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THE EFFECTS OF CARE TYPES AND TEMPERAMENT ON SELF CONCEPT AND SELF REGULATION SKILLS OF CHILDREN UNDER THE CARE OF SOCIAL SERVICES

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THE EFFECTS OF CARE TYPES AND TEMPERAMENT ON SELF CONCEPT AND SELF REGULATION SKILLS OF CHILDREN UNDER THE CARE OF SOCIAL SERVICES

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ABSTRACT

THE EFFECTS OF CARE TYPES AND TEMPERAMENT ON SELF CONCEPT AND SELF REGULATION SKILLS OF CHILDREN UNDER THE CARE OF SOCIAL SERVICES

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The aim of the present study was to compare the self-development and self regulation of toddlers under the protection of government based on where they reside e.g. foster care, care villages, child homes and institutions. Temperament was taken as a moderator. Participants were 24-35 months old children who were residing in different care types in Ankara, Denizli and İstanbul and children who were staying with their families in low socioeconomic high-risk environments in Ankara. In order to measure self-concept development, The Self-Concept Questionnaire (SCQ) was used and three self-recognition tasks (mirror task, mat pick-up task, and photo task) were administered to children. Four temperamental characteristics (frustration, inhibitory control, perceptual sensitivity and soothability) were taken from Early Childhood Behavior Questionnaire (ECBQ). Moreover, self-regulation of children was also measured by one of the sub-scales of (SCQ), and gift delay task. Hierarchical regression analyses were run for each developmental outcome in order to see the moderator effects of frustration and perceptual sensitivity. Chi-square analyses were run for each self-recognition task in order to see the difference between different care types. The results revealed that there was a significant difference between institutions and child homes on self-description and evaluation

and self-recognition sub-scales. Children in the low SES families were better than children in the institution on the sub-scales of SCQ and photo task. In addition, moderation role of perceptual sensitivity and frustration were found between care types. The results were discussed in the light of the literature.

Keywords: Institution, Child Homes, Self-Concept, Self-Regulation and Temperament

ÖZ

BAKIM ÇEŞİDİNİN VE MİZACIN DEVLET BAKIMI ALTINDA KALAN ÇOCUKLARIN BENLİK GELİŞİMİ VE KENDİNİ KONTROL BECERİLERİ ÜZERİNDEKİ ETKİSİ

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Bu çalışmanın amacı, korunma altında olan çocukların bakım çeşitlerine (çocuk evi, sevgi evi, çocuk yuvası ve koruyucu aile) göre gelişimlerini karşılaştırmaktır. Benlik gelişimi ve kendini düzenleme becerisi, gelişimsel sonuç olarak alınmıştır ve çocukların mizacının aracı değişken olarak gelişimleri üzerindeki etkisine ayrıca bakılmıştır. Katılımcılar Ankara, İstanbul ve Denizliden 24 ila 36 ay arası çocuklardır. Devlet bakım çeşidine ek olarak, ailesinin yanında büyüyen fakat ekonomik olarak dez-avantajlı ortamda yetişen çocuklar da karşılaştırma grubu olarak alınmıştır. Çocukların benlik gelişimlerini ölçmek için "Benlik Gelişim Envanteri" Türkