life skills record" or "motor skills records". During observations in ESES, a member of staff who took some photos of a child making food and serving to others said this is also evidence for the children's future. This member of staff added that if this student wants to work in catering, he can write about his experience and show the pictures as evidence in his CV. On the other hand, in Turkey, although the students have some files to keep their work in TSES, it was limited.



**Figure 11.** An example of 'Reading Record' in an English school



**Figure 12** An example of 'Writing Record' in an English school

In the mainstream schools, similar to special education schools, the education process was more vigilantly recorded in EMSs than TMSs. They also used some exams for the students' assessment. During observations, it was also clear that the exam process was much more serious and important for the staff and the children in English schools than in Turkish schools.

### *The data from interviews in Turkish and English schools*

The staff in Turkish and English schools similarly believed that assessing the students' work should be done carefully. They also similarly stated they should focus on the students' development over time to monitor progress. Therefore, they believed that recording the children's work was important. Despite these similar ideas in Turkish and English schools, the interviews also showed that English staff gave more importance to record keeping. The staff in ESES generally believed that this was not only useful for their assessment, but also for the student's next teacher because new staff in the future can assess the students easier and more correctly. English staff said that this is one of their responsibilities in the schools. On the other hand, Turkish staff generally stated that they do not record their educational process and their students' experiences in detail different from English schools. As a reason of this, they generally stated that this is not one of their responsibilities.

The interviews also showed that there is clearly difference between assessment in primary and secondary levels in English schools. For example, the staff believed that assessment was important to see the children' educational process and development in EMS1, while the staff in EMS2 believed this is mainly necessary to go on to the next step. Therefore, the interviews showed that the assessment process is clearly different at these two levels. Despite this clear difference in English schools, the staff did not explain any main difference between primary and secondary levels (See 5.2.2.1.2). About this, TMST5 stated:

*"We need to use some exams for our students, but it is not possible for some students because they have low level of skills. It is a serious problem."*

Similar to TMST5, all staff in TMSs believe this is problematic point in Turkey. They emphasised the students should be educated with the same curriculum as their typically developing peers in their classrooms. However, they also said that some students have low ability and they cannot follow the curriculum. Despite this, the staff in TMSs said they should use the same approach to assessment as with typically developing peers to give marks. TMST4 stated:

*“Head teacher waits for the results of exams from us. When I said I cannot do exams with the students, he only said you need to use exams. This is a really big problem of our assessment in mainstream schools”*

Similar to TMSs, the staff in TSES generally said this is problem for them as well. Although they did not use exams, they emphasised frustration with the “assessment system”. TSEST6 stated:

*“We have to write the children’ marks on the website which is created by the ministry of national education. However, the system and my assessment are not matched because the assessment system is created according to typically developing children’s assessment system. For example, I said my student learned some words and improved vocabulary in this term. However, the system wants to see only grade. It is not a good way for our students and we cannot correctly give a mark”*

This problem was described as serious by the staff in Turkish schools. However, in English schools, the staff did not express any problems with the assessment system. They just said assessing children with autism is difficult.

#### **5.2.2.6. The Physical Environment (buildings)**

##### *The data from observations in Turkish and English schools*

The observations revealed that the buildings of special education schools and mainstream schools are different from each other in Turkish and English schools. However, it was clearly observed that the buildings of English schools



and the design of their classrooms provide more teaching and learning opportunities and are more comfortable than Turkish schools for the children with autism. It was clear that the school buildings were a barrier for the staff in Turkish schools. The nature of the buildings also differed in terms of atmosphere, for example the classrooms and support centers in English schools looked more like a home (See Figure 13 and Figure14).



**Figure 13.** A classroom in an English school

The special education schools in Turkey and England similarly had main classrooms, a staff room, gym, art classes, playground, kitchen for lunch and main hall to have a lunch together, a room for individualized instruction and toilets. However, ESES also have extra separate rooms for individualized instruction, sensory rooms, sport centre for playing sports such as volleyball and basketball, music and dance studio, resource room, kitchen for cooking

lessons for the children, other rooms for daily activities such as using washing machine, kitchen for lunch, bath, a big garden including playground, farm and chicken coops. Therefore, it was clear that the buildings provided more opportunities for children in ESES than TSES. For example, a member of staff during O13 in TSES said their school only had one room for individualized instruction where members of staff and a student could work on their own. She believed this was a limitation for them. It was observed that many staff checked the room in a day because it generally was full. Therefore, they spent their times in hallways because they could not return to their classroom with a student who had a problem. In TSES, one of the teachers stated:

*“Look. My student is crying and the room is full. If I return to my classroom, we will disturb the other children’s studies. Also, my student will be not happy there. Therefore, we are talking in the hall”*

In addition to the limited opportunities the buildings afforded in TSES, it was clear that ESES was more comfortable than TSES. For example, it was observed that each English class had a small kitchen and washbasin in ESES. However, there was only a couple of washbasins and toilet in on the ground floor of a two story building in TSES. Therefore, all students needed to share these facilities and travel to them. In addition to lack of opportunities and comfort, during observations, it was clear that the staff in Turkish schools had problems regarding the general structure of the buildings which were not observed in ESES. In TSES, five big classrooms were each separated into two smaller classrooms by a board (See Figure 14). Therefore, the school had a total of ten classrooms. However, there was no sound insulation between classrooms. Therefore, the students constantly hear sounds of other children and staff from the next classroom and classrooms became very noisy. It was

apparent that some staff and students could not concentrate on their teaching and learning because of this problem. During observations, the head teacher explained that the school was not a special education school in the past. Therefore, they needed some extra rooms because each class should only have four students. According to the head teacher, this is generally the case in Turkey, since there are not enough schools which were established particularly for children with autism. Most special education schools were previously typical schools in Turkey. During observations, the deputy manager in TSES also stated:

*“The structure of our schools [special education schools] generally was not planned for special schools. Similarly, we use our school which was established for typically developing children, not for children with autism. Therefore, having enough room is a problem for us”.*



**Figure 14.** An example of classrooms were each separated into two smaller classrooms by a board in Turkish special education school

Similar differences in the infrastructure were observed in mainstream schools. For example, there was a support centre in EMSs. The support centres in English mainstream schools are generally a separate building from main school. In the support centre of EMS1, there were 3 classrooms and a sensory room,

one other room to work individually, playground for the centre and a kitchen to have a lunch. As for EMS2, the centre had two rooms. In contrast TMSs, have a special education classroom which is just one room. It was clear having only one room was a limitation for the staff. For example, in TMS3, during observation, a child became aggressive and wanted to leave from the class. However, it was difficult because there was no extra room to go to. Therefore, he and a member of staff went into the playground. However, during observations, the staff said that if the weather was not good, going into the playground was not appropriate. The observations showed that only TMS1 has an extra small room for this. A member of staff in TMS1 said the head teacher allocated an extra small room to the staff because class management was very difficult.

#### *The data from interviews in Turkish and English schools*

All staff in Turkish and English schools believed that the physical quality of the schools directly affected the education in the school. For example, the staff in English schools said that they are happy with their school buildings despite believing that there was room for improvement. For example, EMST4 stated:

*“Our school building [ESES] positively affects learning, but the building should still be improved. We need extra dark rooms and we are still trying to manage rooms to find a place for this”.*

However, in Turkish schools, staff are generally unhappy about the school buildings. In particular, the staff in TSES emphasized that their schools were not designed for children with autism and it is a barrier for their teaching. TSEST1 stated:

*“Focusing on the teaching is difficult for my student with autism when the class is very noisy because these children are sensitive to sound. It is difficult for me and absolutely more difficult for the children as well”*

Similarly, TSEST4 stated:

*“When my student needs to have a drink of water or go to toilet, she needs to go to the ground floor. It is really a problem. Also, when we learn about washing hands, I am showing them what to do from picture. I cannot do real practice in our classroom because the classroom doesn’t have any facilities for this”*

All staff in Turkish schools also believed that special education schools and special education classrooms in mainstream schools should be specially designed for the children with autism.

#### **5.2.2.7. Staffing**

##### *The data from observations in Turkish and English schools*

The observations demonstrated that there were some differences between Turkish and English contexts regarding staffing such as teachers’ backgrounds (See Appendix 1). The main difference between Turkish and English schools involved the role of teaching assistants. In Turkish school, all staff in the classrooms were teachers. However, in English schools, many members of staff in classrooms were teaching assistants. In English schools, there were more teaching assistants than teachers. Apart from this key difference between Turkish and English schools, the observations showed that the staffing in special education schools and mainstream schools have a number of secondary similarities and differences.

In Turkish and English special education schools, in addition to the staff in classrooms, there are school principals who directly manage the teacher and

children. In TSES, school administration only includes the head teacher, deputy principal and an officer for preparing official papers while ESES has head teacher, deputy head teacher, head of lower school, head of upper school, lead of welfare to ensure that all pupils, staff and visitors are safe and family support adviser to support and advise families in confidence. In English and Turkish special schools there are also staff with additional specialties, such as music teacher, art teacher, physical education teachers. However, in ESES, an art teacher and music teacher come to the school as external teachers. These teachers make a program for each week and this program is used by staff in the school. ESES also has an occupational therapist. Unlike ESES, TSES has a psychological and guidance teacher.

In TSES and ESES, there are also staff who do not deal with teaching or school administration. For example, in both countries there are lunchtime supervisors to prepare lunch for teachers and the children in the kitchen which is served in the main hall. In TSES there was also a person who deals specifically with support for children to go to the toilet. This person is not trained, but offers any physical support necessary for the children. It was clearly observed that staff believe this person is essential because there were only three children who could manage going to the toilet without support.

For Turkish and English mainstream schools, similar staff are found in both contexts. However, EMSs also have Special Educational Needs Co-ordinators (SENCOs). In both contexts, other teaching staff sometimes engaged with the children. This included music teachers, art teachers, and physical education teachers. These professionals worked with all students throughout the school, not specifically the children with autism.

### The data from interviews in Turkish and English schools

During interviews, the staff in Turkish and English schools said their staffing should be improved. The staff in Turkish schools generally emphasised that they need some therapists in the schools. TMST1 stated:

*“We do not have any opportunity to have a therapist at the school. Also, I know our many families in Turkey have not had any contact with them. This is a barrier to improving our students’ skills”*

Similarly, although they have some therapists, the staff in English schools said they still need more support from therapists because these professionals visit the school and are not employed on site. For example, EMST2 stated:

*“They [therapists] worked here for a short time. I know hiring a therapist is not cheap for schools, but we need them for longer and they should be a part of our schools because their work supports our effective teaching”*

In both contexts, Turkish and English staff felt that the need for therapists was urgent. For example, TSEST9 stated:

*“We are not therapists and the students need to work with them. Therefore, I believe they are an urgent need for our students to improve their skills”*

Also, in English schools, the staff generally said more TA support was needed.

For example, ESEST3 stated:

*“Teaching assistants are essential for us at this school because we use one-to-one teaching”*

Similarly, ESEST4 pointed out:

*“Our children need one-to-one work a lot of the time which means that if they are not working with a teacher, I need that other person to be really good for them”*

All staff generally supported the need for more TAs in English schools and emphasised the importance of teaching assistants. For example, ESEST7 stated:

*“Teaching assistants are quite a good resource for us. For example, there are four TAs in my class and two students need more support. Each one has a TA. This provides quality education and control of the classroom”*

The issue of teaching assistants was an interesting one in that the use of TAs made staff to child ratios comparable in the two contexts. Nevertheless, the staff in Turkish schools were all fully qualified teachers and there were more members of staff per child than in English schools. This suggests a difference in priority especially when the previous section on the physical environment is considered. In Turkish schools, less resource seemed to be channelled into the physical environment compared to English schools, but more resources were directed to the employment of highly qualified staff.

#### **5.2.2.8. Resources**

##### *The data from observations in Turkish and English schools*

During observations, it was clear that resources are limited in Turkish schools and there was not much variety. However, in English schools, the primary schools have varied resources but at secondary level resources were more limited. The staff at EMS2 explained that a variety of resources were not necessary at secondary level. Again this implies that by secondary level education the English schools assumed that the children would be better able to cope with academic demands and interventions would be less necessary. In



English special schools there were also resource rooms where specialist equipment and resources were kept.

The observations suggested that English schools spent much more money on resources than Turkish schools. For example, it was observed that each class had a catalog about school supplies in ESES and the staff checked it to order the equipment needed. However, the observations also revealed that staff did not always have the opportunity to buy all the teaching resources or materials that they might like for their students. In Turkish and English schools, the staff created some materials themselves (See Figure 15 and Figure 16). For example, during O8 in TSES, a teacher stated:

*“I printed out some pictures such as vegetables, fruit or household goods. Also, I coated them with plastic. Therefore, I created cards and I am working with them as visuals”*



**Figure 15.** Resources are created by Turkish staff



**Figure 16.** A resource is created by English staff

The observations suggested that making resources was less common in Turkish schools compared to English schools. Also, it was generally observed that collaboration and sharing among the staff in Turkish schools when creating resources was more limited than in English schools. For example, each English class has classroom storage including different kinds of many resources, different from Turkish schools. (See Figure 17). Also, it was clear that collaboration in making resources was more common in English schools. For example, during observations, the head teacher in ESES said although they bought some of the resources, others were created by the staff together.



**Figure 17.** Classroom storage in English classroom

### The data from interviews in Turkish and English schools

Staff in Turkish and English schools similarly believed that having resources and teaching materials are important for the children's education. They commonly referred to the fact that they cannot teach the children without resources. For example, TMST3 stated:

*"Teaching materials are really crucial to have effective learning processes in our classrooms [special education classroom] because the teaching objective is becoming clear and effective through resources"*

Similarly, EMST3 stated:

*"Our students are learning in different ways. For example, some of them are only visual learners. So, if you do not have visuals, you cannot teach the children"*

However, all staff in Turkish schools also mentioned that they did not have enough resources because of financial problems. Therefore, they generally agreed that the government should financially support to the school. TSEST4 stated:

*"I am sure our government has money for our schools and they always economically try to support the schools. However, they need to know what our needs are. So, they should talk to the schools about their needs"*

Regarding problems about resources, TMST2 stated:

*"In Turkey, the staff generally buy resources with their own money because they and the students need them for better quality teaching"*

Also, during interviews, it was clear that Turkish staff are generally willing to create resources for their students. However, they also said that they did not know how to create variable resources for improving different skills. Similarly,

the staff in English schools stated that first knowing how resources can help the children was important. For example, ESEST2 stated:

*“Resources can be important, but we should know how we should use them”.*

#### **5.2.2.9. Training**

##### *The data from observations in Turkish and English schools*

The observations showed that the staff in classrooms are different in Turkish and English schools. Specifically, in Turkish schools, all staff are teachers. Among the teachers, some of them were special education teachers while others were primary teachers who have a special education certificate to work with children with special needs. On the other hand, in English schools, some staff were teachers. However, in classrooms, there were also many teaching assistants.

##### *The data from interviews in Turkish and English schools*

The interviews revealed that the staff in Turkish and English schools had received different type and level of training. This is explained in some detail below. The interviews generally showed that Turkish staff have more qualifications than the staff in English schools. Also, before working at schools, Turkey gives more importance to training about special education. However, the interviews also revealed that once they are in post at a school the staff in Turkish schools has very limited opportunities to continue their training. Therefore, staff believed that they needed training about autism after graduation. TSEST10 stated:

*“I didn’t have any training after graduation. I also know although teachers attended some seminars, many of them didn’t have any professional training in detail after their graduation”*

In contrast, the staff in English schools said they received supportive training such as aspects of speech or occupational therapy as part of their work at school. ESEST3 stated:

*“The school [ESES] always tries to use some ways to improve our teaching. So, motivating and supporting staff to continue developing their skills is one of them”*

#### **5.2.2.9.1. Special Education Teacher in Turkey**

During interviews, special education teachers said their training was based on how to teach the children with special educational needs. However, they also highlighted some problems with their training.

They said there were four main branches of the training to become a special education teacher: teacher of mentally handicapped, hearing impaired, visually impaired and gifted children. All staff agreed that the training for teacher of mentally handicapped children was the most appropriate and most people with this qualification worked with children who have autism in Turkey. However, the teachers also said that the course was not specifically about autism and they did not have sufficient university education about the condition and how to teach the children. According to TSEST6:

*“Spending time in the class with the children is not enough in Turkey. For example, during my university education, I worked with only hearing impaired and mentally challenged children. I did not see any children with autism and I met children with autism after my training. In my work at this school.”*

Similarly, TSEST8 stated:

*“We generally have training with mentally challenged children during our university education. Also, the modules including theoretical knowledge about autism were limited at the university. However, I am working here. Working with mentally challenged children and children with autism is very different”*

Even, TSEST1 stated:

*“For example, some of teacher candidate came to our school for training. They became surprising for me because our student cannot speak or have limited communication skills. After observing our students, they stated they have low skills because they know the children with autism are high functioning autism which is similar to the children in mainstreaming classrooms. Therefore, they should visit many schools to see different kind of children during their university education”*

The teachers believed that teaching about autism is limited at the university and special education teachers' university education should be improved. They emphasised that teacher candidates should have more training at the special education schools and mainstream schools during their university education. So that the trainees can learn about the condition first-hand through interacting with the children. TSEST1 stated:

*“Theoretical knowledge becomes real with the practice in the class with the children. If teachers don't have enough practises with them, the theoretical knowledge does not have meaning. I developed my teaching skills with experience. So, there are many differences between my teaching in my first term and today”*

According to all staff, this gap in the teacher-training curriculum is a problem in Turkey because they believe there are many discrepancies between their university education and what they needed to know in order to teach children with autism. Therefore, they believe a teaching school is a need in the education department at the university. For example, TSEST5 stated:

*“Having a pilot school at the faculties is a need and academics should observe teacher candidates during their training at these pilot schools. If they have not enough skills to be a good special education teacher, they should not have the qualification”*

#### **5.2.2.9.2. Special Education Courses for Primary Teachers in Turkey**

All Turkish teachers said that primary teachers can work with children with autism if they have a special education course which is organised by the ministry of national education in Turkey. However, all staff who had attended this course stated that this course is not enough to teach the children with autism effectively. TSEST3 stated:

*“The course was not useful in working with children with autism. This is because the course includes general knowledge about special education. The part about autism was very limited”*

Similarly, TSEST5 stated:

*“We had the basic knowledge about special education, but the knowledge about autism was very limited. I learnt this job in the class with the children with autism”*

All teachers agreed that training for teachers working with children who have autism needed to be improved and that as teachers they needed specific teacher training and additional courses to address this gap in their own development as an autism specialist.

#### **5.2.2.9.3. Teachers in England**

During interviews, English staff said that a teacher does not need any extra qualification or course to work with children with autism in English schools. For example, ESEST1 stated:

*“A teaching degree is a teaching degree in England”.*

Similarly, ESEST3 pointed out:

*“You do not have to join any extra course to work with the children. For example, my course was about general education at the university. However, I was more interested in working with special needs. I could just come straight into this employment with this degree”*

The staff also said that teachers do not need to have any experience with children with autism to apply for a job in the school. ESEST10 who was a PE teacher and has not attended any extra course about autism before applying for his job at the school stated:

*“I believe a course could be useful for me. However, I got eight years teaching in mainstream and then I felt like I want to try something new in education which is why I decided to apply for this job. When I got here, we talked about autism with the principle and then throughout the year we had some autism experts visit the school to try and educate people about autism.”*

Similarly, all teachers said they had developed limited knowledge about autism in some modules at the university during their studies. However, they believed this was not a problem for them because having experience in class was believed to be more useful than university education in their work. ESEST1 stated:

*“I cannot say having experience is enough to be a good teacher. However, 20 years ago, I had 5 students with autism. I know the symptoms of autism and general knowledge about autism, but I did not know how I can help them and communicate with them. So, I learnt my job through interaction with the children in the classrooms”*

#### **5.2.3.9.4. Teaching Assistants in England**

In English schools, teaching assistants who do not have a teacher qualification explained that they generally do not have a course or any qualification for working with the children. ESESTA5 stated:



*“You do not have to join a course for this. This depends on you. For example, I joined some sessions such as anger management. They became useful when I worked at this school. However, nobody told me you should join the sessions”.*

Similar to the teachers the teaching assistants believed that the experience was more important than qualifications at the university. ESESTA6 stated:

*“If you have theoretical knowledge about autism it can help you to be more self-conscious, but experience is more useful to learn how you can teach the children with autism”*

Similarly, ESESTA5 also emphasised:

*“My daughter is autistic and my sister has a boy with dyspraxia and also my daughter has ADHD so it's always been with my family. I have many experiences. Life experience is most important because if you have real life experience with behaviour, education will flow naturally”*

Similarly, teachers generally said could not predict whether a person would be good with the children and effective in class. This was not about whether they were a teacher or a teaching assistant and it was not about qualifications. With regard to TAs, ESEST1 stated:

*“Their educational background is not special education. Some of them have qualifications of teaching assistants or NVQ qualifications. Some of them have only experience at other schools. However, some of them had no experience, no education, but they come with the right attitude and the right love for children and something about their character and personality that is right for children and then we train them and they learn from other staff. For example, the best TA doesn't have a strong educational background and experience and is 22 years old. However, her personality is very relevant to the job”*

Similarly, ESEST8 stated:

*“Some of TAs have qualifications, but this is not very important because some of them who don't have any qualifications learn many things from other staff and they are fantastic”*

ESEST10 stated:

*“TAs learn things from us, but some of them have long experience. So, I have also learnt from them”*

Generally, all teachers were happy about working with TAs and they said they do not need any qualifications because they can learn this job by experience. According to all staff, the personality of the staff is more important than qualifications. Consequently, training is not the most effective way for them to learn about the job.

### **5.2.3. INTERVENTIONS (INCLUDING PRACTICES)**

This section will focus specifically on how interventions and related practice are used in the studied schools. In order to identify similarities and differences between interventions and related practice used in the Turkish and English schools, observations and interviews were carried out with staff in the two contexts. The observations were made during two months in each country. The interviews (See Appendix 4) were conducted with 10 staff from special education schools and 6 staff from mainstream schools in both of the cities. One teacher is also included who was not a member of staff in the autism support center of EMS1. This particular individual is a teacher in a mainstream school, but she visits the autism support center with her students. In total, these 33 people took part in the semi-structured interviews in all schools. The interviews focused on the following questions: I. What interventions are used? II. What is the purpose of each intervention? III. When and how are the interventions used? Some staff, both in Turkish and English cities found it difficult to name interventions used or describe the theoretical basis for the

activities they conducted with the children. It was useful in such circumstances to provide a concrete framework for discussion by referring to interventions seen during the observations. The researcher, therefore, used this approach as a prompt to encourage discussion of the interventions used.

In both cities, staff shared four fundamental beliefs about interventions:

1. Interventions are advantageous to the children in their care
2. The impact of any given intervention is different for each child
3. Due to the complex nature of the condition and the children's individual responses to interventions it is difficult to pinpoint specific advantages of interventions
4. The students' interests should be considered when using the interventions

Also, Turkish and English staff similarly said they use the positive strategies to support their interventions (See Appendix 11). They are “using technology, reward and punishment, step-by-step teaching, prompts for the students, giving a chance to succeed, noticing students' own problems, going a separate room, consistency, tactical ignoring, physical support and using rules”.

#### ***5.2.3.1. The Interventions used in All Turkish and English schools***

Fourteen interventions (See Table 24) were used in both Turkish and English schools to improve various skills of children with autism.

**Table 24.**The Interventions used in All Schools in Turkey and England

<b>All Schools in Turkey and England</b>
<ol style="list-style-type: none"><li>1. Art activities</li><li>2. Being a role-model</li><li>3. Dance activities</li><li>4. Learning with real experience in school</li><li>5. Medication</li><li>6. Music activities</li><li>7. Play activities</li><li>8. Social stories</li><li>9. Reading activities</li><li>10. Sport activities</li><li>11. Visual aids</li><li>12. PECS</li><li>13. Integrative teaching</li><li>14. Language and Speech Exercises</li></ol>

#### **5.2.3.1.1. Art activities**

##### *The data from observations in Turkish and English schools*

During observations, art activities were often used in Turkish and English schools. They were generally craft, painting, and drawing. However, for secondary level, the activities in English schools were more complicated than Turkish schools. For example, during the art class in ESES, it was observed that the students made sculptures. Generally, art interventions focused more on improving motor skills in Turkish schools whilst English schools placed more emphasis on art interventions as a means to improve social skills.

##### *The data from interviews in Turkish and English schools*

According to all staff in Turkish and English schools, art activities developed motor skills. All teachers also indicated that they used these activities to encourage relaxation, enjoyment, and calm among the students. Indirectly,

these activities were also seen to develop social and communication skills. For example, TSEST10 expressed:

*“For example, I cut the fruit figures with my student, we are talking about them. I think this develops both her communicative and social skills.”*

Also, EMST3 said of art activities:

*“I think they should be used more for children with autism because if they create something, learning can be permanent and they can feel more confident. Also, art is flexible and it is also important because their brain is working in a different way”*

#### **5.2.3.1.2. Being a role-model**

##### *The data from observations in Turkish and English schools*

Staff from Turkish and English cities acted explicitly as role-models for their students to improve, particularly improve social and communication skills. For example, during O21 in TSES, teachers said the numbers by asking children to focus on their mouth and repeat the numbers. This approach was particularly directed towards those with poor communicative skills. Similarly, during O1 in ESES, the teacher demonstrated hanging up one of the student's coats then asked the student to repeat the action. Staff in all schools demonstrated desirable behaviour but this strategy was more prevalent in Turkish schools.

Although staff in both cities had similar aims when being a role-model, during observations, it was clear that teachers in Turkish schools generally focused more on communication skills whereas staff in English schools focused more on social skills such as being kind. For example, EMST3 said to a child “you saw I said ‘yes please’ to your friend. Similar to me, you should say ‘yes please’ or ‘no

thanks'. We should be kind." On the other hand, in TSES, a teacher in O5, stated:

*"Firstly, the children's communication skills should be improved. If their communication skills are at a low level, improving other skills is really difficult".*

### *The data from interviews in Turkish and English schools*

All staff in Turkish and English schools believed that being a role-model for the students was useful. According to ESESTA5:

*"Students learn the correct actions with the help of teachers and do the right things by imitating. So, we are given an opportunity to do the right things and help them."*

When talking about being a role-model with staff in English schools, the staff generally focused on improving social skills such as being kind, respectful, keeping friendships with peers. On the other hand, the staff in Turkish schools generally explained their ideas and gave examples about improving communication skills. For example, TSEST6 explained:

*"The speaking ability of my student is restricted. In order to teach him the words "mother" and "father", I often repeat these words. At the beginning, he could not say them at all but now he tries to voice these words and say the syllables."*

All Turkish staff emphasized that the staff should be very careful when being a role-model because this approach can be harmful if the member of staff does not demonstrate the correct action. According to staff in Turkish schools, careful demonstration by the staff is very important because once students have learnt a particular behaviour or action it is difficult to undo. For example, TSEST4 stated:

*“When teaching my student to say the word ‘water’, if I say the word incorrectly, she also wrongly repeats it and learns it. After that, teaching the correct way of saying the word is really difficult”*

This point was emphasised by all staff in Turkish schools during the interviews. However, the staff in English schools did not say anything about this. ESESTA6 believed that teachers are not always the best role-models for the students to learn ways of speaking and it was best to wait and see the student’s reaction to any demonstration. This approach worked well for social skills in English context where kind behaviour could be demonstrated and explained but was not promoted for speech acquisition.

#### **5.2.3.1.3. Dance activities**

##### *The data from observations in Turkish and English schools*

The observations revealed that dance activities were used in Turkish and English schools. However, their uses were very limited and were not planned activities. The staff played music at break times and they allowed the students to dance. According to all staff, these activities were both kinaesthetic and calming. For example, during O7 in ESES, the teacher played a video including dance figures through a smart board. Students repeated the same figures on the video. This teacher said:

*“This is fun for my students and they feel relaxed with this activity.”*

##### *The data from interviews in Turkish and English schools*

The staff in both of the cities said dance activities are sometimes used at break time. All of them also believed that dance activities can be very useful for the

student's body development and improving their social and communication skills. Also, TMST2 stated:

*“Dance activities are also helpful to consume energy, so the students feel relaxed”*

Although all staff believed that the activities were useful, they also said they had not received any training about using dance activities, and did not use them professionally.

#### **5.2.3.1.4. Learning with real experience in school**

##### *The data from observations in Turkish and English schools*

All teachers believed that learning by experience was helpful to adapt to everyday life. Although this belief was generally held, there was variation in the use of learning through experience. Although staff often has the same aim, there was some main differences about the use of learning through experience between Turkish and English schools. In Turkish schools, the activities were usually about self-care and daily skills such as eating alone, collecting toys. For example, During O15, TSES10 made a zipper work. Different coats and sweaters were worn by students and they tried to zip them up. The aim is that students are able to put on these clothes on their own. The observations revealed that children can learn to put on their own clothes eventually. However, it was observed that this approach was not used by all teachers in Turkish schools. On the other hand, in English schools, all staff used this approach and their activities were more complex and variable than Turkish schools. In English schools some lessons focused solely on life-skills. For example, during O6 in



ESES, students arranged the classroom, cleaned the classroom with a Hoover and washed the dishes. The teacher stated:

*“I aim with this course that they need clean and arrange their environments, empathize with their families doing the jobs at home and transfer these skills into their home.”*

Besides in-class life skills, outside of the classroom experiences were also observed in English schools (See Figure 18 and Figure 19). For example, one of the schools had a garden area. They collected vegetables, cooked a meal together in the kitchen and cleaned the oven afterwards. They did many activities that they need to do in real life such as using a washing machine. Staff called such activities the “social communication café” and this café was managed by students. During observations, students served tea or coffee to other students, staff, parents, and visitors. All staff agreed that such a practice develops peer relations and a sense of responsibility. Moreover, staff said some students liked this job very much and they can add this experience to their CV for the future. However, similar activities were not found in Turkish schools.



**Figure 18.** This kitchen is used by children for cooking



**Figure 19.** Washing machine is used by children in English school

In English and Turkish schools, staff believed that parents' support was crucial for the effectiveness of this method. In English schools, staff said we are using life experiences to improve skills in real life and to give them some responsibility. Having responsibility is a key point of learning by experience, according to the staff in English schools. In EMS1, the observations revealed that there was a list of such tasks on the wall of the support center. The list changed weekly. For example, the children had jobs to do such as cleaning out the turtles, feeding the birds, refilling water bottles and watering plants. With these kinds of activities, staff said their students should be better able to take on responsibilities at home. The English staff said that parents were supportive and continued these kinds of tasks at home. However, Turkish teachers were less likely to report parental support with tasks learnt at school. For example, During O27 in TSES, a teacher stated:

*“One of the students learned not to use a nappy in the school, but her parent continued to use nappies at home without considering it would create a problem. For me, the school and family should perform the same actions. Almost all children in the school go to the WC with help. There is an employee that is carrying them. You cannot deal with this situation without any support from the family”*

Also, during observations, it was clear that school equipment is a key factor in providing real life experiences within the school. Turkish schools do not have the opportunity to provide these resources. For example, ESES has a washing machine, kitchen, garden etc. Turkish schools do not have similar resources. However, in EMS2, staff believed that they also lack necessary equipment, for example, during observations, all children and some of the staff chose a football team to support the European cup and displayed a table to show the results of the matches. About this, EMST6 stated:

*“We try and engage in those activities in a fun humorous way, so at the moment we’ve got a sweepstake for the Euro football and students have got a team. Most of them don’t like football, but I ask what happened to your team last night, so we try and talk about news about some things like that”*

Generally, the observations show English schools used this type of everyday fun activity much more frequently than Turkish schools, although all staff believed it was really useful for their students.

### *The data from interviews in Turkish and English schools*

All staff in Turkish and English schools believed that learning by experience was a very useful way of cementing skills because knowledge is more permanent when we have hands-on experience. According to all staff, the use of real life scenarios is very helpful to adapt to everyday life and improve a sense of responsibility.

Although all students took part in real life experiences in English schools, some students never used this intervention in Turkish schools because the staff believed the children's symptoms were too severe for it to be helpful. TSEST10 stated:

*"Imitation skills of the student are critical in learning by experience such as doing up a zipper or similar skills because I do it first and then, he can be successful but only as far as he can imitate me"*

Turkish staff generally said they could not use this intervention very much at the school because of the fact that the school lacked the necessary equipment.

TSEST8 stated, for example:

*"We don't have any practice room in the school. We need rooms where we can practice skills like putting on sheets and making up a bed"*

Turkish staff also found that parents were often reluctant to continue teaching everyday skills at home. As discussed previously this may stem from cultural views about disability which result in Turkish parents doing most everyday tasks for their children. In this way they hope to alleviate the burdens they face because of being 'different'. This was experienced differently in English context with parents supporting attempts to make the children more independent even if the tasks were challenging.

#### **5.2.3.1.5. Medication**

##### *The data from observations in Turkish and English schools*

During the observations children did not receive medication in Turkish or English schools. Nevertheless, it was explained that occasionally children were given medication at home. In both contexts, staff believed that medication

supported some children to improve their focus on learning. For example, during O2 in TSES, a member of staff stated that her student was very aggressive and medication helped to control her behaviour. Therefore, this member of staff believed that her student's ability to learn was improved by medication. However, all staff in Turkish and English schools believed that the correct dose is a crucial point for using medication. Otherwise, medication may not be really beneficial for the children. This is more problematic in Turkish schools, particularly Turkish special education schools, than English schools. This is because some staff during observations in TSES believed their students might take more than the prescribed dose, so the medication became a barrier to contact with them. It was also observed a student in the school did not respond to the teacher and he had a glassy expressing. His teacher stated:

*"It is because of his medication. If he does not have the medication, he becomes very aggressive. However, if he has the medication, he stops contact with me and my teaching. I think his medication might need to be changed, but it is not my responsibility because I am not a doctor. Their parents should talk with the doctor about that"*

#### *The data from interviews in Turkish and English schools*

During interviews, all staff stated that a small number of children had used medication at school. In line with the observations, staff in both contexts believed that medication was not a solution for autism. For example, EMST4 particularly emphasized that medication was not well regarded and explained the point with the following example:

*"I have just come back from teaching in South Africa. In South Africa, Ritalin is given to any child who has a learning difficulty such as ADHD or autism straight away. Their answer to everything is giving medication. I don't believe it. Medicine is good in some aspects, but then you also need to back that up with therapy and education"*

During the interviews, the staff in Turkish schools stated that medication is used for tranquilization of the students (for aggression and hyperactivity). The staff in English schools believed medication was used for comorbid conditions, particularly for ADHD. All staff also believed that medication is helpful for the students' sleeping problems. In Turkish and English schools, staff generally believed that medication can be useful for engaging students in their teaching.

About this, EMST7 stated:

*“For example, one of our students did not have any problem with language and speech and vocabulary was adequate. However, she had a stumbling block with people and this prevented me from teaching her. After medication, we maintained her education”*

Although they believed medication was useful, in some cases the dose was felt to be too high. TSEST4 stated:

*“Medication tranquilizes the students, so we cannot teach anything to any of them.”*

Similar to TSEST4, other Turkish teachers said the dose is sometimes problematic for their students. All staff in Turkish and English schools believed that the dose is crucial and children should meet often with clinicians to ensure levels of medication are correct. However, In Turkish city, some children did not have sufficient access to clinicians. TMST2 indicated:

*“Some of our children are not registered with physicians due to the lack of local physicians and the families' lack of awareness.”*

Access to clinicians to check the process seemed easier in English city than Turkish city because English staff stated that the children often saw clinicians.

For example, ESEST5 stated:

*“In order to make medication helpful, students should be under the guidance of doctors to check the effectiveness of medication and if necessary change the dose or medication in case of any negative or ineffective result.”*

#### **5.2.3.1.6. Music Activities**

##### *The data from observations in Turkish and English schools*

During observations, it was clear music activities were often used by staff in Turkish and English schools. The staff used different music activities such as playing musical instruments, singing songs, distinguishing different sounds for similar aims such as relaxation in Turkish and English schools. For example, in TSES, the staff used the piano to distinguish different sounds, in EMS1; a member of staff used a musical computer game for the same aim.

Turkish staff, particularly in TSES, generally used music activities for improving communication skills. For example, students sang songs with a microphone. The microphone helped the students hear the sounds clearly, perceive the sounds better and developed their speaking abilities. This is because the staff supported the students' pronunciation. Also, during O14, a teacher showed some pictures to the student, said what they are and asked her to repeat it. However, the student was not able to repeat the words. When the teacher said the same words melodically, she is able to say and repeat the words.

Another difference between Turkish and English schools is using music activities in order to create pre-knowledge. Different from Turkish schools, English schools generally used the activities for this aim. For example, during

O1 in ESES, a video introducing numbers was opened before the practice of teaching numbers and the song was sung by the staff and children.

In English schools, some of the music activities were based on therapy (See Appendix 12). Also, staff referred to this as “music therapy”. However, in Turkish schools, the teachers did not refer to activities as music therapy during observations. Despite this difference, their activities were similar.

### *The data from interviews in Turkish and English schools*

During interviews in Turkish and English schools, the staff stated that music activities were used for some common and some different aims. In Turkish schools, music activities were used for improving concentration, self-confidence, speaking skills, motivation, feeling relaxed and noticing sounds in the environment such as sounds of animals and vehicles. In English schools, music activities were used for improving self-regulation, listening skills, attention and feeling relaxed. Music was also used for the sensory and emotional development of students by staff in English schools. The staff also often used songs to introduce an academic activity in English schools. Using music for improving academic skills of the students was more apparent in English schools than Turkish schools because music activities were used to support academic work in only Turkish mainstream schools for some children.

The interventions showed Turkish staff use music activities to improve speaking skills or communication skills. English staff did not express specific aims when talking about music activities. About this, TSEST5 stated:

*“Songs are very useful to improve the children’s speaking skills. I teach the basic words with songs and rhythms for my student who have very low communication skills. For example, I repeated the word of ‘come’ again and*



*again. The students said the same word rhythmically and did it correctly. Saying words is easier this way for some students”*

During interviews in English schools, staff said that there are some members of staff who had training about music therapy. However, it was clear that the staff did not have any training about using music therapy in Turkish schools and they said their activities were not therapy. Despite this difference, during interviews, all staff described similar activities in Turkish and English schools.

#### **5.2.3.1.7. Play activities**

##### *The data from observations in Turkish and English schools*

Play activities were used in Turkish and English schools. The staff used different play activities for different purposes. Play was believed to increase motivation, improve motor and concentration skills (See Figure 20 and Figure 21), social skills such as friendship, sharing and playing in turn, giving opportunities for group work. Also, play activities were used to relax and have fun. Play activities were also used to improve student’s academic skills in Turkish and English schools. However, it was clear that staff in Turkish schools could not use play activities for academic skills to the same degree or in the same way because the symptoms of many of their students were severe. On the other hand, English schools usually used play for academic skills as well. For example, during O3 in ESES, a teacher distributed application forms of NASA to students and asked them to express themselves. The teacher had stated that the NASA application form was used only for attracting attention and the main goal is to get them to express themselves in a written way. Also, During O6 in ESES, the teacher and students played Monopoly in order to learn

the terms “much” and “fewer” and concepts relating to money. Moreover, teachers and students practiced counting skills by using the dice.



**Figure 20.** A play activity (finding and put items on the right place of a board) to improve motor and concentration skills in TSES



**Figure 21.** A play activity (pick up beans from a pot) to improve motor and concentration skills in ESES

The observations revealed that play was more widely used in English schools and the play activities were more varied in English schools compared to Turkish schools.

#### *The data from interviews in Turkish and English schools*

During interviews, all staff said that the students needed to play because of their age. Therefore, the school should have some opportunities for this. For example, TSEST10 stated:

*“Playing is really useful to improve their [students] skills because they are children and they need play. Therefore, teaching will not become boring for them when they are learning”*

ESEST5 stated:

*“Play helps them [children] to improve skills because play is an important part of a child's life. So, providing toys and using them are really important in our class”*

Despite this common idea between staff in Turkish and English schools, staff in English schools placed more emphasis on play. This is because all staff during interviews focused on talking about the importance of play. For example, EMST2 stated:

*“Our students can learn mainly through play. Otherwise, our teaching cannot be effective. So, you know, teaching through play is not an option for us. It is an essential for their learning”*

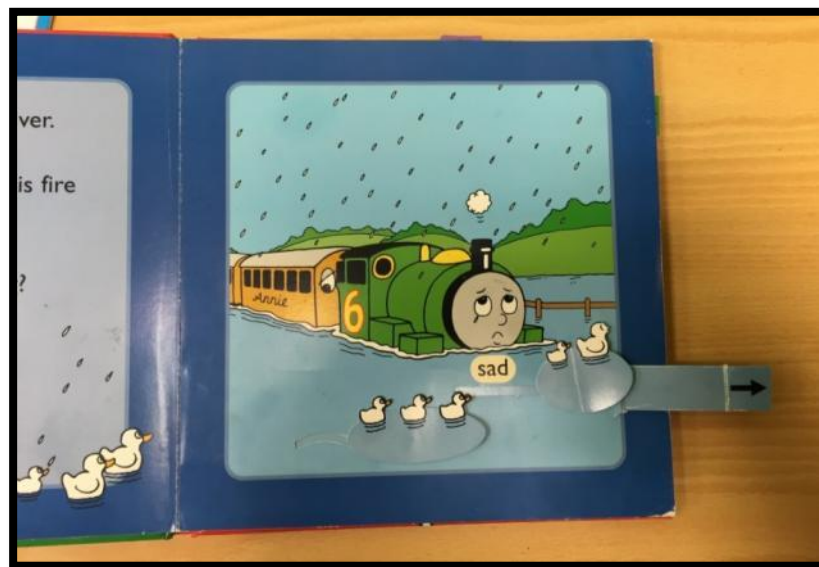
#### **5.2.3.1.8. Social Stories**

#### *The data from observations in Turkish and English schools*

All staff believed that social stories were useful for social, communication and academic skills. However, the stories were different for the students according

to their reading levels and the children's conditions. For example, in TSES, teachers used the stories with few students because most of them believed that their students' were not capable of learning with social stories due to the severity of their symptoms. Therefore, the observation showed that using social stories in English schools is more frequent than Turkish schools, particularly TSES. Despite this, some staff in Turkish mainstream schools often use the social stories.

During observations, despite staff in Turkish and English schools having the same aims, English schools also often use social stories to improve not only social skills, but also empathy skills. For example, during O1 in ESES, the stories were particularly used to make sense of feelings. The aim was to teach students different emotions of characters in many stories. After listening to the stories, these emotions were shown with real pictures of an angry man, crying child, sad train (See Figure 22) etc. and discussed. This approach allowed students to develop an indirect empathy skill.



**Figure 22.** A social story

On the other hand, Turkish schools generally used the stories for communication skills. This is because Turkish staff generally believe that the students should have adequate communication skills to effectively use social stories. However, their students' communication skills are not adequate for these stories. Therefore, these stories were used for both social and communication skills for some children. During observation, a teacher stated in TSES:

*“To effectively using social stories, I think teacher and student should talk and discuss with each other about the story. However, for my student, it is not possible now. Therefore, I am using the stories to improve only communication skills for now”*

During observations, it was also interesting to note that the stories in Turkish and English schools included many points about their lifestyle or culture. For example, in TMS1, the story was about Turkish national festivals and helping each other in extended families. Similarly, it is observed that a story was about the English festival of Halloween in ESES.

#### *The data from interviews in Turkish and English schools*

Staff in Turkish and English schools stated that social stories are one of their interventions to improve social skills, communication and literacy skills.

About this, TMST2 stated:

*“After reading a story, children also choose their favourite character in the story and they explain why this character is the best for them and talk about the story. It develops the student's social, communication and reading skills”*

When talking about the staff's aims, it was clear that the first aim of the stories was to improve social skills. However, it was used to improve communication

and literacy skills for the students who have communication problems. This aim was general among the staff in Turkish schools. TSEST8 stated:

*“Our students’ communication and literacy skills are not good. Therefore, we need to improve them. Otherwise, effectively improving social skills will not be possible for our students”*

About social stories, TSEST4 and EMST2 also said that they have students whose reading skills are not advanced enough to read the story for themselves. They believed that the stories could also improve concentration and focused listening.

#### **5.2.3.1.9. Reading Activities**

##### *The data from observations in Turkish and English schools*

These activities were used for improving student’s literacy, spelling and reading skills and also to expand their vocabulary. Also, staff generally talked about the content of books during reading activity or after reading activity with their students. They also believed this supported improvements in social and communication skills.

During observations, in Turkish schools, particularly in TSES, higher reading activities could not be used by many teachers because the students were not yet able to read or speak. However, for other students, staff in Turkish schools often used these activities. In English schools, however, staff used reading activities for their all students. In English schools, the children with autism had “Daily Language Review” in which each child had some different reading activities depending on their reading level. Students who are not yet able to read looked at pictures in books with the staff and read the words together. For

example, in the EMS1, there was a picture hidden among 1000 people's faces in one of the books. This is a popular book in the school because students enjoy finding the hidden person among all the faces. The English staff believed that talking about a picture, finding some characters in a picture and reading basic words together is a good starting point for students who are yet to develop reading skills. Also, according to them, it improves attention skills.

In English schools, each class has a 'Reading Corner' (See Figure 23). It was observed that the students generally wanted to spend time there because they can sit on the floor and relax. In Turkish schools, reading lessons were completed at their desk. In Turkish and English schools, each student reads a text or book according to their reading level.



**Figure 23.** A reading corner in an English classroom

### The data from interviews in Turkish and English schools

All staff in Turkish and English schools believed that reading activities both in lessons and free time, were useful to improve literacy and communication skills. Also, all staff believed that when choosing stories, staff should be careful because each student should read a book according to their reading level. In addition to this general idea in Turkish and English schools, TMST3 pointed out:

*“Abstract concepts should not be selected when reading texts and the content of the texts should be composed of concrete words.”*

Similarly, TMST2 stated;

*“When I choose a reading text for my students, I try to choose a text which includes concrete words. For example, if my students read abstract concepts when reading activities, they cannot understand and clearly explaining their meaning also is not easy for me. My aim is improving reading skills. Therefore, the wrong text can be barrier for improving my teaching”*

Despite this idea being common among staff in Turkish schools, staff in English schools believed that using abstract concepts with some children especially if they were secondary level could be useful in moving students towards understanding. For example, in EMS2, staff stated their secondary level students have good reading skills. Because of this they try to move them on by using books which includes abstract concepts because talking about the concepts with students helps them to understand these kinds of words.

#### **5.2.3.1.10. Sport Activities**

### The data from observations in Turkish and English schools

During observations in Turkish and English schools, it was clear that similar and different sport activities were commonly used by staff. Gymnastic activities



were commonly used by Turkish and English staff although group activities are generally used by English staff.

It was observed that the students usually enjoyed the activities and also benefited from improving body coordination. In TSES, however, some students were not happy in Physical Education (PE) lessons. The PE teachers said some students needed time to adapt to this activity because it is not a typical activity for them especially if they need to work in as a team. They said that some students were not happy at the beginning of the term, but they enjoy the activities now. For example, during O30 in TSES, when pointing at a student who is cycling, the PE teacher indicated:

*“This student was always sitting in the middle of the hall when she came here early on. When we tried to lift her, she was crying. We did not force her at the beginning. She came here as a visitor and then went. As she got used to the environment, she rarely cried and stood up. At the beginning, when we tried to have her ride a bike, she was crying. When she got used to the bike, she never cried, now, she rides on her own.”*

On the other hand, the staff in English schools said their students also needed time to adapt to working in a group, but their students did not need a time to get used to sport activities.

The observations also show that the students can do the activities individually or as a group in Turkish and English schools. However, their implementation was different in Turkish schools. It was clear that working in a large group during sports lessons was common in English schools. In Turkish schools, children with autism did sport activities on an individual basis or as a small group. However, in Turkish schools, the students also have sport activities with typically developing children as well. For example, in Turkish mainstream schools, the students with autism spend time with typical children in the

playground. In TSES, the children with autism visited other schools where there were typically developing children and have sport lessons with the children. Despite their different implementation of sport activities, the staff in Turkish and English schools have similar aims to improve the physical, social and communication skills of the students.

### *The data from interviews in Turkish and English schools*

All staff said that sports activities were commonly used in both English and Turkish schools, but they were sometimes used for different aims, practices and for different amounts of time. Although there are some differences between exercises, all staff from Turkish and English schools believed that the fundamental benefits of sports activities were the development of coordination and physical and motor abilities of the students. Also, they believed that the process is enjoyable for the children when the students are able to engage. Because of this, all staff stated that children with autism calm down and these activities prevent their aggression because the individuals have fun and consume energy. Also, PE teachers indicated that these activities helped to develop friendships, hence providing social support. However, this idea was more prevalent in English schools. For example, TMST1 stated:

*“Autism levels of my students are not suitable for playing games with other students independently”*

Similar to TMST1, many members of staff in Turkish schools believed that if students found working in a group difficult it should not be forced upon the students. The staff believed that many students did not engage in sports activities outside of school and this made their engagement in sport more

difficult. However, English staff did not voice similar difficulties. They believed that their students enjoyed group activities such as playing football or volleyball. Because of this, English staff said that they use group activities frequently in PE and found them more useful than individual activities. ESEST7 stated:

*“A challenge is a question in sports exercises. While somebody wins, others are losers. We never intervene in this situation because real life is like this. Students should learn to lose besides winning. This situation develops awareness for losers and self-confidence for winners”*

The beliefs of Turkish staff differed in that they were not focused on competition, Turkish staff did not like to say ‘you are the loser’ to any students when they used group work.

#### **5.2.3.1.11. Visual aids**

##### *The data from observations in Turkish and English schools*

Although English schools used more visual aids than Turkish schools, the observations showed that visual aids are actively used in both Turkish and English schools because staff believe their students are visual learners and their education will consequently be more effective with visual aids. In O6, a teacher in TSES has stated:

*“Visuals are coded in the brain of students and they are able to say immediately what it is when they see them but the same coding process cannot be performed through the written texts.”*

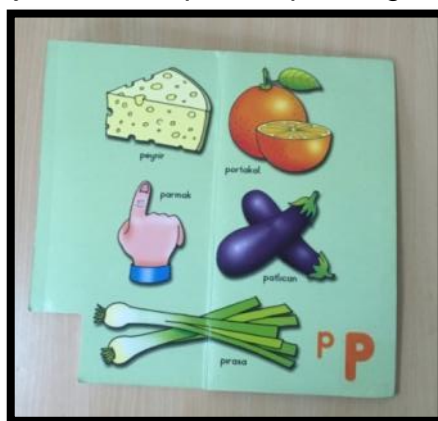
In order to prove this, Turkish students generally have visual books and they worked on the visuals to say and write the basic words and improve vocabulary such as breakfast foods, family members or vehicles. For example, a teacher in TSES showed the visual icon used for the previous month and the student was able to say “June” but the same student was not able to answer when the same

month was shown in written form. For this reason, the teacher indicated that visual processing and retention was easier for the students, but in order for their education to progress it was not right to use only visual aids for these children. The observations also showed that if children with autism have any misunderstanding and are unclear about certain points, the staff showed them visual aids and then they became clear. For example, one child did not understand the difference between oceans and seas in ESES. A member of staff showed a map to him and he understood the difference. This member of staff stated:

*“I didn’t try to explain to him because I know he won’t understand with only my explanations, explaining with pictures is more effective”*

This view was the same among staff in Turkish and English schools.

In Turkish schools, staff use visual aids according to the level of their students. Teachers use visual aids for students who lack basic skills in order to develop their self-care, social and communicative skills. For example, during O9 in TSES, one of teachers voiced the “P” sound in a stressed manner by showing the pictures of fruits and vegetables whose names start with the “P” sound then requested her student to repeat it (Figure 24). For the teachers, visuals make sense of the names of objects and improve speaking skills.



**Figure 24.** Visual example in Turkish school

For other abler students in Turkish schools, visuals are also used for improving academic skills. For example, in TSES1, the teacher showed the pictures of numbers between 1 and 20 to a student, requested him to order them and to show them by mixing up the numbers. This teacher stated:

*“Visuals facilitate learning of numbers because maths includes abstract concepts and visuals are helpful for these children in this course.”*

In English schools, staff also used visual aids for improving social, communication and academic skills for all students. For example, during observation in ESES, some masks were used to improve empathy skills and children put the masks on their faces (See Figure 25). For example, a member of staff asked a child if you are angry, which mask should be put on your face? And then, they discussed feelings.



**Figure 25.** The masks to support social stories which are using to build empathy

Therefore, it can be said that the staff used visual aids for the same aims in Turkish and English schools. However, in English schools, they used visual aids

to improve academic skills. In English schools, the students have some personal visual aids about their needs, favourite things, their personal timescale etc. For example, during O8 in ESES, a picture of the water bottle was attached to the desk of a student who should drink a lot of water due to her health condition. TA explained:

*“The student remembers to drink water whenever she looks at the picture.”*

It was clear that in English schools, visual aids were used to help manage the students' school and daily time.

During observation, Turkish and English staff said although all visuals which are photos, pictures and real objects were used to support learning, real objects are more useful. For example, learning about fruits in TMS2, the staff brought some fruits such as banana, orange and talked about their name, colour, shape and then eat them together and talk about their taste. The teacher stated:

*“This is more useful because the visual is 3D”*

Similarly, during O6 in ESES, while types of teeth topics were taught, teeth models were distributed to children and they were asked to touch and differentiate them. The teacher explained:

*“Using real objects is better because they address more than one sense for the children.”*

#### *The data from interviews in Turkish and English schools*

During interviews, Turkish and English staff similarly all staff said that understanding in lessons is facilitated by the use of visual aids. For example, EMST2 stated:

*“With visual aids, everything in education becomes clearer”.*

TSEST2 also explained:

*“I teach reading-writing and math through visuals. This way is absolutely beneficial but you should not always continue in that way. If the student comprehends what you teach, you should continue the course by removing the visuals. Or else, you can make the students visual-dependent children. Visuals should just facilitate learning; education should continue without visuals after that.”*

Similarly, TMST5 stated that she did not use visual aids very much because:

*“We can use a more formal education method with our students as their level of ability and situations are suitable for it.”*

This idea is the same among secondary teachers in English schools. However, for primary level students, the staff in English schools believed that visual aids are very useful regardless of the severity of the student’s symptoms.

Similar to observation, Turkish and English staff similarly believes the real object is much useful than other visuals. For example EMST1 pointed out:

*“There is a really big difference between using pictures and a real object. For example, the children with autism can look at a grape, but if they have a real one, they can look at a real one, touch it, and eat it. It is more effective”*

Similarly, TSEST2 stated:

*“For example, when teaching the concepts of thin and thick, using several books with different thicknesses is much better than showing pictures. This is because students can easily learn the concepts by touching”*

### **5.2.3.1.12. Picture Exchange Communication System (PECS)**

#### *The data from observations in Turkish and English schools*

During the observations, English and Turkish schools used the Picture Exchange Communication System (PECS). All staff stated the main of using PECS is improving social and communication skills of their students.

#### *The data from interviews in Turkish and English schools*

During interviews, staff stated they use PECS for primary level students. However, they also said that PECS was more widely used in the past, but they are using only some parts of PECS today.

In Turkish schools, despite the use of PECS during observations all staff except TSEST5 and TSEST7 found it difficult to answer questions about the approach.

TSEST7 stated:

*“PECS is inevitably beneficial but we did not use all of it in this school.*

Similarly, by regarding the usage of PECS, TSEST5 stated:

*“I think it is an effective method providing a quick and effective development of the children whose visual intelligence is great and I establish an easy communication with children with autism through PECS. However, I could not say that this increased their speaking ability.”*

### **5.2.3.1.13. Integrative teaching (children with autism and typically developing children learning together)**

#### *The data from observations in Turkish and English schools*

During observations, it was clear that Turkish schools frequently use integrative teaching where children with autism and typically developing children learn



together. English schools made limited use of this approach. In all English schools except EMS2, the observations showed that the students did not have any communication with typically developing children. This included break times where typical children and those with autism had separate playtimes. The reason given was that the children with autism might have aggressive outbursts so it was best for safety to keep them apart. EMS2 did, however, encourage children with autism and typical children to play and learn together.

In Turkish schools, the students attended only music, visual arts and physical education lessons with typically developing children. In EMS2, all children with autism has all classes includes academic ones with typically developing peers in mainstream classrooms. During observation in EMS2, it was revealed that each child with autism had a personal timetable. For example, when 2 children participated in a science class, 1 child participated in an art class. The children participated in lessons with their TA.

During observations, it was clear that the class teacher did not interact with the children with autism in English schools. Only their TA supported the children and educated them. Also, their peers did not communicate with them. The communication between the children with autism and typically developing peers was very poor during integrative teaching. On the other hand, the observation shows Turkish staff and typically developed students are more willing to communicate with children with autism during lessons. Consequently, the relationships between peers and between the students and teacher in Turkish schools were stronger than English schools. Hence the model was moving towards being more inclusive than integrative in Turkish schools.

### The data from interviews in Turkish and English schools

The interviews confirmed that integrative teaching was commonly used by the staff in Turkish schools but use was limited at English schools.

In Turkish schools, the staff believed that integration improved their students' self-confidence when working alongside their typically developing peers. Teachers also believed that this intervention developed academic and social skills. In addition to these aims, the staff in English schools also said integrative teaching could improve academic skills. However, the staff in Turkish schools emphasised that improving academic skills was not the sole benefit of integrative teaching. This was explained by TSEST10:

*"We do not expect that only academic skills will develop with integrated lessons. Also, we know they can't proceed at the same speed with their peers. The main objective of the inclusion teaching is that our students socialize and establish a communication with their typical peers"*

Similarly, TSEST2 indicated:

*"This changes and develops their social behaviours. Our aims are not about improving academic skills. We aim to improve communication skills and adapt to real life with typically developing children"*

Generally, staff in Turkish and English schools believed integrative teaching was useful, but there were comments which suggested that it was sometimes difficult for students with autism and that success also depended on the willingness of the class teacher TSEST4 indicated:

*"I do not think that inclusive teaching is beneficial. These students will go there and just sit at a desk and then come back here. The teachers will not include them actively into their lesson...Even though some teachers do not say that they do not want to have student with autism in their classes, it takes a long time to make students ready and able to engage with a teacher in a mainstream school"*

This idea is also supported by staff in EMS2. EMSTA6 stated:

*“The problems of children with autism are hidden. For example, they do not use wheelchairs, so some of our typically developing children do not see the problems of children with autism. Therefore, understanding autism can be difficult for them. However, this is different for teachers. Some of them are superb teachers and our children are very relaxed there. However, some of them are pedantic and our students can be worried about being in their class”*

Because of this, staff in EMS2 believed that the TA is crucial for the success of integrative education. During interviews in Turkish schools, the staff generally said the teacher in the mainstream classroom might not be happy if they have a child with autism in their class, because there is not another member of staff to support the student. However, TMST2 also said this problem could be solved:

*“I met with the teachers in the school one by one and explained that we could do this with volunteers. I did not include the ones who did not agree to take part in the planning. This was the most effective way because the process continues smoothly.”*

Staff in Turkish schools also stated that the teachers should be asked if they were willing to invite a student in their classroom. However, school principals sometimes decide which teacher should have a child with autism in his/her class. According to staff in Turkish schools, this can be problematic as the teachers may be concerned or resistant to teaching a child with autism alongside their typical class mates.

In Turkish schools, the staff also emphasised that the relationship between children with autism and typically developing children in mainstream classrooms is generally good. The staff in English schools, however, said their students and typically developing students may not form good relationships and reluctance of typically developing children to engage with children with autism can be difficult for their students. The reasons for the tolerance of Turkish children are unclear

but it may be that cultural and religious values emphasise the need to be kind to people who are experiencing problems (See 5.2.1.3).

The staff in Turkish and English schools had different ideas about informing the typical children about the fact that their students had a developmental disorder.

TMST1 explained:

*“If the others are informed, students think that a child with disorder will come into the class and we should help him or her. Even, some of them feel pity. For this reason, informing the students will be disadvantageous rather than advantageous”*

Therefore, the staff in Turkish mainstream schools said for example that the sign ‘special education class’ should be removed from their classroom door.

According to the Turkish staff, these children being labelled led to a sense of difference which was not conducive to building relationships between children with autism and typically developing peers. However, the staff in English schools believed that knowing the students are children with autism was helpful for the other typical students. For example, in EMS2, it was observed that the staff explained to the typically developing children that the visiting students are children with autism. EMST6 believed that this leads to improved awareness of autism among typically developing peers. Similarly, EMST4 stated:

*“Typically developing students at our school know our students are children with autism. Also, staff usually explain our students’ diagnosis and condition to them. It is helpful to improve their knowledge and perspectives about autism I think”.*

#### **5.2.3.1.14. Language and Speech Exercises**

##### *The data from observations in Turkish and English schools*

During observations, it was clear that the staff in Turkish and English schools use some practices for their students who have speaking problems. In Turkish

schools, it was observed that speaking problems are common and consequently speech and language exercises were used more frequently. In Turkish schools, various exercises such as slipping chocolate around the student's lips were often used by teachers. English schools also used some exercises for the same aims. Some exercises were the same in both Turkish and English schools. For example, some staff in Turkish and English schools worked with their students in front of a mirror. The staff show their mouth movements when saying some word to the students. And then, the students repeat the word.

#### *The data from interviews in Turkish and English schools*

During interviews, when asked questions about the exercises used, English staff stated that they were a part of speech and language therapy. Some members of staff explained that these exercises were shown to them by a speech and language therapist. However, Turkish staff stated that they had no training in how to support the development of speech. The Turkish teachers did not refer to the exercises as speech and language therapy although they used the same activities. They explained that they learned these activities from other members of staff, from seminars or from the internet.

#### ***5.2.3.2. The Interventions commonly used in Turkish and English special education schools***

As well as the common interventions shown in Table 24, some interventions were only used in the two special education schools included in the study. Only massaging was commonly used in both Turkish and English special education schools.

### **5.2.3.2.1. Massaging**

#### *The data from observations in Turkish and English schools*

Massaging was sometimes used in Turkish and English special schools to calm the children down. For example, during observations of a PE class in TSES, one of the PE teachers stated:

*“I tried and saw students are calmed down by massaging their legs, arms and shoulders. Now, some of the students come to their teachers and request a massage from them”*

The observations clearly showed that all the staff noticed that massaging could be helpful. However, massaging is part of the TACPAC sensory integration approach (See 7.7.1) and the staff in English schools were aware of TACPAC or similar approaches and therefore knew that massage was likely to be helpful for their students. Generally, during all observations, it was clear that students who are aggressive and restless smiled and were calm towards the teacher during massage sessions.

#### *The data from interviews in Turkish and English schools*

In Turkish schools, the staff generally said massage was used infrequently by the staff. They also said they did not use massage directly for their students but had observed another member of staff giving massages to the students. When they observed their students during massage sessions all staff said their students were happy and relaxed. TSET1 stated:

*“Massage and similar motions make the student calm and stop their crying.”*

### **5.2.3.3. The Interventions used in only Turkish Schools**

Interactive units and experiential learning and were only used in Turkish schools.

#### **5.2.3.3.1. Interactive Units**

##### *The data from observations in Turkish and English schools*

Interactive units are units of work, which follow a repetitive step-by-step approach to acquiring skills. For example, this programme includes activities related to units of “do”, “show”, “say” and “write”. In the units of “do”, “show”, “say” and “write”, each action performed by the practitioner requires a counteraction by the individual. Individuals see the skill that is performed by the practitioner and listen to him/her while s/he explains the action. Then, individuals do and show that action on their own and say and write what they do. While teaching with the help of interactive units, individuals are expected to react by doing, showing and using verbal and written language. When an individual gives a correct reaction, s/he is reinforced, but when a wrong reaction is acquired, teaching will be started over.

During observations, it was clear this approach was often used by the staff in Turkish schools because they believed that the students learning was cemented through different expressive modes (do, show, say, write etc.) this was believed to make their skill acquisition more permanent. It was also observed that this intervention was used for children with autism regardless of the severity of their symptoms. For example, during O1 in TSES, the teacher talked about a picture and the student chose and showed the correct. This student was nonverbal so was only able to demonstrate the ‘show’ step. However, in TMS2, a student solved an addition problem, showed the answer and explained how he solved the problem by counting hence he was able to use steps ‘do’ ‘show’ and ‘say’

In English schools, similar activities are used as part of “intensive teaching” in English special education school (in O1). However, the staff had no particular name for the activities and did not describe it as an intervention.

#### *The data from interviews in Turkish and English schools*

The staff in Turkish schools said they often used interactive units for their students because they believed that their students learnt best when using a range of modes of expression. TSEST2 stated:

*“For example, my student can say ‘a pencil’, write ‘a pencil’, show the photo of the pencil. Therefore, he can understand ‘pencil’ in different ways”*

During interviews, although the staff in English schools taught with a focus on use of different senses and felt this was really useful to cement learning, they said they did not use this intervention for their students.

#### **5.2.3.3.2. Experiential Learning**

##### *The data from observations in Turkish and English schools*

In Turkish schools’ teachers used experiential learning around every day experiences such as buying something from supermarket, going to a restaurant to have a meal outside of school. This was used with all students except those with the most severe intellectual disabilities. Experiential learning was valued because they believed that these activities helped the student in their everyday life. The focus was not only on the student but also on helping the parents and the community to understand and manage autism.



Experiential learning outside of school which was organised by the school was not observed in English schools.

### *The data from interviews in Turkish and English schools*

During interviews, the staff in Turkish schools believed experiential learning outside of the school should be used for children with autism because learning real life skills cannot be possible within the school. Therefore, they generally believed that the students learned how to behave by experiencing activities in real life. As well as the students learning members of the community and parents learn how to respond to and support the children. About these issues, TSEST7 stated:

*“I went to a market with my students. I informed the owner and employees of the market about the application. At the beginning, they were rushing everywhere. However, they had knowledge about my student’s condition before our visiting. Now, my students learned how to select and take the products.”*

Similarly, TMST1 described the following example of experiential learning:

*“Students prepared a shopping list with their families. We went shopping to a market next day and they gave the money on their own. After the change and the receipt were received, we came back to school. We shared and ate the foods and talked about what we did within the day. As we continue to use these activities, the skills of students are developed. Students that just rushed around the shelves at first can now go shopping on their own.”*

According to staff, these kinds of activities develop their students’ self-confidence. Therefore, their life skills and ability to try improved day by day.

About this, TSET2 explained:

*“Such activities develop our students’ self-confidence. Self-confidence is a basis for the development of social and communicative skills. For example, one of my students who is good at memorization memorized a song and came to the*

*stage in front of many people. This was so beneficial for his self-confidence development.”*

The staff in Turkish schools did not give any negative comments about this intervention and they believed that it is really useful for the children if it is well planned by the staff. In addition to benefits for the students, they also believed that these activities are important for parents and society. For example, TMST1 stated:

*“One of the families attributes their student’s eating in a restaurant without a problem to these social activities because this was impossible for the child before.”*

About society, TMST4 pointed out:

*“These activities are beneficial not only for our students, but also for the society in terms of raising awareness about autism. For this reason, these activities should be performed more frequently both for the children and the society.”*

On the other hand, although all staff in English schools believed learning outside of school was potentially really useful, they did not use this approach. EMSTA5 did report, however, that she had used this intervention for former students in the past. EMSTA5 described what she had facilitated for her former students:

*“We only went to the post office and our children gave in their card to post it. They chose the money and then paid money. It was a real experience. I think life experience is really useful for our children”*

Despite EMSTA5 and all other staff in English schools believing that this intervention was useful, using this is difficult for schools in England because of paperwork and health and safety policy about visiting away from school. In addition to these hurdles, EMST6 explained:

*“This is also very difficult for our children to deal with change. For example, one of our girls changed hairstyle; others wondered and got over excited saying why did you change your hair? I do not know why but tiny little changes are massive for them. So, these activities also are very busy and confusing for them”*

Similar to the views expressed by EMST6, the staff in Turkish schools said their students also had difficulties with change when visiting a new social area. However, they said their ability to cope with new things improved after each visit.

#### **5.2.3.4. The Interventions used in only Turkish special education school**

Learning by imitation was used in only TSES.

##### **5.2.3.4.1. Learning by imitation**

###### *The data from observations in Turkish and English schools*

During observations, teachers pointed out that memorization is important and students having memorization and imitating skills proceed in their education process easier than others who do not. Most of the teachers in TSES use learning by imitation as an intervention for learning. For example, During O1 in TSES, when doing reading activities, the teacher pointed out that her student memorized the syllables, coded every syllable and read in that way. During O7 in TSES, the teacher emphasized:

*“The speaking ability of my student is very restricted. I got my student to memorize some essential words like meal, water, toilet etc. This was beneficial for facilitating daily life.”*

### *The data from interviews in Turkish and English schools*

Only Turkish staff in TSES believed that memorization and imitation tasks were an intervention for their students and a good opportunity, particularly for improving the students' speaking skills. For example, TSEST9 stated:

*"I get my student to memorize the Turkish Independence March and various poems. Such memorizations are good for the language development of her."*

Moreover, the teachers stated that they use memorization methods in order to improve speaking abilities of children with limited language.

### **5.2.3.5. The Interventions used in only Turkish mainstream schools**

Drama activities were used in only Turkish mainstream schools.

#### **5.2.3.5.1. Drama Activities**

### *The data from observations in Turkish and English schools*

During observation Only TMST3 said she used drama activities. For example, she indicated, instead of counting the numbers from 1 to 10, they count the numbers by following our steps by joining hands. In another instance, she taught addition to students by throwing the numbers on the ground and asking students to choose two of them. These activities were described as drama activities by TMST3 although they may be better described as active tasks. Besides maths, this member of staff often used these kind of activities in all lessons. Despite some staff in Turkish and English schools using similar activities, they did not refer to them as drama activities in the observations. They described them as educational play activities.

### *The data from interviews in Turkish and English schools*

In the interview TMST3 stated that these active tasks encourage students to perform drama, so the activities can improve the students' social and communication skills between each other. According to this teacher, the students also enjoy these kind of activities when learning. Consequently, learning became more permanent. She stated:

*"I teach in a theatrical way because children should learn with fun."*

Also, TMST3 said she had not had any training about drama. However, she also said that she is using a basic level of drama, so she does not need training, she believed, however, that drama activities can be very useful for children with autism and training staff would be beneficial for the children.

### ***5.2.3.6. The Interventions used in only English Schools***

TEACCH, therapies, sign language, the activities in a sensory room and peer education were used in only English schools

#### ***5.2.3.6.1. Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH)***

### *The data from observations in Turkish and English schools*

In English schools, TEACCH was only used for primary level students. Among these students, TEACCH was actively used for low functioning children with autism. TEACCH is a structured programme which uses external organisation and visual information to support social communication.

In English schools, it was clear that the environment and time was structured for the children, particularly for primary level. For example, in EMS1, students have their own personal space in the class and they spent their break and other free time in their space to enjoy break time and relax (See Figure 26). During the observations, it was also clear that children with autism respected other children's special area. For example, even though some children had problems sharing with others, they will ask for permission to take a toy from another child's personal area. So, the staff believed it improved the students' social skills, particularly empathy skill. In addition to the structured environment, the time is structured.



**Figure 26.** An example of a student's personal space in an English school

On the other hand, the observations in Turkish schools revealed that TEACCH was not used by them.

### The data from interviews in Turkish and English schools

During interviews, English staff said that TEACCH was used for primary level because they believed a structured environment and clear timetables were useful for the younger children. According to staff, TEACCH helps to calm down the children because they know how they can manage their structured environment and how many minutes is for studying and when the break will start. Hence TEACCH provides a predictable routine and context for the children.

EMSTA5 also stated:

*“Using a sand timer is a good strategy for some children, because some of our children cannot focus on something for a long time. Focusing on something for a particular time and then giving them a break can prevent anxiety”.*

However, the staff also said TEACCH was more widely used in the past, now they are using just parts of this approach. Staff commonly said they tried to create a much more flexible curriculum than TEACCH. For example, ESEST8 stated:

*“TEACCH is useful, but not for all. For this reason, we use a tailored curriculum for the children.”*

On the other hand, the staff in Turkish schools said they had no knowledge of TEACCH and did not use TEACCH in their school.

### **5.2.3.6.2. Therapies**

#### The data from observations in Turkish and English schools

During observations, it was clear that Turkish schools did not use or have access to therapies. On the other hand, different therapies were used for

different aims in English schools, particularly in ESES (See Appendix 12). Speech and language therapy was used to improve speaking skills, pet therapy to improve social communication skills, building friendship, physical development, improving empathy skills, improving responsibility; occupational therapy to improve body development, play therapy includes music therapy to improve motivation, concentration, self-awareness and the environment, social skills in group work and eye contact.

The observations also showed that the therapies were provided by a trained therapist or other trained staff. For example, in ESES, there was an occupational therapist on site and play therapy was provided by trained staff. The frequency of using therapies is different among English schools. For example, ESES used therapies very frequently because their staff have been trained in various therapies. The staff in EMS2 stated however that there were financial constraints on the use of therapies because employing therapists was expensive, because of this, use was limited. Also, the staff in EMS2 believed that using therapy can be useful, but other approaches addressed more serious needs for their students.

#### *The data from interviews in Turkish and English schools*

During interviews, the staff in England said they used speech and language therapy, pet therapy, occupational therapy and play therapy including music therapy. Also, in EMS1, EMST4 described using 'apple therapy' a collaborative therapy approach incorporating occupational therapy, speech and language therapy, physical therapy and other therapies relevant to the child's needs:



*“I believe using different therapies together is useful for the children and we are using them in our centre”*

All staff in English schools believed that therapies are very useful and needed for their students. Similarly, all Turkish staff believed using therapies is very helpful and crucial to meet needs. TSEST5 stated:

*“I think we are lacking in supporting language development. For example, I was able to teach only five words to my student up to now. It means that my student can make sounds and so he can speak. However, I do not know how I can get them to speak. For this reason, speech and language therapists are required.”*

Similarly, TMST6 stated:

*“My student speaks word by word. It means my students can speak. However, we are not experts in this field and we need therapists.”*

TSEST6 stated:

*“At university, we received education about hearing impairment, so I can do something about language development but we should be supported on this issue.”*

TMST5 explained:

*“My student has an echolalia problem. I perform activities for that but I proceed by trial and error.”*

These comments showed that all the staff in Turkish schools believed therapists are needed for them and their students. However, they also emphasised that using therapies is not possible for them because of problems t finding professional therapists. TSEST4 pointed out:

*“Absence of any therapist is an important problem for the development of our students.”*

Also, financial problems were another reason for this problem because employing therapists was very expensive and beyond the resources of schools and parents. TMST2 reported:

*“Therapies are only in the private sector”.*

To solve this problem, the staff in Turkish schools believed that they needed a trained therapist on the staff in their school.

Staff try to learn about therapies from the internet, conferences and seminars. However, these options are not particularly helpful. Therefore, they emphasised all Turkish schools should be supported by a therapist on site. They felt that, the ministry of education should help them in this matter.

#### **5.2.3.6.3. Sign Language**

##### *The data from observations in Turkish and English schools*

In English schools, teachers use sign language for some primary level students who have low-level shared communication. It was observed that ‘cued articulation by Jane Passy’ and Makaton are used for the students. According to staff, it supports the children’s understanding and shared communication. For example, during O2 in ESES, a member of staff talked to her student, but the student could not understand it. When the sign language was used with normal speech, the student understood and responded appropriately. The teacher said the student did not have any anatomical problem. Sign language is an effective way to gain her understanding and develop communication. The observations revealed that sign language was not used for secondary level children because according to the staff, they no longer needed this support in order to communicate.

### The data from interviews in Turkish and English schools

During interviews, teachers expressed that sign language is used for the students that are more visual and sign language supported the teachers spoken word. The staff in English schools believed that students with autism can understand more easily with sign language prompts. ESETA9 stated:

*“In our class, we use Q. Circulation which is like sign language for letters. We also use Makaton, which helps our communication with the children.”*

Similarly, EMST2 stated:

*“We are using Makaton for only one child because this supports the communication between me and the child. I think it helps his understanding”*

About the effectiveness of sign language, ESET6 explained:

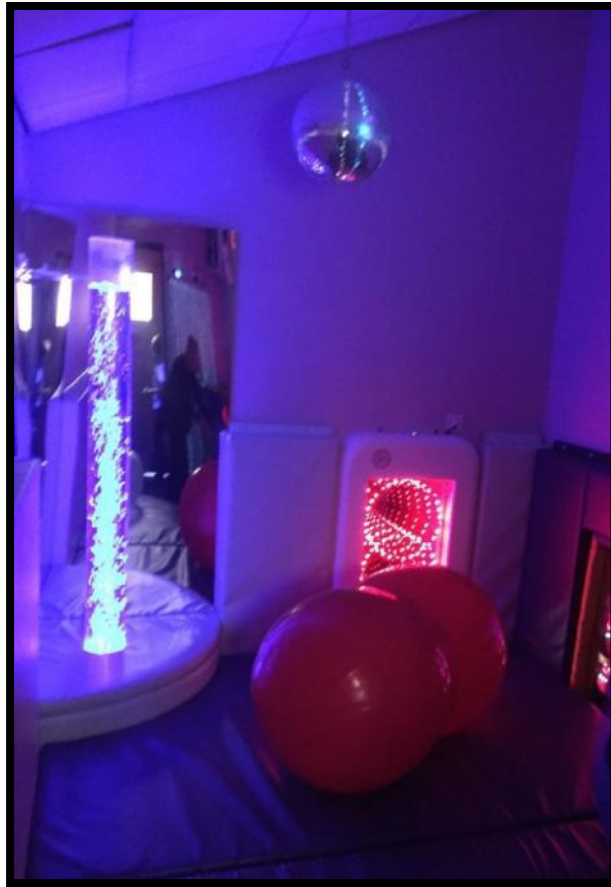
*“I read the words in syllables after using sign language. This increases the effectiveness of sign language.”*

During interviews, it was clear that the staff in Turkish schools do not use this intervention.

#### **5.2.3.6.4. The activities in a sensory room**

### The data from observations in Turkish and English schools

In English schools, there is a sensory room (See Figure 27), except EMS2 because staff stated that they did not need a sensory room for secondary level students.



**Figure 27.** A sensory room in an English school

In these schools, staff spent time with a couple of children in the room to help them to calm down or feel relaxed. During observations, it was clear that this room was very helpful to calm the students because there were low, colorful lights, relaxing music, and soft cushions to sit on. All of the students have the same activities in the room. For example, in EMS1, the children seemed to be supported in the sensory room to create imaginary scenarios. Among these activities, a child made a bridge with cushions and walked on them. In another observation, another 3 children tried to make a tent with cushions. During these activities, it was clear they enjoyed the sensory room very much.

Turkish schools do not have sensory rooms.

### *The data from interviews in Turkish and English schools*

According to the staff, the activities such as imaginary scenarios in the room helped with sensory issues. Allowing them to be more creative, calmer and therefore able to concentrate. For example, EMST5 pointed out:

*“Their concentration is improving with the activities in this room because of the lights”.*

During interviews, English staff also stated that the students do not have to do any activities in the room. They believe just sitting, looking around and listening to music are also helpful for them to calm down because the room is enjoyable for them. EMST1 explained:

*“This room is for fun and being relaxed in addition to sensory issues”.*

Also, ESET4 stated:

*“It's a very good place for them to go to have some time out, if they're feeling really anxious”.*

They explained that all staff can use the room with their students because they do not have any specifically trained person to lead sensory sessions. EMST4 explained:

*“We don't need training really. A sensory room is a place where the child can see the lights, play with the bubbles and spend time to be calm, improving sensory skills, have fun and be relaxed.”*

### **5.2.3.6.5. Peer Education between children with autism**

#### *The data from observations in Turkish and English schools*

Peer education among children with autism is more commonly used in English schools. In Turkish schools, the staff did not use it because they believe

children with autism learn negative behaviors from each other. The observations support this idea. For example, it was observed in TSES, that a child spit and other some children began to do it after seeing this.

Nevertheless, English schools use this peer education frequently. For example, during O6 in ESES, a student that fell behind in a science course and students that are better at this in lower classes are gathered and an instruction was given to the whole group about the human circulatory system. These students talked to each other by analyzing a human anatomy model and watching related videos through smart boards. During this time, the teacher facilitates the students to help each other and students work together under the guidance of a TA. The staff applied this approach to encourage self-confidence and improve social skills among peers while learning and repeating the academic topic they were struggling with.

#### *The data from interviews in Turkish and English schools*

During interventions, the staff in English schools stated that peer education among children with autism is very useful to improve social, communication and academic skills. ESEST4 stated:

*“This way also develops their social and communication skills with their peers. Students at a similar level should work together.”*

However, Turkish staff generally believe peer education among children with autism can be harmful especially where students have behavioural problems which may be imitated or may cause distress to other children. TSET4 stated:

*“We do not practice peer education in our school because children with autism acquire negative behaviours from their peers. It is a general problem in Turkey, according to my experience”*

Because of this, the staff in Turkish schools stated that a better way forward was for most of their students to join ‘integrative sessions’ with typically developing students (See 5.2.3.1.13).

### **5.2.3.7. The Interventions used in only English special education school**

Four interventions, TACPAC, text map, family project and intensive teaching, were only used in the English special education school.

#### **5.2.3.7.1. TACPAC**

##### *The data from observations in Turkish and English schools*

Only in ESES, this intervention was observed. A TA applied TACPAC to student to feel relaxed. This practice was applied in six steps including various forms of massage and relaxation. They are:

Step-1: Student lied down and TA blew to face and body of the child with a fan.

Step-2: TA hits slowly the body of child with a wooden spoon

Step-3: Dragging a stick with pompom along the body of child.

Step-4: Massaging legs and arms with aluminum wire.

Step-5: Massaging arms and legs with baby oil

Step-6: Laying down on the blanket and relaxing.

During this process, classical music was played. It was observed that the student was happy and relaxed in all steps. The TA explained:

*“It is a helpful way to make students relaxed and decrease aggression.”*

However, there were some other students in the room where TACPAC activities were performed. These students played with toys freely. Consequently, the room sometimes became noisy and this affected the student’s relaxation process.

#### *The data from interviews in Turkish and English schools*

Only the staff in ESES knew about TACPAC and they said it was used for primary level children to feel relaxed. They believed that TACPAC was a good intervention to use in between two lessons because the students can be more relaxed for the next session. During interviews, staff also said that they have not had any training about TACPAC, but they also said they have a written guide and it shows how they can they use TACPAC for their students.

#### **5.2.3.7.2. Text Map**

#### *The data from observations in Turkish and English schools*

In ESES, during O8, the staff performed a writing activity under the name of Text Map. Students transformed a visual text into a written one. For example, students used visual prompts to support them to write a letter for Mother’s Day with text map. It was clear the students were happier and more willing to do these activities than typical reading and writing activities.

#### *The data from interviews in Turkish and English schools*

During interviews, the staff revealed that they believed their students had good visual processing skills and these activities are fun and exciting for them.



Therefore, according to staff, doing reading and writing activities with text map was easier because the students became very willing. Therefore, they believe it is a good intervention for improving social, communication and academic skills such as literacy.

#### **5.2.3.7.3. Family Project**

##### *The data from observations in Turkish and English schools*

The aim of the family project was to integrate family into school, increase awareness about the education of the children with autism and maintain practices at home as far as possible. So, the parents did not only observe the activities. They became a part of the activities. The observations showed that the project included 4 stages in which students staff and family members took part (1st: play therapy, 2nd: occupational therapy, 3rd: music in play therapy and 4th: play therapy) (See Appendix 13).

It was also observed that not every family attended the project; there were more families who did not attend than those who did attend. Staff said that they explained about the process to parents by phone and parents can visit the school at any time to join their classes when they have a free time.

##### *The data from interviews in Turkish and English schools*

During interviews, the staff believed that the family project was very useful because they believe it supported children's development and education at home. Moreover, ESEST3 who was one of the practitioners stated:

*"This practice is based on New Zealand and we base the same practice to apply it. Even though this practice is set up on a family concept, interventions*

*are used together in this practice and a student is exposed to an intense intervention in a certain time interval. This is helpful for the child's development."*

Staff also generally said it improved their relationship with parents because the families are included in the project and they were able to talk to them about the project by gathering them together. They also shared their ideas with each other about future practices.

Despite these benefits, staff said some parents could not attend the project because of their busy schedule. Despite this negative point, staff expressed that the project is still helpful for the students even if parents do not attend. ESEST3 stated:

*"In the family project, children's attention skills are improved because of consecutive interventions. Improving this skill is so important because it is a first step into social and communication skills development and this develops expressive language and social interaction."*

#### **5.2.3.7.4. Intensive Teaching**

##### *The data from observations in Turkish and English schools*

For students who have complex conditions in only Class 1 (O1), there was a set intensive lesson, including different activities (six steps and each step lasts around 15 minutes) used for improving social, communication, motor skills and academic skills without breaks. During O1 in Class-1, there are three rooms and staff separately follow one-to one teaching approaches with a child. The set lesson consists of different activities by different staff (See Appendix 14). Each activity is the same for all children with autism in this class. However, staff made some changes within the practise according to the students' ability level. Similarly, stories were selected according to the ability of the child. During

observations, for example pictures in the stories were discussed with the students that could not yet read.

During the whole process, it was clear that the time was very structured. A TA explained:

*“We work with all students respectively for a certain time. One student works with 5 to 6 staff. For this reason, we have to structure the time. Otherwise, the other students’ work will suffer.”*

However, the observations showed that this approach was often ineffective because the students could not always finish the tasks and needed extra time which was not available. In some cases, where time was running out staff did the task for the child.

#### *The data from interviews in Turkish and English schools*

The staff stated that this intensive teaching approach was only used in Class-1 (O1) with children who have complex needs because they believe these children needed a very structured timescale.

#### **5.2.3.8. The Interventions used in only English mainstream schools**

Topic based learning and incredible 5-point scale were only used in English Mainstream Schools.

##### **5.2.3.8.1. Topic based learning**

#### *The data from observations in Turkish and English schools*

Topic based learning was only used in EMS1. Students focused on the same basic subject area during lessons for a term. This approach was the same for all

students in this school. The staff in EMS1 believe that focusing on only one thing increases student's efficiency.

During the observation period in the school, lessons centered on 'donkeys'. For example, exploration of different countries involved learning about how donkeys were used in different parts of the world. The topic included reading and writing about donkeys and mathematics lessons used images of donkeys and problem solving including donkeys.

### *The data from interviews in Turkish and English schools*

During interviews, the staff explained that topic-based teaching was meaningful for children's learning. All the staff called this the "Donkey Project" and indicated that they teach lessons according to a topic that is selected at the beginning of the semester. EMST4 stated:

*"Every term the whole school has to choose a project-based learning topic. So this topic is for whole school, not only our children."*

EMST1 stated:

*"I think it is useful because our children focus on the same basic point during term. Focusing on only one thing increases their efficiency."*

Similarly, EMST2 said:

*"I think working around the same concept is more efficient for them."*

EMST4 described such a benefit by explaining the previous topic:

*"With the previous topic "buildings", we focused on the story of the three little pigs and we looked at different materials to build houses for them. So we did*

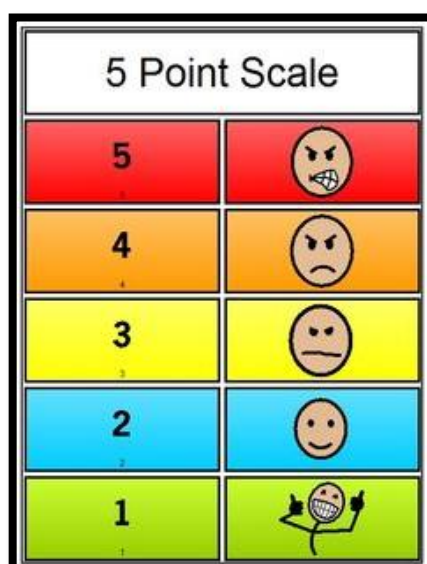
*buildings with them and then moved on to habitats. We look at animals in England, animals in South Africa and compared them. Namely, we looked at the topics by selecting a concept and extending it. I believe it's just building their skills in investigating and drafting and creating."*

All of the staff expressed that they did not select the topics randomly, but had a specific objective or interest the children could relate to in mind. For example, they stated that the reason for the "Donkey Project" was because students visited a donkey sanctuary (See Appendix 12.2) every week and they could, therefore, be encouraged to use their own pre-information about donkeys.

#### **5.2.3.8.2. Incredible 5-point scale**

##### *The data from observations in Turkish and English schools*

In only EMS2 staff used the 'incredible 5-point scale' for relieving anxiety in their student with autism. This scale has 5 levels of anxiety and it is presented as a visual aid (See Figure 28).



**Figure 28.** Incredible 5-point scale

During observations, it was clear that although this worked well when students were unhappy, it did not work for the students when they became angry or aggressive.

*The data from interviews in Turkish and English schools*

During interviews, English staff said this scale was useful for understanding different feelings and managing their emotions. According to EMST5:

*“This is helpful to understand feelings. We show this scale to our students and they look at this and read it. Therefore, they can understand different feelings. For example, if we observe that our children don’t feel fine and have any problem with anxiety, we show the scale to the child. Therefore, the children can try to control their feelings”.*

Reflecting on this intervention the staff felt that it could work, but it depends on the child’s level of understanding. Also, staff believed that the scale had the potential do help the children understand not only their own feelings but also those of others.

## CHAPTER 6. DISCUSSION AND CONCLUSION

This thesis explored the following research questions:

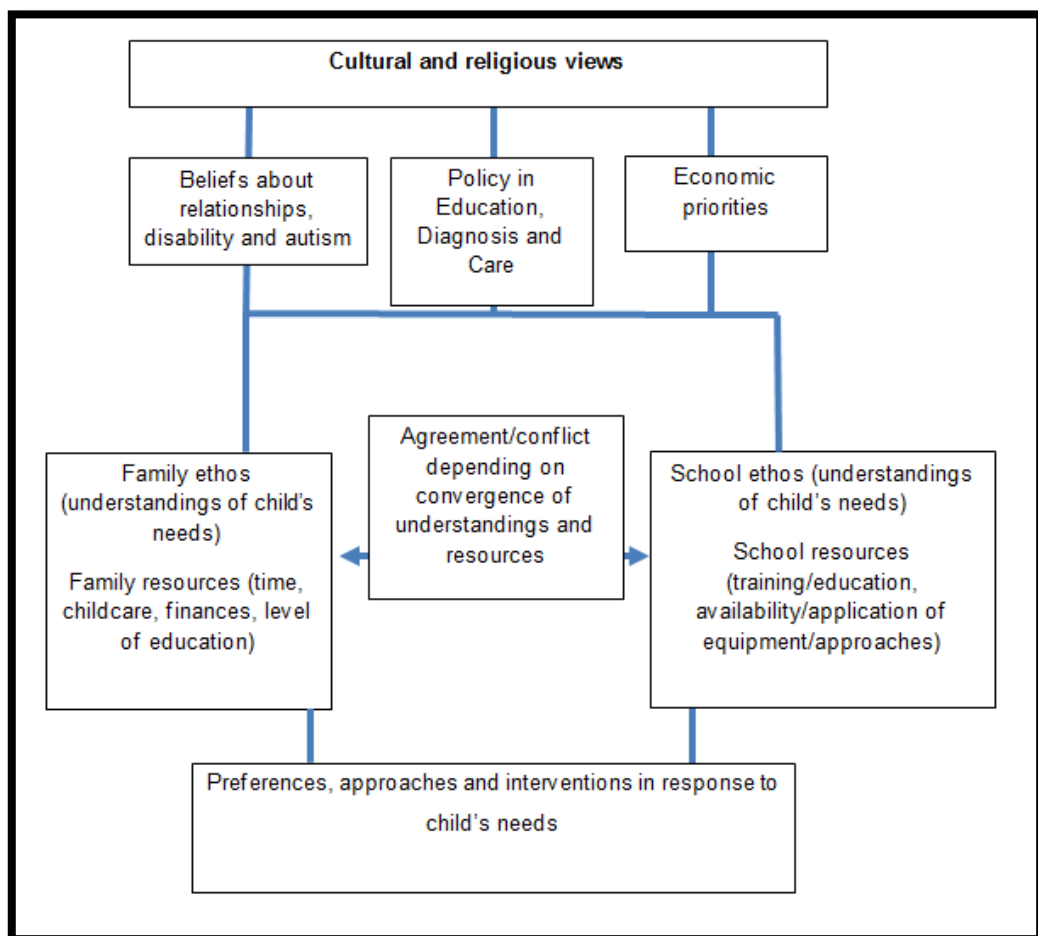
1. Are there similarities and differences between interventions used to support children with autism in the two settings?
2. Are there similarities and differences in views and beliefs about autism expressed by parents, teachers and clinicians in the two contexts?
3. If there are similarities and differences how are these linked to concepts of Interpersonal Relatedness within and between cultures

**For research question 1:** Are there similarities and differences between interventions used to support children with autism in the two settings?

The data revealed that Turkish and English schools reported using many similar interventions to improve their students' skills. There was also overlap in the general ideas and beliefs about interventions in the two countries. Despite these similarities, English schools used a greater variety of interventions and practices than Turkish schools. It was also clear that there were some differences in the interventions used in Turkish and English schools as well as differences in how common interventions were understood and applied. Francis (2005) suggests that choosing interventions for children with autism is difficult for professionals because it involves consideration of interventions based on five key points:

“(1) whether or not its rationale is in accordance with current understandings of ASD deficits; (2) its possible negative effects; (3) the training and experience of autism among professionals involved; (4) the impact of the proposed programme upon the family (concerning time, functioning, relations, and finances); and (5) the supporting evidence for its effectiveness” (Francis, 2005; p.498).

Francis’ work is useful here in highlighting how the issues identified in the current study converge to influence the interventions provided. I add to Francis’ work in that the current study also includes consideration of cultural and religious norms as influences on beliefs about relationships, disability in general and autism in particular. Hence the model I propose may be conceptualized by Figure 29.



**Figure 29.** Influences on interventions applied



There were fundamental views about intervention that were common to both countries. Firstly, similar to former researchers (Paul, 2008; Wang & Spillane 2009; Dawson, 2008), staff in both contexts believed that children with autism could benefit from intervention. Not all interventions were valued, however. For example, as suggested by Roth, Barson, Hoekstra, Pasco, & Whatson (2010), Turkish and English staff believed that pharmacological interventions including medicines and drugs were not a solution for children with autism. Staff in both contexts also agreed with research highlighting the fact that autism is a complex spectrum condition (Schwartz, 2014) and children with autism are unique from one another (Rajalakshmi, 2014). Because of this, the impact of any given intervention and the children's responses to interventions are not the same for each child. Similarly, Huijnen, Lexis, Jansens, & de Witte (2016, p.2104) support this idea:

*“Professionals stressed that each child with autism is unique and an enormous variety can be seen between the needs, capacities and challenges of these children”.*

As a consequence, Turkish and English staff believed that following an individual plan is the best way forward for their students.

Despite these similarities a variety of differences in belief, application and intervention emerged. The perceived needs of the children based on their severity of symptoms and academic capability played a part in the choice of intervention. Again this fits well with Francis' model (Francis, 2005). Despite efforts to match the schools the children in English schools had less severe symptoms. One reason given for this was the shortage of clinicians and the consequent placement of children in inappropriate settings. Another explanation

centered around the goals of the interventions used. In England, the staff's first aim was generally based on academic skills and then improving social skills. However, in Turkey, the staff generally focused on improving communication skills, and then social skills. For some staff in Turkey, particularly in Turkish special education schools, improving academic skills was not among their teaching aims. This approach was often explained by reference to the child's lack of capability to engage academically. Another explanation stems from religious and cultural views about disability, which suggested a fatalistic approach to the abilities of the child and a need for kindness rather than challenge in interventions. Related to this, Turkish schools often emphasized the importance of developing communication skills which may have been linked to a cultural emphasis on building and maintaining harmonious relationships. For example, in England social stories were used, as designed (Gray, 1998) to develop social skills of children with autism (Gray, 1998). However, in Turkey, many staff emphasized the use of social stories to improve communication skills. In terms of the perceptions of the staff the common aim was to meet the needs of their pupils.

Although Turkish and English staff similarly believed that individual teaching should be followed in their class, their teaching approach differed. Interventions were generally used during group work in England, despite the students having an individual educational plan. In Turkey, the interventions were generally used for individual children and the staff used only one-to-one teaching. Explanations for one-to-one teaching in Turkey centered on the needs of the children and the severity of their symptoms. One consequence of this approach was that in Turkey, the students spent less time with their peers than English students. This approach also highlights a difference with regard to the perceived benefits of

peer education. In the English schools, for example, group work was seen as an opportunity to develop social and communicative skills whereas in Turkey the staff believed the children could learn more from one-to-one sessions with the teacher. Turkish staff also believed that their students should not work together because the students would learn undesirable behavior from each other. With regard to peer education, Turkish and English staff stated that it is vital to select students for peer education who are at similar ages and with strong communication and social skills. However, this was a difficult for the Turkish special schools as their students were quite homogeneous in their lack of socio-communicative skills. The English school system tended to support the use of peer education as there was more variety in the social and communicative skills of their pupils. This problem was combated in Turkey by allowing children from special provision to have some classes with typically developing children and the staff reported this as having a positive impact on their students' social and communication skills. This approach is known to be used in the UK in some schools as well and is more in line with what we might call an inclusive system where different schools within a community work together to provide the best educational experience. However, some English staff in the current study believed that this approach could have negative consequences such as aggression between typical children and children with autism. On balance the Turkish schools were more likely to engage in interventions which relied on community cooperation and this may have been encouraged by the emphasis on collectivism and relationships which appeared embedded in Turkish culture.

Also, it was clear that the staff perception of the children's condition and potential to achieve affected staff willingness to learn about and apply new interventions. English staff were more motivated to try new interventions, partly

because they felt their pupils had the academic potential to access the intervention. The availability of training and equipment also influenced openness to new ideas. In Turkey staff expressed concern that the pupils may not respond to new approaches. They also expressed a general sense of feeling unsupported and inadequate in their role. This may have an impact on the progress of the pupils as teacher motivation is very important in the maintenance of high quality education, because the level of their motivation directly affects their student's outcomes (Alam & Farid, 2011).

Turkish and English staff similarly believed that they should have interventions to improve their students' life skills. However, they described very different ways of achieving this aim in the interviews. In Turkey, there was a strong emphasis on experiential learning within the community as an intervention. Turkish staff strongly believed that it was important for their students to be in contact with people and have real life experiences such as visiting shops, cafes or the cinema. Staff valued what their students could learn from engaging with other local people about how to fit into society. This seemed to connect with a cultural drive to build relational harmony between members of a community. In England, although staff stated that experiential learning outside of school was potentially beneficial they did not use this approach. Explanations largely centered on policies which encouraged safeguarding and bureaucratic hurdles regarding health and safety. In general a societal emphasis on ensuring the safety of children was seen to override the potential benefits of venturing beyond the school gates. On the other hand, in English schools, the staff used activities within school to improve life skills. The English schools looked like a home where there were kitchens, washing machines, gardens etc. and the students used these facilities to learn everyday skills. The Turkish schools did not have

these kind of resources and the staff saw this as a barrier to effective learning. According to Okongo, Ngao, Rop, & Nyongesa (2015), teaching and learning resources should include:

*“satisfactory or acceptable quality and quantities of material resources, physical facilities and human resources”* (p.134).

In 1996, Oliver pointed out, that if the education system does not have the necessary resources, students who need special education will fail. Currently, this idea is supported by Cheryan, Ziegler, Plaut, & Meltzoff (2014) who agreed that resources are important to students' success in any educational environment. Despite all staff agreeing that resources are needed, Turkish schools have more problems in terms of teaching and learning resources than English schools. On the other hand Turkish schools have a higher ratio of teachers to pupils allowing for one-to-one teaching for children with autism. The comparison of interventions to support daily life skills in the two contexts highlights how cultural beliefs, policy, economics and consequent availability of resources shapes practices within schools and the interventions that children receive.

Turkish and English staff similarly said that their students felt they were in a flexible relaxed environment at their schools. Staff in both contexts believed that this is one of the key factors to increase the positive effects of interventions for the students. The concept of 'being flexible' has a different meaning in Turkish schools. It was clear that in English schools flexibility was linked to the idea of using play during interventions. Despite Turkish staff believing that learning through fun is necessary and crucial to their students' learning, it was much more limited in Turkish schools than English schools. Therefore, the students in

English schools felt the environment was more flexible and relaxed than Turkish students. For the Turkish staff flexibility was described as the ability to rapidly change approaches and interventions to suit a student and make them more comfortable.

The kind of flexibility valued in Turkish schools was not preferred by English schools. They created a much more structured educational environment and teaching programme than Turkish schools. Interventions (e.g. TEACCH, rewards system, topic based learning, incredible 5-point scale) supported this perspective at English schools. Therefore, in English schools, following a structured timetable and the term plans was very important. Also, it was clear that time-keeping was important in England. Intensive teaching is a good example of strict time-keeping. The pupils had timed structured activities and had to move on to the next activity even if they had not completed the given task. However, in Turkey, learning the skill is more important than keeping to a planned structure. The English staff worried about achieving the term plans and straying from the structured sessions. Whilst the emphasis was strongly on academic skills, the children with more severe symptoms often fell behind. Consequently, effectiveness of the interventions was negatively affected in English schools for the children who have complex conditions.

Training was another factor influencing practice (Francis,2005). Staff training differed in Turkey and England. In Turkey, all staff are trained teachers and all of them have training in special education. However, in England, there are many teaching assistants. Even more than teachers and many of them do not have educational training. Therefore, it is clear that Turkish staff are more educated than English staff when starting work at their schools. However, their

training is very limited after starting working life. Many Turkish teachers have not had any training after graduation. On the other hand, in English schools, the staff continued to improve their skills by having sessions run by experts in autism and therapists. In England the level of training was dependent on the financial situation of the school, but all had some continued professional development.

Turkish staff explained that their lack of continued training was a barrier to updating their professional skills affecting the interventions they could offer. On the other hand, in English schools, the staff particularly believed that their schools supported them to learn about therapies and how to use them with the children. Turkish staff tried to acquire some knowledge and skills about therapies, particularly to improve communication skills, by their personal efforts although they believed that therapy should be provided by visiting experts. This adhoc learning meant that many Turkish teachers incorporated therapeutic activities into their teaching which were similar to English practice, but they did not call these approaches therapy. In both contexts financial constraints and priorities in policy influenced the skill base of the staff in different ways.

**In response to the second research question:** Are there similarities and differences in views and beliefs about autism expressed by parents, teachers and clinicians in the two contexts?

The data revealed that there are some similarities and differences in views and beliefs about autism expressed by parents, teachers and clinicians in Turkey and England. Despite some similarities, it was clear that culture impacted on

Turkish and English people's ideas about autism resulting in different beliefs in the two contexts.

The clinicians, who officially assess children with suspected autism in Turkey and England, knew of the Diagnostic and Statistical Manual, version 5 (DSM-V) and referred to DSM-V when diagnosing autism, although they also use other criteria such as CARS (by Turkish clinician) and ICD-10 (by English clinician). DSM-V describes the criteria of autism diagnosis and is used by professionals around the world, although it is produced by the American Psychiatric Association, which is a national professional association in the United States (American Psychiatric Association, 2013). Turkish and English clinicians believe this guidebook is well accepted and reliable. Despite this, Turkish and English clinicians all claimed that the criteria for autism diagnosis still needs to be improved because they said that DSM-V only provides general guidance and criteria for diagnosis of children with autism. Clinicians in both contexts stated that they also use their clinical experience when diagnosing autism. It was clear that clinicians in both contexts used their own beliefs about autism, experience and their own clinical judgements to interpret the criteria and make a diagnosis. For example, some clinicians in both Turkey and England said that poor eye contact was not a useful criteria for children with autism, although it is a criterion in DSM-V (American Psychiatric Association, 2013). This is because they said that there are some children with autism who have good eye contact according to their experience. However, some of them said that lack of eye contact was one of the most specific and helpful criteria for them when diagnosing autism. Hence there were differences of personal opinion regarding the symptoms of autism within both England and Turkey.



The data from clinicians and from the schools suggested that the children diagnosed in Turkey had more severe symptoms whereas there was more of a range of severe to mild symptoms in England. Unfortunately there is very little information about the prevalence of autism in Turkey. It was clear however that it was difficult for families to see clinicians as there were so few of them in Turkey and it could be that only relatively severe cases reach the point of diagnosis. Another possibility is that the English clinicians made distinct diagnoses for intellectual disability and Autism Spectrum Disorder. The Turkish clinicians seemed, however to expect autism to involve intellectual impairment. The English clinicians were more likely to refer to concomitant mental health problems among the children with autism. Interestingly staff in Turkey reported that children diagnosed in England and described as 'high-functioning' would not be diagnosed in Turkey. This suggests that clinicians in Turkey may be less quick to diagnose borderline, more able children as they feel they can be accommodated (fit in) to Turkish society and are not seen as atypical. This finding has important implications for how we understand the application of diagnostic criteria largely developed in the west in other less independent cultures. For example the diagnostic criteria is a set of statements which will be interpreted according to cultural context. In interdependent cultures this may mean that difficulties children face are seen as the responsibility of the whole community and only when the community cannot effectively adapt to accommodate children will the issues they present be seen to be problematic for everyone. This is very different to comparing the behaviour and achievements of a child to what is believed to be the 'norm' and seeing any deviation as evidence for problems which reside within the child and need to be labelled and addressed. Ultimately it is necessary to question the assumption

that western diagnostic criteria can be usefully employed within or across cultures. We cannot be sure, for example that differences in prevalence or rapid increase in cases among some groups are not due to very different interpretations of what are effectively subjective criteria. Furthermore, when considering the study data from the perspective of Turkish teachers and clinicians the conclusion may be that there is a degree of misdiagnosis or over-diagnosis within western cultures. This study also hints at questions around the validity of global interpretations of the nature of disability. Children's behaviour, strengths and challenges are viewed within a cultural context and what may seem problematic in one culture may be celebrated, accommodated or accepted in another.

There were also differences among staff in the two contexts in interpreting secondary features of autism such as unusual perception or attention. For example the English staff referred to Weak Central Coherence Theory (Frith & Happé, 2006) to explain attention to minor details and inability to see the bigger picture. Turkish staff referred to perception more in terms of understanding and concentration and described the children's lack of responsiveness during lessons as evidence.

Similar to clinicians, all staff in the schools referred to DSM-V when describing the symptoms of autism in Turkey and England. Staff in both contexts had very limited or no knowledge of the specific criteria in DSM-V, however, and their understanding of autism came from their experiences. Some symptoms referred to were specific to the context. For example, staff in Turkish schools stated that 'being lazy' was a typical behaviour of children with autism. It is clear that this was not among symptoms of autism in DSM-V (American Psychiatric

Association, 2013). Turkish staff explained that this problem was very common among Turkish children with autism because of parents' attitudes. Specifically Turkish parents believe that their children cannot do and finish any task in their daily life and they become sad when they try to do it.

In England and other western countries parents and teachers often report regular severe tantrums or meltdowns among children with autism. The teachers and parents in the Turkish city did not report this as being a common problem. In England 'Meltdowns' are increasingly thought of as being characteristic of autism but the data from the city in Turkey calls this assumption into question. We can only speculate as to why the children in the Turkish city did not have meltdowns. It could be that the experiential, community based approach avoided the negative cycle that many parents in England report. They are anxious about their child having a meltdown in public, the child begins to get anxious and a meltdown develops. The parents experience being helpless and judged by others and are unable to respond effectively to the outburst. In the Turkish city the schools often took the children out into the community and helped local people to understand their condition. Turkish parents believed that other people would be more likely to help them rather than judge them in such a situation. Hence, the family could be more relaxed, feel more supported and better able to respond appropriately to their child's emotional state before a meltdown occurred. This community approach was an on-going aim in Turkish schools and the staff explained that they often took the children out of the school environment and worked hard to extend knowledge of autism and the children's symptoms

and needs within the community. There was a significant difference in this regard between the Turkish and English contexts.

Although low mood and crying are often associated with autism (Barton, Reichow, Wolery, & Chen, 2011) accepting negative emotion in their children is not easy for Turkish parents. This is because the parents generally feel guilty when their child is upset and do daily tasks for them to avoid sadness and frustration in the child. Hence children with autism become used to doing very few self-care or everyday tasks. The guilt of the parents is culturally and religiously informed. Parents in Turkey believe they have a duty to do whatever they can to support a child in daily life who has problems so that they can be happy. Failure to carry out this obligation results in guilt. This has been described in other interdependent cultures (Kitayama, Mesquita & Karasawa, 2006). Educated teachers recognise this view but they are also bound by educational policy and more international opinions of autism care. This can lead to conflict between staff and parents as parents do not support or maintain what the child has learnt at school. Some parents have problems with the staff because they believe that their children are being made unhappy because of the staff's teaching. There is more agreement in English schools between parents and teachers in that both believe that the child may become upset at times when learning new skills but their overall achievement is more important.

It is difficult for people with an independent orientation to understand interdependent culture, but it is important to grasp that Turkish parents often do not see their children as distinct or separate from themselves. The key aim is for connectedness and relational harmony within the family and between the family and key others. Associated with this world view is a lack of emphasis on

individual achievement or potential. (Markus & Kitayama, 1991). Turkish parents often struggle to understand that the staff are working to improve the skills of their child especially if this is perceived as creating relational discord. An important point here is that the Turkish family may feel that everything that needs to be done in their everyday life is a collective task. Hence if a child has problems getting dressed and becomes upset, someone else in the family can do this task for them and relational harmony can be maintained. Within schools pressures related to global agendas around inclusion, education and intervention for children with special needs influence what staff are expected to do. This can place them at odds with dominant cultural and religious views. However, when talking to parents and the staff in English schools, parents' reaction showed that they clearly believe their child is a separate person. The contrast between these contexts is the emphasis on supporting communal connection, where everyone 'fits in' and supporting independence where everyone realises their individual potential.

Despite the commitment of Turkish staff to helping students realise their potential their overall approach to the children encapsulates conflicts in beliefs about autism care. In a similar way to Turkish parents, they are very attuned to their student's emotional states and find it difficult to manage when a child becomes upset or sad. For example, Turkish staff generally do not discipline children to stop unexpected behaviours as they wish to avoid making them sad. On the other hand English teachers actively discouraged unwanted behaviour regardless of the child's feelings about being disciplined.

Beliefs associated with relational harmony and interpersonal relatedness also influenced broader school policy, for example, Turkish and English staff

believed that autism awareness should be improved in their society, but this idea was approached very differently within the schools. Autism was often clearly explained to the children in English schools and the staff often said you are child with autism to their students. However, Turkish staff were reluctant to call pupils a child with autism because they believed that the children may be upset and feel that they are different from others in society (Markus & Kitayama, 1991). The locus of change in school was seen as the child themselves. The child was taught to develop skills so they could cope within society and have awareness of their own condition. In Turkey the emphasis was on the children being part of a community and supporting the community to help the children 'fit in'. Turkish people try to be extra helpful, supportive and kind to children with autism. For example, in Turkey, learning with typically developed peers is very usual and common for children with autism because typical children are very helpful towards them and they feel this is their social responsibility. This comes from 'autism awareness' because their teachers or parents talked with them to do this but it is also derived from cultural/societal beliefs in Turkish. On the other hand, in England, peer education is difficult with typically developing children because these children do not believe that they need to help their peers with autism in their society. In fact being extra kind or helpful may be seen as patronising or demeaning.

Another reason for attitudes towards autism in Turkey stems from Islam. Religion is a powerful influence on belief especially among families of low socio-economic status in Turkey. Some families believe that they should accept the child as they are and be extra helpful, supportive and kind to children with autism (and other perceived disabilities) because God has sent them this child with these problems to deal with. These families often display an accepting

calmness even when their child's symptoms are very complex. Whilst some families in England are also Muslim, this religion is not common in the area from which the English participants were drawn and religion was not referred to by participants as a major influence. The quantitative findings similarly show that both Turkish and English parents felt they had primary responsibility for their child's future, but while English parents are more likely to feel that others often control what happens to their child. Turkish parents are more likely to believe that aspects of the child's life cannot be changed.

There was some interview evidence that parents in Turkey who are from lower socio-economic groups may be more religious and traditional in their views regarding autism than those from higher socio-economic groups. The question of social class is a complex one, which is beyond the scope of this thesis but deserves further investigation. It may be, for example, that lower socio-economic status is associated with more interdependent orientation in many parts of the world including both Turkey and England. In both of these contexts lower social class may be associated with continuing links with extended family and less acceptance of cultural and social change. The available literature is limited, but suggests that in a variety of cultures higher levels of education and higher social class status are associated with increased independence in orientation and a greater involvement and acceptance of aspects of cultural and social change away from more traditional values and ways of living (Hamamura, Xu, and Du, 2013). In non-western countries such social change may involve becoming more industrialised and more "westernised". Consequently, among educated higher social classes there may be a move towards western individualistic ideals.

**In response to research question 3:** If there are similarities and differences how are these linked to concepts of Interpersonal Relatedness within and between cultures?

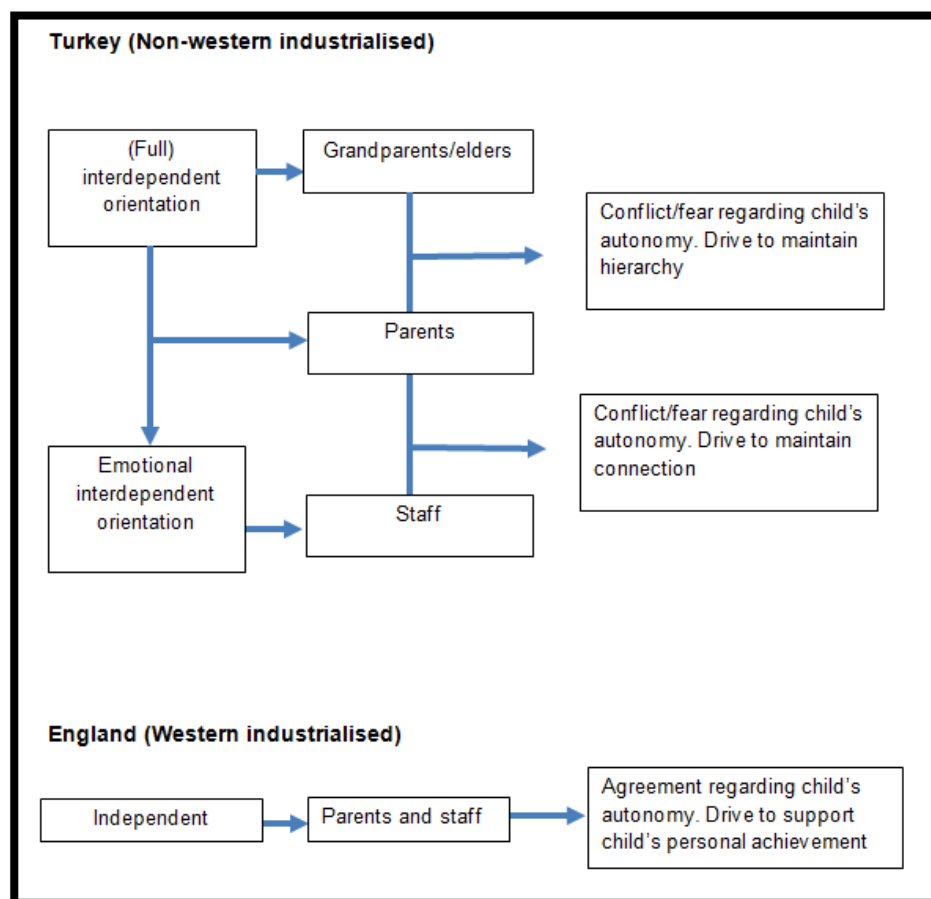
Studies of western and non-western cultures suggest that Western cultures are characterised by an independent orientation where the self is seen as being distinct from others and value is placed on uniqueness and the achievement of personal goals. Non-western cultures are more likely to have an interdependent orientation where the sense of self is seen as relational, 'fitting in' is valued and personal goals are subordinate to relational harmony. Hence an interdependent orientation tends toward goals which encourage social connection and conformity. Independent goals tend to encourage individual achievement and efficacy (Markus and Kitayama, 1991, 2010). Whilst overall patterns of orientation are widely reported, societies are complex and dynamic and members are likely to display varying levels of interdependence/independence. In the current study, the quantitative data showed that the Turkish parents were significantly more interdependent in their outlook than the English parents, but there was also variation in the degree to which individuals showed an interdependent or independent orientation. We should, however view these findings with some caution. As discussed previously the two cities under study may not be representative of the whole country. The English city differed from other English cities in that it was less ethnically diverse. Generalisations regarding the Turkish city may be more acceptable as it is similar in levels of diversity compared to other Turkish cities of a similar size. The quantitative data confirmed, however, that for the two cities Turkish parents were significantly more interdependent in their goals for their child compared to the English parents. The qualitative data supports this



finding and also adds important information especially with regard to Turkey. Firstly the data suggests that interdependent/independent orientations differed between staff and parents in Turkey and that this was a source of some conflict whereas in England there was more agreement with similar independent orientations amongst both parents and staff. Secondly the information from Turkey suggested some conflict between generations in Turkey with grandparents being more hierarchical and interdependent than parents. These varied patterns of cultural orientation influenced the care of the children with autism both at home and at school. In explaining the findings Kagitcibasi's (2007) family change theory leads to some insights.

Kagitcibasi suggests that families are subject to cultural change due to globalisation and industrialisation which leads to changes in material and emotional connections across generations and informed by levels of industrialisation. The result is the development of one of three family multi-level models. In western cultures families tend to have an independent orientation which is characterised by emphasis on individual autonomy, goals and motivations and material and emotional interdependence is not emphasised. Non-western cultures include families with either interdependent or emotional interdependence models. Interdependent models are often found where modernization processes have had minimal impact. Strong material and emotional interdependencies are emphasised in this family model, and personal autonomy is not valued. The 3<sup>rd</sup> model can be seen as a transitional model where material interdependency and hierarchy are deemphasised but emotional interdependence remains. In this model personal goals and motivations are seen as necessary for entry into the modern world and autonomy is not seen to threaten emotional connections.

The findings from this study would suggest that the staff in Turkish schools fall into this third category in that they work to develop the children’s autonomy and support the achievement of personal goals yet retain traditional cultural emotional connections with the children. This places them in conflict with parents and particularly grandparents who retain a more hierarchical and less transitional interdependent approach. This conflict does not occur in England where staff and parents share an emphasis on autonomy and individual goals for the children and themselves (See Figure 30).



**Figure 30.** Model of findings based on family Change Theory

Evidence of conflict between parents and staff in Turkish schools is mixed possibly suggesting that some families are more interdependently orientated than others. In some cases the conflict over autonomy in the child and refusal to maintain interventions at home causes irresolvable differences. In other cases the parents retain a very strong emotional interdependence with staff. For example some teachers attend the homes of Turkish families for meals or go on social outings with them. Other instances include parents calling staff at weekends to ask if they will spend time with their child.

Turkish families but not English families reported that conflict occurred between parents and grandchildren. For example even if parents agreed to maintain interventions at home, grandparents often vetoed this decision and told the parents to stop. In England it was felt that grandparents did not have this power. Many studies suggest that cultural change has a large effect on respect given to older people (Streib, 1987; Palmore, 1989; Simic, 1990; Silverstein, Burholt, Wenger, & Bengtson, 1999), but that non-western cultures remain largely hierarchically structured (Trommsdorff, 2006).

The difference between Turkish and English family structure also show that children with autism in Turkey spent more time at home than English peers because of their family beliefs and situation. The data suggested that some parents in Turkey and England were ashamed of their children's behaviour when they go out and they were worried because of the reactions of others within society. In England parents tend to spend time with their children outside of the home despite others' ideas or reactions. This related to the family structure. In England parents often find it difficult to get babysitters who are prepared to care for their child so they can go out alone. However, in Turkey, the parents can quickly find people such as member of their extended family, or

one of their neighbours who can look after the children at home when the parents are away. Consequently, due to the cultural and social structure, Turkish children spent more time at home. The extended family did provide opportunities, however, to extend socio-communicative skills and meet with a variety of individuals with different perspectives. The quantitative data also suggested that in Turkey the extended family provided strong support for children and parents at times of need. All parents in England and Turkey believed that their wider family cared for them and understood their situation, but they also experienced criticism and demands from family and friends. Turkish parents were, however, significantly more likely to be able to discuss serious concerns and elicit support from wider family in times of crisis.

Although Turkish children spent more time at home outside of school, they spent more time in the community during school hours. Turkish staff believed this was beneficial for children's everyday skills but also for parents and the community in general. The overarching goal as described previously was for the community to learn from these off-site visits so that the children could fit in. Related to this staff aimed to reassure parents that the child would be able to go to cafes, cinemas etc. Hence an interdependent perspective led to the locus of problems and solutions being within the community rather than the child.

The staff in Turkey and England similarly believed that maintaining a strong relationship between parents and schools is important to effectively employ interventions, but in Turkey this was more problematic. In England, parents are a part of the schools whereas Turkish parents generally tend to be passive and do not spend so much time at the school. This negatively influenced the effectiveness of interventions because the Turkish parents did not know how to

use the intervention and could not support the students at home. However, in England, the parents often visited schools and actively did activities with the children in the classroom. The quantitative data revealed, however, that English parents were significantly more likely to feel that what happened to their child was controlled by others, suggesting that although they had regular contact with the school they did not feel they were able to influence their child's care and education.

English schools use different ways to invite the parents in to schools and they encourage them to visit. In Turkey, visits are very limited and they generally just talk about the teaching process. Parents generally come to Turkish schools if the schools invite them. However, in Turkey, it was more common for Turkish staff to maintain relational connections by visiting their students at home. In these visits the focus was on maintaining relational harmony and connection rather than academic goals or training in interventions.

Turkish and English staff believe that they should have a good relationship with their students. In England, the staff believe this is their job and they should be close to the children because it is their responsibility. In Turkey, it is more than a job and they are emotionally closer to their students. Some of the Turkish staff regard their role as similar to a parent with similar emotional connection to the pupil. Because of this, in Turkey, the staff are also interested in their students outside of school. English staff show that they care for the children in order to promote a warm atmosphere in school because they believe this will help students adapt to school life. On the other hand, Turkish staff do not want to show that they care for the students and try to maintain a professional environment. This is because the atmosphere of English schools is much more

professional than Turkish schools and English staff wish to counteract this in order to create a more homely atmosphere. However, the relationship between the staff and their students is spontaneously warm in Turkish schools. In this case the Turkish staff try to balance their emotional connection by creating a professional environment where interventions can be applied in a structured way. This is a good example of what Kagitcibasi (2007) describes as emotional interdependence. The school aimed to support the children's autonomy and personal goals, but at the same time emotional interdependence was maintained. This observation also links to studies showing that interdependent orientation in Turkey is evolving over time. For example Kagitcibasi and Ataca's (2005) study shows material aspects of cultural interdependence have declined over the last three decades but that emotional interdependence has become increasingly important, particularly emotional interdependence between carers and children.

Despite Turkish and English professionals believing that they should have strong relationships with other professionals including clinicians, the relationship among teachers and other professionals is limited in Turkey and staff very rarely meet clinicians. On the other hand, English professionals have a good relationship and learn from each other, thereby supporting the development of interventions and approaches. Therefore, parents, schools and clinicians support children by working from similar perspectives. However, in Turkey, parents, schools and clinicians do not work together effectively and parents often try to convey information between staff and clinicians who may have very different perspectives. Again this situation may be influenced by processes of change in Turkish society. Whilst there is a move towards professionals working together to support the needs of the children, this is culturally, economically and

logistically difficult at this time. Clinicians and other professionals are often unavailable or expensive. In addition, priorities for families may centre on the people working with their children maintaining emotional interdependence rather than disconnected professionalism making communication between clinicians, parents and schools problematic.

## **CONCLUSION**

The key findings of this study show that both English and Turkish schools have strengths and challenges in the way that they care for children with autism. Key areas of similarity between Turkish and English schools and their staff centre on their commitment to improving the outcomes for children with autism. Key differences centre on structure/approach to teaching and involvement of family and community in the education of the children. Cultural orientations and societal priorities and resources were found to influence the care and education that children receive in school and the relationships between families, schools and other professionals. This study explored a limited number of schools in Turkey and England. Further work is needed to explore schools within other cities especially where cities include ethnic minorities. Further work is also needed to explore the prevalence and severity of symptoms of children with autism in Turkey compared to other parts of the world. Differences in the role of community in the education of children with autism in different cultural contexts should also be explored further.

## **Policy recommendations**

1-Turkish staff need further training especially with regard to interventions for children with severe symptoms

2-Turkish schools need improved buildings and teaching resources.

3- English schools should not be subject to pressure to keep to long-term plans where it impedes effective intervention especially for children with complex problems

4- English TAs need further training to reflect their role in the children's education

5- Teacher training in both Turkey and England should include more reference to teaching strategies for children with autism

6- Turkish staff need more Continuing Professional Development

7- Parent's in both contexts, but particularly Turkey need more training in using interventions at home

8- Bureaucracy in English school regarding community visits needs simplifying to allow for real life learning experiences

9- The SENCO role should be introduced in Turkey to increase autism expertise within schools and improve relationships between parents, staff and other professionals

10- Turkish parents should be invited to have a more active role within schools.



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## APPENDIXES

### Appendix 1. Participant Staff ' Background

TEACHER -1	This teacher graduated from primary teaching and participated in the certificate course during 60 hours to work in special education school. However, currently, teachers should have the course during 540 hours and the teacher does not participate in this course again. Because of this, she will work in another school as a primary teacher.
TEACHER-2	This teacher has been working with children with autism for 14 years. She graduated from primary teaching and then had a course during 2 weeks. However, to be continue to work at special school, she currently finish extra course and she had 540 hours training.
TEACHER-3	This teacher was a primary teacher and then the teacher participates in 540 hours course. The teacher has been worked in special education school with children with autism for 3 years.
TEACHER-4	This teacher graduated from Mentally Disabled Teacher Education, so the teacher does not need any other certificate to work with children with autism. This teacher worked at special education and rehabilitation centre during 7 years. And then, the teacher has been worked in state-school for 3 years. Totally, she has 10 years' experience with children with autism.
TEACHER-5	The teacher was a primary teacher in Turkey and then the teacher has a 540 hours certificate course. The teacher has been worked with children with autism for 4 years.
TEACHER-6	This teacher graduated around less than 1 year ago and has been worked with children for 6 months. This teacher's department was Teachers of Children with Hearing Impairment for 3 years during teacher education at university. However, Turkish education system changed and my department called special education teachers. In last year, her modules are about Mentally Disabled Teacher Education. However, the teacher mostly has knowledge about children with hearing impairment. Although the teacher does not need any certificate to work with children with autism, she believes she has not enough opportunity to learn knowledge about autism.
TEACHER-7	This teacher does not need any certificate to work with children with autism because she graduated from Mentally Disabled Teacher Education. The teacher has been worked with children with autism for 12 years.
TEACHER-8	This teacher does not need any certificate to work with children with autism because s/he graduated from Mentally Disabled Teacher Education. The teacher has been worked with children with autism for around 4 years.
TEACHER-9	The teacher worked with typically developed children in primary school for 18 years. And then, s/he had a 540 hours- certificate and the teacher has been worked with children with autism for 4 years.
TEACHER-10	This teacher does not need any certificate to work with children with autism because she graduated from Teachers of Children with Hearing Impairment. Totally, she has 3 years' experience with children with autism.

**Table 25.** The participant staff's background at special education school in Turkey

TEACHER -1	This teacher graduated from primary teaching, but s/he has been worked with children with autism for 20 years. To work with them, the teacher does not need any additional training course or certificate. When work with the children, s/he finished a master degree about childhood autism.
TEACHER -2	This teacher graduated from primary teaching. She worked with early years children and primary school students in different schools for 10 years. In addition to school in the UK, one of them is international school in Prague. During this process, the teacher worked with children who have communication problems. During around 5 years, she has been worked with children with autism in special school and this teacher do not any certificate to work at the school. The teacher also has a postgraduate certificate of education about special education.
TEACHER -3	This teacher graduated from general earliest course and then s/he has been started to work with children with autism because of his/her interest. During 6 years, s/he has been worked with children with autism. At the same time, the teacher has a master degree about special education.
TEACHER -4	This teacher graduated from primary teaching. She has been worked with children for 3 years in the school. However, she has 6 years' experience with children with autism in different schools.
TEACHER ASSISTANT 5	The teacher is working as a teacher assistant and has not any educational background. She has been worked with children who have complex needs.
TEACHER ASSISTANT 6	The teacher is working as a teacher assistant. She got a degree in physical education with children and s/he got a NVQ in health and social care as well. The teacher has been worked with children with autism for 1 year.
TEACHER -7	This teacher graduated from development in health and disaster management. She dealt with poverty alleviation and refugee camp. And then, she had to do a PGCE which is a postgraduate certificate in education and that's over 1 year intensive course to work as a teacher to work as a teacher. S/he has been worked with autism for 3 years in the school, but s/he totally has 15 years' experience with children with autism in different schools.
TEACHER - 8	This teacher graduated from Physical Education Teacher and then s/he start to work with children with autism. The teacher does not any certificate to work with children with autism. S/he has been worked with children with autism for 5 years.
TEACHER ASSISTANT- 9	The teacher is working as a teacher assistant. He got NQF certificate – level 3 which is support teaching and learning course. He has been worked with children with autism for 3 years in the school, but the teacher has 5 years' experience with the children with autism.
TEACHER - 10	He did a GCSE and A Levels and then went to university for being secondary PE teaching degree. During his working life, the teacher worked as a secondary physical education teacher in mainstreaming schools. He has been worked with only children with autism for a year and a half. The teacher does not need any additional certificate to work with the children.

**Table 26.** The participant staff's background at special education school in England

TEACHER -1	This teacher does not need any certificate to work with children with autism because s/he graduated from Teachers of Children with Hearing Impairment and it is valid to work with children with autism. This teacher worked at special education and rehabilitation centre during 7 years. And then, the teacher has been worked with only children with autism in state-school for 3 year. Totally, s/he has 10 years' experience with children with autism. She also worked 20 months at counselling and research centre.
TEACHER -2	This teacher does not need any certificate to work with children with autism because s/he graduated from Teachers of Children with Hearing Impairment and it is valid to work with children with autism. This teacher worked at special education and rehabilitation centre during 4 years. And then, the teacher has been worked with only children with autism in state-school for 1 year and a half. Totally, she has more than 5 years' experience with children with autism.
TEACHER -3	After the teacher became a retired primary teacher, she had a 540 hours certificate course. The teacher has been worked with children with autism for 6 years.
TEACHER -4	The teacher graduated from primary school and then she had a 160 hours certificate course. With additional course, she has a 540 hours certificate course. This teacher worked at special education and rehabilitation centre during 2 years. And then, the teacher has been worked with only children with autism in state-school for 1 year. Totally, she has more 3 years' experience with children with autism.
TEACHER - 5	The teacher graduated primary teaching and then s/he has a 540 hours certificate course. The teacher has been worked with children with autism for 6 years.
TEACHER- 6	The teacher graduated from primary school and then s/he had a 160 hours certificate course. With additional course, she has a 540 hours certificate course. S/he has been worked with children with autism for 5 years.

**Table 27.** The participant staff' s background at mainstream schools in Turkey

TEACHER ASSISTANT- 1	The member is working as a teacher assistant. She has not any educational background, but she is doing GCSE nowadays. This TA has been worked with children with autism for 16 years.
TEACHER ASSISTANT- 2	The member is working as a teacher assistant and she has not any educational background. This TA has been worked with children with autism for 9 years.
TEACHER -3	She is a teacher in mainstreaming class. She comes to the autism centre for only 1 child from his/her class to support him there.
TEACHER -4	This teacher have a BA degree and in primary studies. She have PG Certificate in continuing professional development focusing on autism. She is lead teacher of the support centre, so she does all the planning, writing all the assessments, teaching , she goes to meetings and do the annual reviews there , so her role really is control of the this centre. This teacher has been worked in this centre for 5 months. However, she also worked for two years in a school for children with autism and emotional and behavioural difficulties before.
TEACHER ASSISTANT 5	The member is working as a high level teacher assistant and she has a degree about children's workforce and then she participates in difficult trainings. However, she does not have to these training to work with the children. This TA has been worked with children with autism for 8 years.
TEACHER- 6	The teacher has 40 years' teaching experience. She is a qualified as PE teacher. She worked for 12 years teaching PE and she had a break when she has her sons, so the teacher worked in a special school part time. She then returned to full-time teaching again in a very deprived area the other side of the city. And then started to pick up more work in special needs role and ultimately then becoming a SENCO and then moved here to specific be working this unit which is for young people with a diagnosis of autism.
TEACHER -7	He is SENCO (Special educational needs coordinator) at the school .Also; s/he has specialist position for the high level of autism. The teacher's bachelor's degree is about philosophy. His master degree is in special education and his/her science degree in autistic spectrum conditions. The teacher has been worked with children with autism for 17 years.

**Table 28.** The participant staff's background at mainstream schools in England

## Appendix. 2. Clinicians' role and backgrounds in Turkey and England

### TURKEY

<b>TC1</b>	Child Psychiatrist
<b>TC2</b>	Child Psychiatrists
<b>TC3</b>	Child Psychiatrists
<b>TC4</b>	Child Psychiatrists

**Table 29.** Turkish clinicians' roles

<b>TC1</b>	8 years
<b>TC2</b>	7 years
<b>TC3</b>	8 years
<b>TC4</b>	11 years

**Table 30.** Turkish clinicians' work experience in autism

### ENGLAND

<b>EC1</b>	C1 is a consultant paediatrician
<b>EC2</b>	C2 work as a community paediatrician.
<b>EC3</b>	C3 as a clinical psychologist
<b>EC4</b>	C4 is a clinical nurse specialist for children with neuro, neurodevelopmental conditions

**Table 31.** English clinicians' roles

<b>EC1</b>	10 Years
<b>EC2</b>	9 Years
<b>EC3</b>	3 years
<b>EC4</b>	4 years

**Table 32.** English clinicians' work experience in autism

### Appendix 3. Questionnaire for parents

## Questionnaire for parents 1

If you have read the Letter to Parents and are happy to complete this questionnaire for research then **please tick this box**

How old are you?

How old is your child?

Are you male  or female?  (Please tick)

Is your child male  or female?  (Please tick)

What condition has your child been diagnosed with?

What is your occupation?

### Section 1.

Each statement is followed by a scale from 1-4, where 1 means you strongly agree and 4 means you strongly disagree. Please circle the number which best fits your feelings about the statement.

Questions about your sense of control over your life with your child (how you would like things to be in an ideal world will be compared with how you feel things are in the real world)

**1) In an ideal world, I would be able to do anything I set my mind to in order to help my child**

1                      2                      3                      4  
(Strongly agree) (Agree to some extent) (Disagree to some extent) (Strongly disagree)



**11) I often feel helpless in dealing with my child's problems**

1 2 3 4  
(Strongly agree) (Agree to some extent) (Disagree to some extent) (Strongly disagree)

**12) What happens to my child is often beyond my control**

1 2 3 4  
(Strongly agree) (Agree to some extent) (Disagree to some extent) (Strongly disagree)

Questions about personal control of your child's situation

**13) I am able to do anything I set my mind to in order to help my child**

1 2 3 4  
(Strongly agree) (Agree to some extent) (Disagree to some extent) (Strongly disagree)

**14) When I want to do something to help my child usually I can find a way to succeed**

1 2 3 4  
(Strongly agree) (Agree to some extent) (Disagree to some extent) (Strongly disagree)

**15) Whether or not I am able to get what I want for my child is in my own hands**

1 2 3 4  
(Strongly agree) (Agree to some extent) (Disagree to some extent) (Strongly disagree)

**16) What happens regarding my child in the future mostly depends on me**

1 2 3 4  
(Strongly agree) (Agree to some extent) (Disagree to some extent) (Strongly disagree)

Questions about how independent (self reliant) or interdependent (reliant on others) you are (this will be compared with other responses to gain a picture of your perceived needs and sources of support)

**17) I enjoy being unique and different from others in many respects**

1 2 3 4  
(Strongly agree) (Agree to some extent) (Disagree to some extent) (Strongly disagree)

**18) I always try to have my own opinions**

1 2 3 4  
(Strongly agree) (Agree to some extent) (Disagree to some extent) (Strongly disagree)

**19) I often have the feeling that my relationships with others are more important than my own accomplishment**

1 2 3 4  
(Strongly agree) (Agree to some extent) (Disagree to some extent) (Strongly disagree)





**30) I can talk to family and friends honestly about my worries regarding my child**  
1 2 3 4  
(Strongly agree) (Agree to some extent) (Disagree to some extent) (Strongly disagree)

**31) My family and friends often criticise the way I deal with my child**  
1 2 3 4  
(Strongly agree) (Agree to some extent) (Disagree to some extent) (Strongly disagree)

**32) My family and friends make too many demands on me when I am caring for my child**  
1 2 3 4  
(Strongly agree) (Agree to some extent) (Disagree to some extent) (Strongly disagree)

**33) My family and friends often let me down when I need them to help with my child**  
1 2 3 4  
(Strongly agree) (Agree to some extent) (Disagree to some extent) (Strongly disagree)

**34) My family and friends often get on my nerves regarding their views about my child**  
1 2 3 4  
(Strongly agree) (Agree to some extent) (Disagree to some extent) (Strongly disagree)

Questions about your sense of self-esteem as part of your wellbeing in how you manage life with your child

**35) I feel proud of how I manage life with my child**  
1 2 3 4  
(Strongly agree) (Agree to some extent) (Disagree to some extent) (Strongly disagree)

**36) I feel useless in coping with my child**  
1 2 3 4  
(Strongly agree) (Agree to some extent) (Disagree to some extent) (Strongly disagree)

**37) I feel that I am a failure in my life with my child**  
1 2 3 4  
(Strongly agree) (Agree to some extent) (Disagree to some extent) (Strongly disagree)

**38) I feel I am as good as anyone else at dealing with a child with autism or related developmental disorder**  
1 2 3 4  
(Strongly agree) (Agree to some extent) (Disagree to some extent) (Strongly disagree)





**What do you feel are the most important things services and professionals should provide to help you and your child? (Please write here)**

## Section 2

**1) Please choose one of the statements about personal life goals which best describes your own goal in life. Please circle the number (only one from the 5 sentences below)**

1. I always try to avoid failure
2. Trying to avoid failure is more important than being successful for me
3. I don't avoid failure or aim for success
4. Trying to be successful is more important than avoiding failure for me
5. I always try to be successful

**2) Please choose one of the statements about personal life goals which best describes your goal regarding your child's life. Please circle the number (only one from the 5 sentences below)**

1. I would like my child to avoid failure in life
2. It is more important for my child to avoid failure than be successful
3. My child should not avoid failure or aim for success
4. It is more important for my child to be successful than avoid failure
5. I would like my child to try to be successful in life

### **Section 3**

**In the following questions please circle the response which best fits how you feel. These questions are about your own sense of wellbeing.**

**1) How often do you feel sad about your life with your child?**

Never                      rarely                      sometimes                      often

**2) How often do you feel nervous about your life with your child?**

Never                      rarely                      sometimes                      often

**3) How often do you feel hopeless about your life with your child?**

Never                      rarely                      sometimes                      often

**4) How often do you feel worn out in your life with your child?**

Never                      rarely                      sometimes                      often

**5) How often do you feel happy about your life with your child?**

Never                      rarely                      sometimes                      often

**6) How often do you feel elated about your life with your child?**

Never                      rarely                      sometimes                      often

**7) How often do you feel relaxed about your life with your child?**

Never                      rarely                      sometimes                      often

**8) How often do you feel calm about your life with your child?**

Never                      rarely                      sometimes                      often

Thank you for your contribution to research exploring the views of parents with children who have autism. I believe that the findings from this study will contribute to the understanding of people's beliefs and experiences of autism.

This study will hopefully inform interventions, care and support for children with autism and their families. Although clinicians and practitioners will not have access to individual cases, the general findings may influence training and practice for those in direct contact with children and their parents. Hopefully, this will increase understanding between parents and services and encourage beneficial approaches and care. For example, our study may help teachers and counsellors to identify effective interventions and build positive relationships with children with autism and their families.

If you have any further questions about this study please contact Serkan Yazici from Plymouth University, [mahmut.yazici@plymouth.ac.uk](mailto:mahmut.yazici@plymouth.ac.uk)

Or my Director of Studies [rebecca.mckenzie@plymouth.ac.uk](mailto:rebecca.mckenzie@plymouth.ac.uk)

We will provide a written summary about the findings of this study at a later date. You can request a copy of this summary by emailing me at the above address.

Your contribution is very much appreciated.

## **Appendix 4. Topic Guide for school staff and clinicians**

### **Topic Guide for school staff**

1-How long have you been working with children with autism?’

2-What helps you in this role? (e.g. previous study, administrative support, support from colleagues).

3- Are there particular problems or types of behaviour that you generally seek to address in the education of children with autism?

4-Could you describe how you are involved with parents of children with autism?

5-Do the symptoms of autism pose problems for children with autism spectrum conditions? - Do you observe these symptoms among your pupil/s?

6-What strategies, approaches and interventions do you use to address problematic symptoms- can you give me examples of the approaches you most commonly use?

7-What strategies, approaches and interventions would you like to use that you do not currently use? – What are barriers to using these approaches?

8- Could you explain how and when you used these interventions?

9- What do you think would improve education and support for children with autism in your school?

10-What role (if any) does culture play in the symptoms of autism and the interventions used to support children?



### **Topic Guide for clinicians**

1-What is your role in relation to provision for children with autism?’

2-How long have you carried out this role?

3-What helps you in this role? (e.g. previous study, administrative support, support from colleagues.)

4-Do you meet parents as part of your role? Could you describe how you are involved with parents?

5-What professionals are usually involved in the diagnostic process?

6-Do you work with schools as part of the diagnostic process?

7-What information do you give to families after diagnosis?

8-How do parents commonly respond to diagnosis?

9-What support or interventions are available to families after diagnosis - and could this be improved?

10-Could the experience of diagnosis for children with autism and their families be improved? How?

11- Which symptoms do you commonly observe among children with autism?

12- According to you, what are parents’ main concerns about their children?

13-Which criteria are used by you to diagnose autism? (DSM etc.). What are your thoughts about these criteria?

14-What role (if any) does culture play in the symptoms of autism and the interventions used to support children?

## Appendix 5. Parental Consent Form



Dear Parent, I would like to request permission for your child to take part in a research study.

I am currently engaged in a research project as a PhD student, exploring views on autism and the care and education of children with autism in England and Turkey. As part of this study I would like to observe the children at your child's school in their everyday activities. I would also like to take part in some activities at the school including reading stories and talking to the children.

You can agree or refuse to take part in this study. This is completely up to you. Your child has the right to withdraw from the study at any time prior to data analysis and we will ask them regularly if they are happy to continue. If you feel you would like your child to withdraw then you can say so at any point prior to data analysis. I am not interested in the performance of individual children, but in the general approaches used in the school and the activities the children carry out. Individual children will not be referred to in any reports or presentations about the project. Information about individuals will only be referred to relevant authorities in the case of a child protection issue. The information we collect will be stored in a locked cupboard, or, if electronic, in a password protected computer at Plymouth University and will be destroyed after 10 years. I will provide a written summary of the findings for the school, which you can read on request. The findings of the study will also be presented in academic journals and at conferences. If you would like to read a summary of the research findings, or if you would like any further information please contact SerkanYazici. [mahmut.yazici@plymouth.ac.uk](mailto:mahmut.yazici@plymouth.ac.uk)

If you are happy for your child to take part then please complete the consent form provided on the additional sheet.

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**Autism Research Study**

Please tick if you have read the letter of information

Please tick if you are happy for your child to take part in the research project

Please tick if you understand that observations will be made of your child and the researcher may take part in some activities with them

Name \_\_\_\_\_

Signed \_\_\_\_\_

Date \_\_\_\_\_

## **Appendix 6. The codes of participants and schools**

### **1.SCHOOLS**

#### **Turkish Schools**

**TSES:** Turkish special education school

**TMS1:** Turkish mainstream school - 1

**TMS2:** Turkish mainstream school - 2

**TMS3:** Turkish mainstream school - 3

**TMS4:** Turkish mainstream school - 4

#### **English schools**

**ESES:** English special education school

**EMS1:** English mainstream school - 1

**EMS2:** English mainstream school - 2

### **2. THE SCHOOL STAFF**

#### **The staff in Turkish Schools**

**TSEST1-** Teacher 1 in Turkish special education school

**TSEST2-** Teacher 2 in Turkish special education school

**TSEST3-** Teacher 3 in Turkish special education school

**TSEST4-** Teacher 4 in Turkish special education school

**TSEST5-** Teacher 5 in Turkish special education school

**TSEST6-** Teacher 6 in Turkish special education school

**TSEST7-** Teacher 7 in Turkish special education school

**TSEST8-** Teacher 8 in Turkish special education school

**TSEST9-** Teacher 9 in Turkish special education school

**TSEST10-** Teacher 10 in Turkish special education school

**TMST1-** Teacher 1 in Turkish mainstream school-1

**TMST2-**Teacher 2 in Turkish mainstream school-2

**TMST3-** Teacher 3 in Turkish mainstream school-3

**TMST4-** Teacher 4 in Turkish mainstream school-4

**TMST5-** Teacher 5 in Turkish mainstream school-4

**TMST6-** Teacher 6 in Turkish mainstream school-4

**The staff in English Schools**

**ESEST1-** Teacher 1 in English special education school

**ESEST2-** Teacher 2 in English special education school

**ESEST3-** Teacher 3 in English special education school

**ESEST4-** Teacher 4 in English special education school

**ESESTA5-** Teacher Assistant 5 in English special education school

**ESESTA6-** Teacher Assistant 6 in English special education school

**ESEST7-** Teacher 7 in English special education school

**ESEST8-** Teacher 8 in English special education school

**ESESTA9-** Teacher Assistant 9 in English special education school

**ESEST10**- Teacher 10 in English special education school

**EMSTA1**- Teacher Assistant 1 in English mainstream school-1

**EMSTA2**-Teacher Assistant 2 in English mainstream school-1

**EMST3**- Teacher 3 in English mainstream school-1

**EMST4**- Teacher 4 in English mainstream school-1

**EMSTA5**- Teacher Assistant 5 in English mainstream school-1

**EMST6**- Teacher 6 in English mainstream school-2

**EMST7**- Teacher 7 in English mainstream school-2

### **3. CLINICIANS**

#### **Turkish clinicians**

**TC1**- Turkish clinician 1

**TC2**- Turkish clinician 2

**TC3**- Turkish clinician 3

**TC4**- Turkish clinician 4

#### **English clinicians**

**EC1**- English clinician 1

**EC2**- English clinician 2

**EC3**- English clinician 3

**EC4**- English clinician 4

## Appendix 7. Example interview transcript

**Interviewer:** Researcher

**Interviewee:** EMST6 (English Mainstream School Teacher-6)

**Interviewer:** What is your background?

**Interviewee:** I would guess since I started teaching actually which is 40 years ago. I am a qualified as PE teacher. I worked for 12 years teaching PE and I had a break when I have my sons, so I worked in a special school part time. I then returned to full-time teaching again in a very deprived area the other side of the city. And then started to pick up more work in special needs role and ultimately then becoming a SENCO and then moved here to specific be working this unit which is for young people with a diagnosis of autism.

**Interviewer:** What is the important to be a good teacher for the children with autism (experience or qualification)

**Interviewee:** I don't think high qualifications necessarily make you an effective practitioner with young people, whether they got special needs or not. I think it's more about whether or not you are an empathetic person and I also think that possibly one of the most important characteristics that you need to like children. I think you need to be almost that it's almost all smoke and mirrors, but I think what if somebody said to me was the single most important thing for an adult working with young people that you have to like children

**Interviewer:** How is your relationship with parents

**Interviewee:** I think it's really important and particularly with parents of young people with additional needs because they've very often to have an ongoing fight with the authorities and agencies in order to get their child needs recognised and diagnosed and they fight to get support, so everything is a fight

**Açıklama [AK1]:** Staffing: not specific for autism. Different from Turkey

**Açıklama [AK2]:** Staffing  
The background about special education  
Research SENCO Role what differences/similarities does this bring?

**Açıklama [AK3]:** About Culture (staff view):  
Criteria to be a good teacher

**Açıklama [AK4]:** About Culture (staff view):  
Criteria to be a good teacher

and very often their experience with schools is quite negative. I spent half an hour on the **phone with parent** today. **The parents know that if there's a problem that I will act on their behalf.** They don't fit can't trust straight away but I think within months of their children being here, they realise that they can **trust** us. That doesn't mean I don't tell them the truth and it doesn't mean that sometimes I thought I will say to the parents actually you need to do something about this but it is based in trust and again and I would hope they feel that we're committed to working in the best interest of the child

**Açıklama [AK5]: Relationship:** One of teacher's way to contact with parent

**Açıklama [AK6]:** Interesting based on our discussions about Turkish teachers relationship with parents and conflict

**Açıklama [AK7]:** Trusting is important for a strong relationship

**Interviewer:** Can you tell me your ways for parent involvement?

**Interviewee:** Our children come from across the city and a number of taxis are used by Year 7 8 and 9 and other use independent travel and actually come here by bus, so in terms of contact **face to face very very little.** But we do have a home school book. We do have a **home-school book.** We write in each lesson and parents can see if there's a problem, they'll get right back to us and we look at that every morning and night. And we try to be as available as we can be by telephone, so that we can deal with issues for solve. Because they have to wait a week to see private tutor who is it really really busy and with the teaching commitment that tiny problem.

**Açıklama [AK8]: Relationship:** Parent's visiting. Very little (different from other English schools)

**Açıklama [AK9]:** Home-school book: the way to contact with parents. Similar to other English staff

**Interviewer:** What is your interventions to improve social skills?

**Interviewee:** Very little. Our first aim is improving our students' **academic skills.** I don't know how much you know about the British school system and league tables and everything that brings. But the students are following Ridgeway students and their data is part of the schools data feeds into an outcomes and league tables and all of those things, so with progress 8, we're all students

**Açıklama [AK10]:** Educational priorities: Main purpose of teaching



have to do 8 subjects are the schools measured on map. To take students out those subjects has a hugely negative impact on the school. But, umm at break time and at lunchtime, we encourage I'm very light touch but we encourage engaging in a joint activity, we tried to promote time taken, we try to encourage them to have conversations with each other and we try and we model those those conventions of when somebody else's speaking, can you please look at them and we listen. We try and engage in those activities in a fun humorous way, so at the moment we've got a sweepstake for the Euro football and students have got a team. Most of them don't like football, but I ask what happened to your team last night, so we try and talk about news about some things like that. Fun way, absolutely important. And also trying to put things in place to take the pressure off of the family.

**Açıklama [AK11]:** Policy: The importance of this is much more than special education school.

**Açıklama [AK12]:** Intervention: Learning in real life (Social interaction in the school)

**Açıklama [AK13]:** Intervention: Child-teacher relationships as fun/friendly

**Açıklama [AK14]:** Intervention: Teaching by fun way

**Interviewer:** Your students are in mainstream classrooms, right?

**Interviewee:** All of them are in mainstream classrooms. Definitely useful for our students because it is important for society. All members of society are included. I am early 66. When I was at school, I didn't ever meet anybody with disabled. I know no understanding disability because I never met anybody and there is not somebody in your family. I think that over years that the profile of disabled people being able to function is this increased quite like that

**Açıklama [AK15]:** Culture and awareness

Also, typically developing students at our school know our students are children with autism. Also, staff usually explain our students' diagnosis and condition to them. It is helpful to improve their knowledge and perspectives about autism I think

**Açıklama [AK16]:** Emphasis on learning/knowledge not peer friendship?

**Interviewer:** What is typically developing children's and other teacher's ideas about children with autism in the school?

**Interviewee:** The problems of children with autism are hidden. For example, they do not use wheelchairs, so some of our typically developing children do not see the problems of children with autism. Therefore, understanding autism can be difficult for them. However, this is different for teachers. Some of them are superb teachers and our children are very relaxed there. However, some of them are pedantic and our students can be worried about being in their class.

**Açıklama [AK17]:** Integrative teaching. (understanding autism and integrative teaching can be difficult in mainstream classrooms)

**Interviewer:** Are you using PECS and TEACCH?

**Interviewee:** No, we don't use PECS and TEACCH. We used a lot of visual stuff and unfortunately because we had to clear a lot of it down for the exam because obviously we had this place mathematical displays have to come down for the exam. We create visual timetable. In the first few weeks, we said do this do this, don't do this (nagging). So we created a set of issues when working with these children. We stop nagging and look at visuals. Because it's very difficult to build positive relationships with nagging. We try to do this way. Also, when the student walks back into the front door and their parent opens at home school book that there is at least one positive thing in that book. They say it really good rather than a list of wrongs. They carry book for 12 months. We try to give the best chance of succeeding that we possibly important.

**Açıklama [AK18]:** Learning about the using of PECS and TEACCH in England? because they are generally not using in Turkey.

**Açıklama [AK19]:** Visual

**Açıklama [AK20]:** Relationships between child-teacher (should be friendly?)

**Açıklama [AK21]:** Being positive

**Interviewer:** Do you have students who are using medication? If they are using, do you believe that it is useful.

**Interviewee:** Medication is useful for some children to be calm down. But it is not effective for some I think according to my

experience. All students are young people with autism. 2 diagnosed with dyslexia, 1 dyslexia and high levels of anxiety, 2 diagnosed with ADHD and so they are medicated for that. 1 is medicated to help him sleep. Among our students, we have only 1 who is achieving beyond expected academic levels. All the others are achieving below expected academic levels. 4 have significant difficulty with learning. Reading is hard. People can think people with autism can be good in maths. Except 1, it is not in our school. Especially for 3 students, maths is a huge difficulty, literally do not understand. I talked with M, he thinks they can be dyscalculia and he's making cut the concept of time, 10 minutes. That's a massive impact for them.

Açıklama [AK22]: Medication

Açıklama [AK23]: Focus on academic achievement

Açıklama [AK24]: Structured teaching

**Interviewer: Are you using therapy and what are your ideas about therapies?**

**Interviewee:** We do not use therapies. There are variety reasons. Economically at the moment in education in this country and there is no money in schools. If you could I find an art therapist you not have the money to pay for you.

Açıklama [AK25]: Barrier, Good thinking about how these things are layers of influence

Absolutely therapies are useful. My experience with therapy is about children who have been victims of abuse because I was a child protection coordinator and SENCO. There's also an agency locally call Jeremiah's journey which is an agency that support young children of experience bereavement, their parents or a sibling. It is powerful, art music, sport. I think all of those things are really powerful. Personally I'd like to see them to a little bit of that every day.

Açıklama [AK26]: Therapies

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### **Discussion with Supervisors RM and JG**

During the supervisory meeting we discussed any language that I was unsure of. We talked about the Index as a framework to encompass emerging themes around policy, practice culture and relationships. We explored some emerging similarities and differences between Turkish and English teachers in particular differences in primary goals for teachers, previous relevant literature and how the emerging theme of relationships might be sub-divided. We spent some time thinking about the layers of influence around the child in both contexts especially economic constraints. We also reflected on what interested and surprised me and why.

**Appendix 8. The participants' idea about general problems of children with autism in Turkish and English schools**

The Code	The general problems of children with autism
TSEST1	The inability to create speech, eating problems, toilet problems.
TSEST2	They generally have communication problems. Therefore, they cannot communicate with others and interact with their environments.
TSEST3	Clapping problem and some behavioural problem such as swing and screaming. They generally have communication problems as well although they can understand others. They have social problems because their world is different from us.
TSEST4	Poor eye contact. Also, communication problems are general among the children. I think solving the problem is very difficult.
TSEST5	Anger management and obsession problems
TSEST6	Adapting to social life, self-destructive behaviour and repetitive behaviours
TSEST7	Problems about some basic skills such as sitting at the desk in the class. Because of these kinds of problems, we cannot start the education. I think before solving problems relevant to autism symptoms such as communication and social life, the basic problems are general and should be solved.
TSEST8	Problematic social behaviour, problems about anger management, personal care. I think they should be improved firstly because they are general and negatively affect the children very much. Before improving academic skills, we should solve the problems.
TSEST9	Communication problems are very general. Also, I believe these children are a little bit lazy. This is because I think other people support and help them for their all responsibilities and personal care.
TSEST10	Behavioural problems such as swing, clapping, playing with their mouth, eating problems, sleeping problems

**Table 17.** Teachers' ideas about general problems about the children with autism in Turkish special education school

The Code	The general problems of children with autism
<b>ESEST1</b>	Being able to communicate is really pretty critical and real issue such as problem with verbally communicate lots of misunderstanding or not fully understand. Also, the ability to adapt is difficult (for example be flexible to change and unexpected situations and things).
<b>ESEST2</b>	Misunderstanding and communication are difficulties. They have very black and white thinking so there's no kind of in the middle. Also, friendship should be improved such as what makes a good friend and how to communicate with your friends and be friendly and find friends, who are suitable friends for them.
<b>ESEST3</b>	I supposed a social interaction is a really key one and I don't see the purpose of social interaction, meaning for interaction and having empathy or ToM. Also, in younger classes that communication is another keep up there and their expressive spoken language is very limited their understanding of language, their functional use of language. They wouldn't see the purpose of a meaningful communication or conversation. Also, they don't communicate with me. They often communicate with me if they have needs such as bring somethings to me
<b>ESEST4</b>	a lot of sensory issues (Light or touch etc). That's quite widespread. They have a lot of issues with looking and their attention span. Also, their communication skills are quite low and they have sensory issues
<b>ESESTA5</b>	Problems are individual. For example, parents want their children have friends but for most children with autism they can't think of anything worse, they don't need friends, they don't want them, because they would have to share, take turns, show emotions
<b>ESESTA6</b>	Full frame understanding and they cannot understand quickly for tasks and staff
<b>ESEST7</b>	A lot of them have problems with perception. They say how we see the world and how they say something that happened to me very different. For example, when playing football and tackle each other, some of them can understand others try to hit me. So, this is sensation problem.
<b>ESEST8</b>	Generally social communication, social misunderstanding, misread in situations. For example, a child banter with other child for fun but the child do not know when should stop it. Each child's perspectives are different from each other. So, different case different problem.

<b>ESESTA9</b>	Walking out class, some children have speech problems. To be honest, for talking about their general issues is difficult for me because I wouldn't categorise them because every single child is different
<b>ESEST10</b>	Social interaction especially between peers. Friendships between the students is often quite fragile Also, our students have a strong sense of justice as well. So if they think it is wrong, their voice, their opinions will be very loudly and this might cause upset for others.

**Table 34.** Teachers' ideas about general problems about the children with autism in English special education school

<b>The Code</b>	<b>The general problems of children with autism</b>
<b>TMST1</b>	Poor communication skill, problems about individually personal care
<b>TMST2</b>	Social and communication problems
<b>TMST3</b>	Echolalia, very waking and persistent for keeping their benefits and behavioural problems.
<b>TMST4</b>	Echolalia and communication problems
<b>TMST5</b>	Echolalia and communication problems. Social problems, particularly after starting puberty.
<b>TMST6</b>	Behavioural problems are very much

**Table 35.** Teachers' ideas about general problems about the children with autism in Turkish mainstream schools

<b>The Code</b>	<b>The general problems of children with autism</b>
<b>EMSTA1</b>	Problems relevant to eye contact, concentration , social skills
<b>EMST2</b>	Behaviour problems
<b>EMST3</b>	Changing is difficult
<b>EMST4</b>	Definitely social skills. The way that humans interact with each other and they find it very hard to know where the somebody's happy or sad or to emphasize
<b>EMSTA5</b>	Communication problems, lack of imagination, and misunderstanding or understanding what should I do.
<b>EMST6</b>	Social and communication problems
<b>EMST7</b>	Difficulty social reading cues. This is main difficulty. Many students with autism struggle with a preconception in social life.

**Table 36.** Staff' ideas about general problems about the children with autism in English mainstream schools

**Appendix 9. Parent's Concerns about their children in Turkey and England according to the clinicians**

<b>Code</b>	<b>Parents' concerns about their children in Turkey</b>
<b>TC1</b>	They generally have future anxiety. They ask; Will my child get married? Will my child work? If we die, can my child maintain the life by oneself?
<b>TC2</b>	They have different worries. They ask ; Will my child speak? Can my child go to the school? Can my child do housework and maintain the life by oneself? Will my child get married? Will my child have a job?
<b>TC3</b>	They worry because they think my child cannot be the same with other children. They cannot speak, they have communication problems, and they became oblivious of the life.
<b>TC4</b>	They are worried because they not sure my child' skills can be improved. Therefore, they ask me; Will my child go to school? If we die, can my child maintain the life by oneself?

**Table 37.**Parents' concerns about their children in Turkey



<b>Code</b>	<b>Parents' concerns about their children in England</b>
<b>EC1</b>	I think the biggest concern is always about educational provision
<b>EC2</b>	“Will they always have it?”, “Will they grow out of it?”.
<b>EC3</b>	Usually the main issue is around challenging behaviour at home and the parents have great difficulty in managing this. They might also be finding that their child’s educational needs are not met, and are struggling to get the right support through school.
<b>EC4</b>	In addition to educational provision, I think predominantly, it's about socialising, being able to have the same peer relationships. I think they have very social concerns. The other side is often around behaviour. They generally ask how do I manage aggressive behaviour ? How do I prevent that from happening?”

**Table 38.**Parents' concerns about their children in England

## Appendix 10. Class Sizes

### 1. Turkish Schools

The Code of Classroom	The Number Of Staff	The Number Of Students
Classroom 1	3 teachers	3 students
Classroom 2	2 teachers	4 students
Classroom 3	3 teachers	5 students
Classroom 4	2 teachers	4 students
Classroom 5	3 teachers	5 students
Classroom 6	2 teachers	4 students
Classroom 7	2 teachers	4 students
Classroom 8	3 teachers	5 students
Classroom 9	2 teachers	4 students
Classroom 10	3 teachers	6 students

**Table 39.**Class sizes in Turkish Special Education School

The Code of Classroom	The Number Of Staff	The Number Of Students
Classroom 1 in TMS1	2 teachers	4 students
Classroom 2 in TMS2	2 teachers	4 students
Classroom 3 in TMS3	2 teachers	4 students
Classroom 4 in TMS4	2 teachers	4 students
Classroom 5 in TMS4	2 teachers	4 students

**Table 40.** Class sizes in Turkish Mainstream Schools

## 2. English Schools

The Code of Classroom	The Number Of Staff	The Number Of Students
Classroom 1	1 teacher and 8 teacher assistants.	A complex needs unit consisting of 8 students. This is a separate area from others. In this centre, there are 3 rooms
Classroom 2	1 teacher and 7 teacher assistants.	7 students
Classroom 3	1 teacher and 5 teacher' assistant	12 students (1 child is in separated room with 1 TA because of his low level of autism)
Classroom 4	1 teachers and 5 teacher assistants	8 students
Classroom 5	1 teacher and 5 teacher assistants	11 students
Classroom 6	1 teacher and 3 teacher assistant	12 students
Classroom 7	1 teacher and 4 teacher assistants	11 students
Classroom 8	1 teacher and 5 teacher assistants	9 students
Classroom 9	1 teacher and 6 teacher assistants	11 students

**Table 41.** Class sizes in English Special Education School

The Code of Classroom	The Number Of Teacher	The Number Of Students
Classroom 1 (in this centre, there are 3 rooms)	2 teachers and 5 teacher assistants	12 students
Classroom 2 (in this centre, there are 2 rooms)	2 teachers and 5 teacher assistants	11 students

**Table 42** .Class sizes in English Mainstream Schools

## **Appendix 11.The positive strategies to support the teaching in all Turkish and English schools**

The staff in Turkish and English schools believe there are some strategies to support their interventions and teaching process (See Table 38).

<ol style="list-style-type: none"><li>1. Using Technology</li><li>2. Reward and Punishment</li><li>3. Step by step</li><li>4. Prompts for the students</li><li>5. Giving a chance to succeed</li><li>6. Noticing students' own problems</li><li>7. Going a separate room</li><li>8. Consistency</li><li>9. Tactical ignoring</li><li>10. Physical support</li><li>11. Using rules</li></ol>
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**Table 43.** The positive strategies to support the teaching

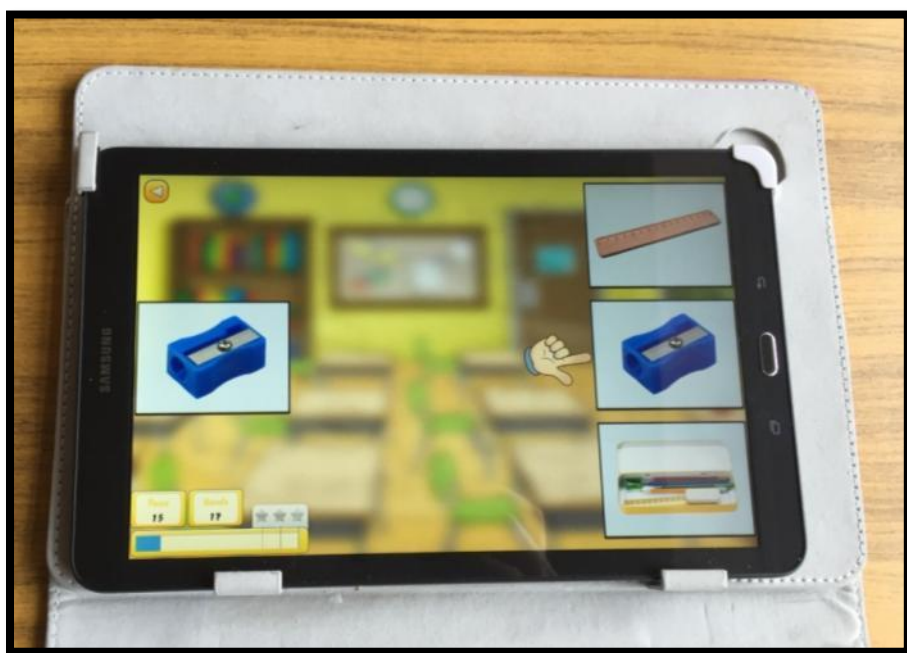
### **1. Using Technology**

#### *The data from observations in Turkish and English schools*

Technology is actively used in all Turkish and English schools because the teachers believed that technological tools address most of the senses of the children and support their teaching.

In Turkish schools, some apps and educational games were played on iPad by children (See Figure 31), relaxing when listening music, some academic work such as learning parts of a body. All teachers indicated that smart boards motivate and attract the attention of students. During observations, the teachers used these boards for different goals. Examples included supportive educational videos, painting that developed motor skills and singing songs which encouraged relaxation. They were also used for reading through identification of sounds, syllables, and words for the students to improve communication skills.

**Figure 31.** Matching exercises on iPad in Turkish school



In English schools, iPad, computers, smart board (See Figure 32) are usually used. They have been actively used for activities such as listening music and dancing, playing a game, watching video, etc. It has been revealed during observations and stated during interviews by teachers that these increase the

motivation of students and encourage relaxation. Also, they are also used as a part of academic work in schools. For example, the children play games from websites such as Phonics Play, BBC Bitesize, PBS KIDS. The games have educational value for English, maths and other areas of the curriculum.

**Figure 31.** A smart board in English school



During observations, although staff's aims are nearly similar in Turkish and English schools when using technology, staff in English schools used this for more academic purposes. Even, some staff who have two students in Turkish schools use the technological tools for not any educational aims. Because these teachers have two students. Therefore, when a child plays with iPads, it provides an opportunity for teachers to work with other students at the same time. According to teachers, it is another benefit and reason for them. However, in the school, it has been observed that the students cannot always use iPads on their own. It was sometimes observed some students are just waiting with iPad when the teacher study with his/her another student.

### *The data from interviews in Turkish and English schools*

In Turkish and English schools, staff stated using technology is going to popular in the schools. For example, ESEST1 expressed:

*“We used PECS in terms of communication for the children and now we're using them on electronic devices like the proloquo2go on the iPads instead of PECS books but previously it was all PECS.”*

As a reason of this, TSES7, explained the reason why the students are more successful on iPad than PECS by stating:

*“This app is a game so students are more successful.”*

Similar to this staff, all staff believe using technological tools is fun for the students. Therefore, they generally believe using them is an effective strategy for their students in Turkish and English schools.

However, TMST5 indicated:

*“Although using technology using is helpful, it does not mean that the more we use technology, the more helpful it becomes because our students' main problem is socializing and developing their speaking skills. For this reason, if every lesson in education is performed via technology, it wouldn't be beneficial. It might even be harmful.”*

This idea was the general among the staff in Turkish schools. On the contrary, in English schools, the staff said using technology can be helpful to improve social and communication skills. At this point, the staff in English schools stated if technology can be used in the group studies, the students can more enjoy and have fun. As a reason of this, the students became more talkative each other during teaching activities.

## 2. Reward-Punishment

### *The data from observations in Turkish and English schools*

During the observations, it was clear that all staff often use rewards. In Turkish and English schools, the main reason for using rewards is improving attention and motivation to show positive behaviors or achieve a goal. About using rewards, all Turkish and English staff similarly believe that a motivation can be provided only with the correct reward. If teachers do not choose the reward according to their students' interests, they cannot be successful. On the other hand, punishment was sometimes used in both contexts to discourage unwanted behaviors. The observations revealed that teachers vary in their use of reward and punishment.

In Turkish and English schools, generally the staff used similar rewards such as listening to music, verbal reinforcement and playing with Ipad. They said the students' interests play a role when choosing a reward. In Turkish schools, teachers commonly use foods as a reward but this was less common in English schools. For example, during O2 in TSES, the teacher said to her student that she would give her a chocolate if she writes well. When the student saw the chocolate bar, she was excited and started to write immediately. The teacher stated that it increases the attention of the student. However, foods were not used in English schools, although other rewards are similarly used.

Another difference between Turkish and English schools is English schools are more systematic than Turkish schools when using rewards. Particularly in ESES, it was observed that a general reward system was used in the school. In this system, classes are divided into 4 groups and called as earth, fire, air and water (See Figure 33). There are 4 boxes that are called with these names in all



classes. When students show a correct behavior, they take reward token, save and put them into the group box. During observations, it has been observed that these tokens are often given to students and these tokens are distributed according to the behavior frequency. Teachers have stated that this situation is emerged due to being fair to students. During observations, teacher explained the reason why the student that behaved same as another one took more tokens. And of each month, the staff said the winner team for each classroom and winner team for the school because each team's tokens also were collected. For example, fire team become winner for Classroom 3, but the winner of school became Water team.

**Figure 32.** In a class, four boxes for tokens which are called as earth, fire, air and water



In Turkish schools, a simple reward system was only used in TMS1 and TSES by a teacher. A reward table was also observed in the class. On this table, separate sections were created for each child. Teachers give 'stars' after each achievement and students attach them into their sections on the board. The end of each week, the students have an opportunity to have a reward depends on

their number of stars. Also, it was clear that all rewards was chosen by the children. It was observed that these systems were more attractive for the students.

On the other hand, Turkish and English schools also use punishments by debarring their students from rewards or from their favourite activities. Also, in Turkish schools, when the students showed inappropriate behavior towards their friend, TSET1 asked them to sit in a chair facing the wall, asked them to think why this behaviour was wrong, discussed with the student after this period and got them to apologize. Similarly, EMS2 also used a 'thinking chair' in a similar way. Some staff in Turkish schools also infrequently (three times) used physical punishment during observations. During observations, these teachers did not become angry and they just said to the child, 'I feel the pain like this'. For example, a student hit his teacher and she suddenly hit the children with the same way. However, it was clear teacher's hitting is much more soft then the children's hitting. And then, the teacher talked the children and explain after hitting people, they can feel and it is not good behaviour.

#### *The data from interviews in Turkish and English schools*

During interviews, teachers generally explained that rewards are very beneficial for their teaching. However, in Turkish schools, some teachers do not use rewards. TSET1 expressed:

*"My students cannot perceive the punishment and reward concept so; I do not use this method much."*

Also, TSET6 believed that using rewards is not a need for every child every time and she stated:

*"I try to get my student to do something once. For example, one of my students behaves as expected without any reward and so I do not need to use a reward for her. However, another one only performs the behavior with a reward. I ask him to do something without a reward ...Finally, if he does not perform the action, I give the reward. ..., I do not like using foods as rewards".*

Similar to T6, T7 also believed that foods are not good rewards for the children, although they are often used in Turkish schools because they believe it is problematic for energy consuming or overweight.

Also, TSEST7 emphasised that:

*"Rewards should not be a habit in education. For example, when I worked with my student, I gave a biscuit after saying 'dad'. At break time, my student saw the biscuits in my pocket came to me and said 'dad'. He thought that he could get these biscuits when he said 'dad'. Then, I do not like using food as rewards"*

These staff believe Turkish staff should change their mind about using food as a reward. Similar to them, the interviews show English staff generally do not like giving foods.

The staff believed that rewards should be more systematic and visible in English schools. Also, they stated that the rewards are not used only for giving reward. The staff believed this system was useful because children can learn to feel part of a group and improve social skills as well. ESET10 explained:

*"In this system, it will eventually give my students like a greater sense of identity and make them a part of a team and a good opportunity for working together."*

Using systematic rewards was used by only TMST1 in Turkey. TMST1 stated:

*"This way is very effective and we change the rewards from time to time according to what students like or other conditions"*

The teacher believed that the students are motivated and concentrated on what they were asked to do because they know they will get a reward as a result. This idea was said by only TMST1 in Turkey although it was general idea among the staff in England.

Regarding punishment, staff in English schools generally said that they do not use punishment. However, the observation showed that the staff in Turkish and English schools use the same methods to stop unexpected behaviours. Despite this, English staff said their methods were not a punishment whilst Turkish staff called these same methods a punishment. For example, about the 'thinking chair' , TSET1 stated:

*"This can be a kind of punishment, but not any damage to the child. It is really useful".*

However, EMST7 stated that this approach was not a punishment because the students simply think about their bad behaviour which can then form the basis of helpful discussion exploring both expected and unexpected behaviour.

Staff in English schools also did not believe that debarring their students from their favourite activities was a punishment. However, Turkish staff said this was a helpful punishment.

In Turkish schools, three teachers used physical punishment to improve empathy and stop an unexpected behavior. During interviews, TSET10 emphasized:

*"One of my students beats me. When he beats me, I hit him in order to make him feel the same pain. With the help of this, the behaviour has decreased"*

The English staff believed that using this method is not possible in English schools because the children can feel upset and it can be problematic for parents as well. However, TSET6 and TSET10 said they are very careful about the dose of physical punishment. For example, TSET6 stated:

*“It is not really hitting my students. As you know, my hitting is soft and I just want to build empathy with me and improve behavioural skills”*

Another difference between Turkish and English schools in terms of using punishment is that some staff in Turkish schools, particularly in TSES, said they could not use any punishment. TSET9 explained by stating:

*“I never use punishments or debar my students from anything. I could not be a dominant character against these children.”*

According to the staff in Turkish schools, this kind of feeling is general in Turkish schools. The teachers feel a sympathy and kindness towards the children as would a parent and this makes punishing them difficult. This sentiment was not expressed in English schools where reward and punishment were seen more as professional tools. In addition, school policy and the views of parents were more likely to inform both rewards and, in particular, the notion of punishment in England.

### **3. Step by step**

#### *The data from observations in Turkish and English schools*

During observations, all staff has expressed that they use step by step training dominantly in the education of children with autism in Turkish and English schools. To have an ability, students need to learn prior knowledge and skills. For example, in ESES, the staff used a series of small steps moving from basic

to more skills that are complex to teach the children how to wash their hands. This began with learning how to turn the tap then picking up the soap, how to soap the hands and so on. Similarly, all teaching process in Turkish and English schools are performed in step by step during observations.

### *The data from interviews in Turkish and English schools*

During interviews, the staff in Turkish and English schools, step-by-step training is important in the development of children's skills. The teachers said they should use this strategy to improve any skills. TSEST1 has pointed out

*"My student was not able to eat on her own. We need to develop her motor development in order to make her hold the spoon apart from eating habit. Then, other stages like holding spoon come."*

Similarly, staff in English schools believe step by step teaching is necessity.

About this, ESET1 stated:

*"We have to teach from small things to big things."*

Similarly, according to ESET5,

*"We cannot teach next steps if the children do not know the former step".*

All staff in Turkish and English schools said when using all intervention and having all skills and knowledge, the staff need to use the strategy.

#### 4. Prompts for the students

##### *The data from observations in Turkish and English Schools*

During observations, teachers use their mimics and gestures in an exaggerated way in all school to attract notice to the activity. The staff used the way for supporting to keep teaching process in Turkish and English schools. However, it was clear it is more used in Turkish schools than English schools.

During observations, it was clear all teacher sometimes used their voice tone in different levels in Turkish schools. Teachers believe this way is providing to the attention of student and they can concentrate on their speech and teaching. For similar aims, using voice tone in different levels was used by English staff.

Different from English schools, the observations shows teachers generally showed correct answer, when student choose the wrong option in Turkish schools. They believe this improved their students' self-confidence, so the students can focus on teaching and interventions. Also, during O1 in TSES, teacher stares at his student whose eye contact level is low while he is talking to him. Although student turns eyes away, the teacher continues staring at him. This teacher expressed

*“When you use this way, the time span of turning the eye away is prolonged.”*

Also, during O7 in TSES, while drawing work is conducted, some teacher hits on the notebook or desk in order to make student concentrated on the work again. One of the teachers who practice this has stated

*“Such an application attracts the student attraction on the activity in a short time.”*

Also, in English schools, staff also rarely use body language to show the right option to the child.

The all observations show body support was more used in Turkish schools than English schools.

### *The data from interviews in Turkish and English schools*

All staff said believe if they do not support their students, teaching process cannot be continued by the students. According to them, body support is good way for this. About this, EMS4 also stated:

*“Some students can be angry if they cannot be successful. Therefore, this way is useful to keep calm down”*

Despite this similarity between the staff in Turkish and English schools, staff in English schools sometimes is not sure about using this way. They believe that student should find the right option with their trying because they can wait for staff’s mimics if it became a habit. On the other hand, Turkish staff believe that kind of support by body is indirectly support way to the students and this support is a need for their students. At this point, TSES3 stated:

*“Our children’s condition is not a high level. Therefore, they cannot continue to study with me if I do not support them with this way”*

Because of this reason, the staff in Turkish schools generally feel they have to use this method. Otherwise, their students cannot follow teaching process.



## 5. Giving a chance to succeed

### *The data from observations in Turkish and English schools*

The observations showed giving a chance to succeed was used by all staff. They believe if the students finish the activity, their learning can be permanent. Although the staff in Turkish and English schools have this idea, their using were different. In Turkish schools, it has been observed that most of the teachers supported the students after waiting a particular time. Therefore, it was clear the staff in Turkish schools do not give enough time to the student to finish the task. However, during observation, some staff said their students cannot finish the activity, even though they wait them for a long time. Similar to their ideas, it was observed the students who are low functioning children with autism cannot finish the task although their staff wait them for long time. On the other hand, in English schools, staff generally wait to the student to give an answer or finish the task. For example, during O2 in ESES, a student came to the door but could not open it. TA did not help her although she is by side. Until student wanted a help, she did not help her. Similarly, staff in English schools, when staff could not take a respond, they waited and repeated the question. Despite this general using in English schools, during only O1 in ESES , the staff could not use this way effectively because they did not wait the children who have complex condition to give an answer or finish task. It was clear complex problem and 'intensively teaching' were the reasons of this (See Appendix 14).

Generally, it can be said that this way was not used for low functioning children with autism or the children has complex problems in Turkish and English schools. Despite this similarity, English staff is more patient than Turkish staff and tend to wait their students.

### The data from interviews in Turkish and English schools

During interviews, staff in Turkish and English schools believe giving chance is very useful because the students can be more active in teaching process by this way. About this, TSET10 has pointed out:

*“We contribute to the learning of student by giving her an opportunity because the students can permanently learn the activity or have skills if the student does the activity by themselves.”*

However, according to interviews, it was clear this way was often used in English schools, although some teacher used this in Turkish schools. As a reason of this, the staff in Turkish schools stated they cannot always use this way because of their students' low condition. However, staff in English schools stated knowing the children is crucial when using this way. About this, ESET9 has explained:

*“When you ask a child just stop and if they don't answer during 8 seconds then ask again because it can take a time to understand your saying.”*

Similarly, EMST4 stated:

*“I am waiting two or three minutes for a child to give an answer because I know if I wait, he will probably give the answer”*

Staff in English schools also emphasized this time is different for each child, so staff should know the child well. Otherwise, this way cannot work according to staff in England.

## 6. Noticing student's own problem

### The data from observations in Turkish and English schools

In Turkish schools, some staff cannot use this way because of their students' very low conditions because their students did not understand although they try to use this way. However, the staff in English schools actively uses this way for their students. In the both of the contexts, staff believes that students should notice their problems. Thus, they believe solving problems or improving skills can be much easier if they know what their needs are.

Although they have the same aims in Turkish and English schools, their using this is different from each other. In Turkish schools, staff generally prefers that students should feel their problems, so they did not directly say the student's problem to them. However, in English schools, staff directly said the student's problem to them and sometimes discuss their problem together. Even, in ESES, 'assembly practice' was used. During O6 (assembly practice) in ESES, students have expressed what topic they need by getting in a line. Their needs are not academic. There are social skills among them such as behaving nice, having positive attitudes etc. Students talk to their teachers and peers about how to solve their problems. The teacher has stated

*"We have defined the problems that our students talk about and sought several solutions to them. For this reason, they are developing them as we often talk about them and they consider to make an auto control when they show a negative behaviour"*

During observations in Turkish and English schools, it was clear this way was not working for the aggressive students. For example, during O2 in TMS2, this approach also failed to work with an aggressive student. This student was observed to damage doors, walls, the teacher and even himself. During this

observation, the teacher warned the student calmly by saying that the class rules were broken, his friends were unhappy and he feels pain, but the attitude of the student did not change. This situation also was the same for aggressive students in English schools.

### *The data from interviews in Turkish and English schools*

The interviews showed all staff in Turkish and English schools believe knowing their personal problems is useful for children with autism to know their students. Also, they believe if they know their problems, solving them became easier in teaching process. In this issue, for example, ESET8 has stated:

*“In my class, a boy was particularly negative and had low self-esteem. Everything is literally doom and gloom when he comes here. I conducted a lot of work with him about emotions, what emotions are, what emotions he might feel and actually feeling different emotions and had chat every day about how is feeling and other people’s feelings. In time, I got him to talk about himself. For example, my student sought an answer for how he can be positive. At the end of 6-7 months process, he became a student smiling and being positive.”*

During interviews, when Turkish staff focused that the students should feel their problem, staff in English schools focused that they know their problems, so directly saying their problem to them and talking about this together is useful. Different to English schools, the staff in Turkish schools believe the students can be upset if they directly say their problem to the students. For example, TMST5 stated:

*“Saying your friend became sad because of your negative behaviour is better than saying you are negative”*

Similarly, TMST3 stated:

*"I try to experience and notice what is the lack for him rather than inquiring or saying it directly because I believe if my student feels the problem, noticing his problem is more effective than saying it by myself."*

According to Turkish teachers, this way is not effective in low functioning children with autism because they cannot understand their personal problems.

Also, they believe this is also not effective for aggressive students. TMST6 stated:

*"Notwithstanding I can explain, my student is aggressive and such an aggression chains us. Actually, he can understand what I am saying well, but this method does not work on him due to his aggression."*

This is the same in English schools because they believe if the student is very aggressive, understanding and accepting his/her problem are not easy for them.

## **7. Going to a separate room or garden**

### *The data from observations in Turkish and English schools*

The observations show a student who has anxiety problem in the classroom, staff go to a separate room or garden to be calm down in Turkish and English schools. For example, in TSES, they generally need to go to out of the classroom to keep safe to other students when their student has the problem. Even, during O8 in TSES, a teacher who has only one student spent nearly all time in a separate room or school garden because his student does not want to sit in the chair in the classroom. This staff believe if they do not go outside, his student cannot be calm down. Also, it can be a problem for other children in the classroom and other staff and students need to stop teaching process.

Different from Turkish schools, in English schools, some students always stay at a separate room. Even, 5 children always in a separate room with their personal TA in ESES. Generally, staff emphasized if a child has anxiety problems, they should go to another room all time because they believe it is a necessity for the safety of the other children and themselves. Also, it is very helpful for these children and others' the quality of education according to the staff in England.

The observations also show enough room is crucial to use this strategy. In term of having enough room for this strategy, English school is much better than Turkish school.

#### *The data from interviews in Turkish and English schools*

During interviews, all staff said going to separate place is a need when their student has anxiety problems because they believe this is helpful to calm down. However, English staff said if some students generally have anxiety problems and are aggressive, they should study in a separate room for all time. However, Turkish staff is not sure about this. At this point, TMST2 stated:

*“One of the students should be educated in a separate room. However, I need to find a room in the school. It is real problem. Also, I am not sure about his parents' reaction. Maybe her mom can feel sad or get angry because she can ask why my child is separate from others”*

Similarly, the staff in Turkish schools generally were not sure about parents' reactions. Because of this, they are not sure staying a child in a separate room even though the school has some extra rooms. On the contrary, staff in English schools believes separate rooms should be improved because they are very sure the rooms are really important places and needs for keeping study for

students who are aggressive and anxiety. About this, ESET2 who believe the rooms should be more and improved went further stated:

*“Some student should be alone with a TA and this room should be dark, very quiet and they should be sitting on the floor”*

## **8. Consistency**

### *The data from observations in Turkish and English schools*

During observations, the staff tried to be consistent during teaching time. However, staff, particularly in TSES, generally cannot do it because the staff in Turkish schools believe they should be flexible depend on the students' feelings. For example, during lunch time in TSES, a teacher said do not eat your meal with your hand to his student and try to use spoon with the student. However, it stopped and allow to use her hand when his student started to cry. However, in English schools, teachers continuously used this approach. For example, during O8 in ESES, the teacher said you should read your books during 15 minutes and kept time. According to this teacher, if she stops to activity after 5 minutes, students can want to stop the activity at next time again after 5 minutes. According to the staff in English schools, this is not rigidity; this is consistency according to staff in English schools.

### *The data from interviews in Turkish and English schools*

In Turkish and English schools, staff generally believes consistency is important to permanently have a skill. Therefore, they believe the teaching became more quality with this way. Although the staff in Turkish schools believes this, they

generally said they cannot use this very well because of two reasons. Firstly, they said their student became unhappy if they keep this way. Therefore, they do not use this very much when their students became sad. Also, they emphasised using this is really difficult for low functioning children with autism. Therefore, using this method is difficult for their students. However, other staff in Turkish schools who were used this method said teachers should use this way very well for all level of children with autism because it can be used for all students and it is really useful. At this point, TSET3 stated:

*“One of my students never tried basic foods like yogurt, eggs, and olives etc. The family believes that she never eats them. I created an artificial kitchen. I got her to taste them with games, even forcing her. She first tasted them here. In the beginning, she ate little. The family got angry if their child was unhappy but I informed them we would continue on the process patiently and consistently. In time, she started to eat bigger pieces and now, she can eat on her own. For this reason, if we had given up, she would have never been able to succeed”*

Different from Turkish schools, the observations shows the staff in English schools always use this way. In addition this, another difference between these two countries is parents' reaction. All Turkish staff believes using consistency is sometimes problematic for the parent .Because of the fact that being consistent might be a reason of being the student's sadness at the start. Therefore, according to the staff in Turkish schools, their parents can be sad or angry if their child became unhappy. However, the staff in English schools did not believe using this way is problem for the parents.

## **9. Tactical Ignoring**

### *The data from observations in Turkish and English schools*

During observations, very little number of staff uses tactical ignoring in Turkish and English schools. For example, when student was crying, the staff did not



look the child in EMS1. Similarly, it was used in Turkish schools by some staff when their students were crying. The observations show this way is working to calm down because many staff immediately try to interest with their students to calm down when crying. However, their trying sometimes became a reason of more crying in these two contexts.

#### *The data from interviews in Turkish and English schools*

During the interviews, only 2 staff said they are using this way with their students to calm down. One of them is TSEST10 has stated:

*“For example, my student was always crying at the beginning. I ignored her and worked with other students. When I did this, she hit herself and threw the things. In that case, I make her collect the things that she threw and I said that she could go on crying. In that way, crying habit decreased day by day.”*

Similarly, in English schools, EMST3 stated:

*“After going to a separate room, I wait nearly 10 minutes because many children do not listen to you for around 10 minutes. If you try to speak with the children, it is waste of time and not useful. If you wait 10 minutes, children can spontaneously calm down and are able to understand and be receptive”*

## **10. Physical Support**

#### *The data from observations in Turkish and English schools*

If students needed physical facilitation, the staff supported them in both Turkish and English schools. In Turkish and English schools, staff used physical support to improve the writing skills of the students. In addition to this, in Turkish schools, physical support was used in order to develop the communicative skills of students. During O1 in TSES, in order to make students speak easily, the

teacher shaped the student's mouth with her hand according to the shape of the word that comes from the mouth normally.

The observations also showed that the level of physical help depends on the students' symptoms and needs.

#### *The data from interviews in Turkish and English schools*

When talking about physical support by staff, the staff in Turkish and English schools focused on talking about writing skills. For example, TSET4 emphasized:

*"My student has problems in holding a pencil and her writing assignments are done with my assistance."*

Similarly, EMS1 stated:

*"Some of the children do not like writing activities, so they give up with their pencil. If we support them to hold a pencil, they continue to write. Otherwise, they do not"*

The staff in the both of the contexts believed that physical assistance made these students feel independent and progress towards writing independently.

TMST1 explained:

*"My student was not able to hold a pencil. For this reason, it is normal to allow me to help writing because I proceed by decreasing physical support day by day."*

This idea is generally emphasized by staff in Turkish and English schools because they believe students should not depend on the staff, so this support should be declined step-by-step.

Different from English schools, the staff in Turkish schools also believed that this intervention was very useful to improve communication and speaking skills. Turkish staff used physical support for example to move the mouth correctly to form words. TSES4 stated that:

*“This way makes the student realize her mouth and how to shape her mouth in order to utter that word”*

## **11. Using Rules**

### *The data from observations in Turkish and English schools*

During observations, it was clear in English schools that the rules are generally about social relationships, such as being kind and respecting each other in English schools. On the other hand, in Turkish schools, the rules are generally about school and class management such as coming school after break, put rubbish in a bin. In the two contexts, through following rules the staff generally aim to improve social behaviour and encourage students to help with everyday tasks. For example, during observation in TMS1, the teacher encouraged the students to practice several activities such as putting away equipment after use, sitting when asked and leaving the class after arranging and cleaning the objects and class itself etc.

Despite having some similar aims in Turkish and English schools, Turkish staff usually created rules for each child in addition to some basic general rules such as going to the classroom after break time. It was clear that reinforcing individualised teaching was important in Turkish schools leading to rules for each child. However, in English schools, the rules were approved together with all staff and all students and the students had the same rules in each classroom.

In Turkish schools, some staff did not use rules for students who are low functioning children with autism. This reflected the view that children with severe symptoms would not benefit from the same interventions as children with less severe symptoms of autism. To some extent in Turkish schools the view of children with severe autism was that little could be done to improve their symptoms and the most important thing was to be kind to them and do things for them to alleviate any burden on them.

*The data from interviews in Turkish and English schools*

Turkish teachers also believe the rules are essential for the education of students with autism to improve their social and everyday skills. Similarly, in English schools, during interviews, the teachers stated that rules are generally helpful because the students learn their boundaries.

For example, TSET6 emphasized

*“I certainly set up rules. We have several rules like do not start with the meal before washing hands and come to class after the break. I think these facilitate their everyday skills within society. If this does not happen immediately, they become used to the rules in time.”*

Moreover, TSETT10 stated:

*“I share the daily rules with the students and they get used to it. This facilitates their life in society.”*

Similarly, ESET8 explained:

*“This is important for boundaries, but there is a key. We should have understanding of their capabilities to do something because rules should be positive. Stopping is not a rule because the connotation of such rules is really negative”*

All staff from the both contexts, during interviews, believed that some students can learn and adhere to rules quickly, whereas others find it difficult. Turkish staff stated that the families also have responsibility for applying these rules at home, because if the rules are only applied at school, they will not be permanent and the students cannot generalize them into their life. However, the teachers believed that parents were inconsistent in applying the rules at home. The staff in English schools did not state any negative points about families' support to using rules.

Another key difference between Turkish and English schools was that some teachers did not use any rules in Turkish schools. TSETT9 stated that:

*"I could not be authoritative against these children [all children with autism in their school] because I get upset if they get upset."*

However, in English schools, the staff believed that using rules was helpful for students' in their everyday life and would lead to the students being happier as a result of having basic life skills. Consequently, they were persistent in using rules with all children.

## **Appendix 12. Therapies**

### **1. Speech Language Therapy**

#### *The data from observations in Turkish and English schools*

During observations, any speech language therapist has been not observed. However, some staff said they use speech and language therapy such as sign language. For teachers, speech language therapists are helpful in terms of teaching speech sounds coming from the mouth. During observation, a teacher stated:

*“In general, therapist helped us to learn it, developed the concentration span of students in speech and used core vocabulary works (e.g. getting to request things they- do, more, stop, go) as a basis for the students having problem in speaking. They are just that really basic communication but it is helpful in practice.”*

#### *The data from interviews in Turkish and English schools*

The staff said although they have not a speech and language therapist now, they had the therapist before and the staff learn many activities from the therapist. About this, T4 stated:

*“I get into contact with the therapist that came to our school last year via e-mail and I ask several issues that I wonder.”*

### **2. Pet Therapy**

#### *The data from observations in Turkish and English schools*

There are dogs and rabbits in the school. During observations, it has been observed that education with these pets is not practiced as in-class activity but

as an individual practice with the guidance of a TA. Moreover, they perform activities by visiting a donkey sanctuary. The teachers call these activities as pet therapy. Teacher has explained the reason of the benefit of pet therapy during O1 by stating :

*“It develops social communicative skill of my student by facilitating friendship.”*

Moreover, during observations, teacher think that visiting donkey sanctuary is helpful for their students because they have stated that it develops empathy and eye contact and it contributes on the solution of their physical, social and communication problems. It has been also observed that students whose case is dramatic are sent to donkey sanctuary because development of their sensory problems, relationship and empathy skills are more important than of others.

#### *The data from interviews in Turkish and English schools*

During interviews, teachers have indicated that they use pets in education. They have stated pet using in education has several benefits. T2 has indicated:

*“Dogs help build those relationships and social communication with their pupils.”*

T9 has pointed out:

*“With the help of pets, children to talk more, release their emotions towards an animal. I think it's that communication barrier because the dog doesn't speak back but it shows you affection. Sometimes humans don't really know how to respond.”*

Similarly, T7 has emphasized:

*“Pets are intimate friends and they respond to students naturally. This is helpful for empathy development and calm-down. Moreover, touching softly is really useful for their sensory issues.”*

T8 has stated:

*“Cleaning of the environment that the rabbits stay and their nutrition are in the responsibility of some students. This develops their sense of responsibility.”*

Also, T4 stated:

*“Our children spend some time with the donkey, riding a donkey and then they spend some time grooming the donkey and feeding it and things like that. Donkeys and other pets don't have an ulterior motive, animals will either love you or they won't love you if that makes sense, animals won't look at you in the face, they won't raise a voice ,so animals are quite constant which is good for autistic children”*

All teachers, including teachers that have stated that they use pet education and pet therapy, have indicated that they took no education within this field. However, a trained staff is available in donkey sanctuary. In contrast to this educated staff, pets are already helpful for their natural traits.

### **3.Occupational Therapy**

#### *The data from observations in Turkish and English schools*

An occupational therapist comes to the school and he work with the staff together to improve the student's skills. During observations, they said this therapy develops motor skills and tries to solve physical problems. They also believe occupational therapy is helpful as an integration work.

In observations, this therapy is an activity that is used most and the basis of education in the school. Occupational therapist coming to the school identified what a student needs and prepared a booklet. In this booklet, it is clearly explained how a defined exercise is performed. Moreover, it is shown what objective it serves for. Therapist showed how to practice exercises to TAs by practicing them. TAs can practice these when the therapist does not come.



During observations, TAs had some students pull the rope and stretching arms and legs and got some line beads on a cord. Moreover, TAs have some students bubble and students puncture them with their hands first and then feet. Some students jump into ball pool and do activities with Pilate's balls. These and similar exercises within occupational therapy provide body development and control for students.

#### *The data from interviews in Turkish and English schools*

During interviews, all staff believe this therapy is essential to improve their students' behavioral skills. For example, T3 stated:

*"My student had problems on standing on the swing in sensory room within occupational therapy. We had him/her sit first and then, we swung slowly. As time passed, we speeded up and started to swing randomly. She can control her body anymore."*

#### **4.Play Therapy**

##### *The data from observations in Turkish and English schools*

During observations, it has been observed that this is the most common way that teachers use. However, such a method is only used for the children that are in primary school level. It has not been observed that this method has been used for children that are in secondary school level.

Play therapy is used under the guidance of teachers for these children at the beginning of the day and the first lesson after lunch break. During O1, teacher sat down on the ground and gather all the students with TAs. Aim is to increase motivation towards the lesson and constitute a pre-information session for the

lesson. Numbers are attracted with the help of grabby toys. For example, an illuminated toy that is operating by setting it up counts the numbers and move when it is set up. In this case, the aim is to gain students to count while they are playing with toys. In addition to such a pre-information, the toy illuminates everywhere accompanied with a song when it is set up. This develops concentration ability of students. In another observation (O2), the sound R is painted and lithography is performed. Such a practice is applied various locations and R sound is uttered by teacher in order to be repeated by students. It has been said that the aim is preparation for reading activity. Moreover, in another observation of O2, a student sits on a chair that can be rotated in 360 degree and teacher spins the chair. Then, vice versa. Teacher indicates that this calms the student down and teaches the order concept (first-second). Moreover, there is a practice called "Carpet Work". In this practice, teachers threw the pictures of students on the ground and asked a student to bring the pictures that was uttered by teacher. For teachers, such a practice is helpful for understanding oneself and environment. This an similar practices are the parts of fairplay. Benefits of fairplay is explained by a TA by indicating

*"Practices that are conducted by students together on the ground make them concentrated because it is closer than sitting on desk and facilitates the group work."*

#### *The data from interviews in Turkish and English schools*

7 members of the staff in the school took training of fair play therapy that is used to be a part of family project (See Appendix 13). Others have stated that they have learned and practiced fair play from the ones who took training.

During interviews, all teachers have emphasized that fair play is very helpful.

T10 has explained most important elements of play therapy by stating:

*“Play therapy which is basically learning through play and it is slightly more structured.”*

During interviews, it was clear that the staff commonly believe fair play is very helpful and even, it is inevitable for the education. T6 has stated:

*“Play therapy is fun way and this is quite effective.”*

Such effectiveness is a developer of motivation and concentration and so, it is also quite effective on eye contact.

T3 has indicated:

*“Play therapy is a reciprocal play and so, it develops relationship and social skills.”*

Besides them, teachers generally argue the idea of its's developing communication skills. In this issue, T2 has expressed

*“Play therapy develops social skills and attachment, it is too complex.”*

## **Appendix 13. Family Project**

Family project was conducted in four stages during observations. These four stages are applied to students by different people. Different students attended to practice but all the stages below were applied to each in the same way with their parents/family

### *1<sup>st</sup> Stage: Play Therapy*

1<sup>st</sup> stage covers play therapy and it is conducted teacher who is educated in this field. This stage is composed of following 4 stages:

- a) Teacher takes different toys from the box one by one accompanied with a song. These toys are illuminated and moveable. The aim is to develop concentration span and motivation by creating an excitement with these toys.
- b) A cloth is laid down the ground, 3 small pots are put on it reversely and foam is spilled on them. Then all these pots are pressed rapidly by using similar pots whose floor has holes. As a result, foam is flushed through holes. Aim here is to develop concentration span of students and make them motivated with a rapid focus.
- c) The student sits on the chair and it is rotated in 360 degrees. Before this, several orders are given to the child like come in, lean your back etc. Then, vice versa. The aim is to take orders, do these orders respectively and learn sharing when the turn comes to the teacher.
- d) Easter is coming and so, Easter eggs are painted. Finger painting is performed. The student chooses the colors. Teacher first paints then the

students do that. This stage is oriented at developing student's motor skills.

Teacher has stated that this stage generally develops the student's perception, concentration, eye contact and social and communication skills. Moreover, the last stage contributes on development of motor skills.

### *2<sup>nd</sup> Stage: Occupational Therapy*

Therapist works with each student in 20 minutes in the scope of family project. In this limited time, therapist has stated "it is hard to be in the school every time and I have a limited time with students when I come. For this reason, it is required that staff should observe my practices and implement them." In these observations, practices that are pre-determined and helpful for students are conducted.

### *3<sup>rd</sup> stage: Music (in Play therapy)*

This practice is conducted by 2 TAs. These TAs are not TAs that are in students' their own class but their relationship is good. This stage is also composed of 3 stages.

- a) Teacher puts a small frog figure on drum and student drops them by hitting the drum. They asked how many frogs students want and they hit the drum till all frogs fall down. From the putting to falling, TAs sing songs related to frogs. When the last frog is fallen, they finalize the practice by counting how many frogs fall down. They repeat it with different numbers of frog.

- b) There are a lot of balloons and different things inside them. The things such as water, salt, chips, beans etc. are located inside the balloons. When they are shaken, different sounds are uttered. They take balloons and asked to shake them while singing songs. They sing songs together.
- c) They make cake with music instruments. Each instrument is given an ingredient name. For example, egg, butter, milk, flour etc. are matched with different instruments. They imagine the instruments are ingredients and all of them are used when their turn comes. For example, while an instrument is played in stage of cracking egg, a bell instrument is played in the stage of pouring flour. Teacher makes the first cake with the students. Another cake is made by giving orders without correcting students. Students are expected to remember which instrument is matched with what and make the cake.

These develop social and communication skills because student do something with others and this develops their social adaptation skills. Moreover, eye contact, motor skills and concentration are developed.

#### *4<sup>th</sup> Stage: Play Therapy*

In this stage, the teacher has stated that they will finalize the family project by using play therapy as in the 3 steps.

- a) Teacher pours baby oil on the hand of student. In the process, teacher sings songs rhythmically and speaks in low voice rhythmically. This is applied to arms and legs of students separately. Student is relaxed and yawning.
- b) Teacher lets bubbles fly and asks the student to puncture them. Student was very active in other activities but interest of her/him is decreased in it. Then,

teacher takes a newspaper and holds it towards to child. S/he asks student to break it by hitting. Student seems tired. Then, teacher makes balls from paper and asks the student shoot a basket by holding his/her arms as a basket. Teacher says her/student to shoot when sausage word is uttered. When teacher says Christmas cake, chips etc., the student should not shoot. Last activity is oriented at developing concentration and listening skill. Moreover, it has been stated that it is helpful for gestures.

c) At the end of these activities, teacher gets his/her student laid down with pillow and blanket and massages him/her and sings songs in low a low voice. Student lays down in a relax and sleepy mode. Aim is to make student relaxed.

## **Appendix 14. Intensive Teaching**

Intensive teaching has 6 steps. They are:

### *Step 1:*

Letters are laid down the desk in a mixed way. TA asks students to order these letters. After the order is finished, teacher asks students to match these letters with a toy/object beginning with that letter. This is a pre-activity for reading-writing activity.

### *Step 2:*

- A) C sound was uttered by a teacher and student repeated it.
- B) Different letters were laid down the desk and it was asked student to find C among them.
- C) Finding C letter among different letters in a sand box.
- D) Glitter was poured on the desk and students were asked to draw C letter on glitter.
- E) Writing C letter with pencil

This activity has been stated as reading-writing activity.

### *Step 3:*

This step is applied in order to allow TAs to practice reading

- A) Letters are counted one by one



B) Each child is practicing reading

C) Selected sentences from the story are given to students and students are asked to find these sentences in the book.

*Step 4:*

A) While on the Pilates ball, trying to reach another ball. TA has stated “This activity develops both students’ physical and body control and eye contact because they try to reach another ball with a concentration.”

B) Shooting with a Ping-Pong ball on a mini pitch. In this activity where the student stands in one side and TA stands in another side, student tries to shoot goal by blowing a Ping-Pong ball with a pipet. For TA, this activity activates using speech organs by developing their breathing control. For this reason, this activity develops communication skill and eye contact because they need to follow the ball.

C) M sound is written on the air and repeated in the scope of Air Writing activity. It aims to develop communication skill.

D) Bubble catching activity was performed. Teacher made bubbles with foam and asked student to catch them. TA has state that it is oriented at developing eye contact.

*Step 5:*

Mathematic work was performed. Decimal numbers are given to students in certain visuals and students are asked to write the numbers with these visuals. They talk about the numbers by arguing which is which. These numbers differ

according to the level of children. For example, singular and plural numbers are practiced with different students.

*Step 6*

A) Sticking spaghetti into the holes of colander.

B) Taking beans from plate with sticks

C) Passing rope through the middle of a bobbin

D) Bending a pipet.

For TA, these activities develop motor skills of students.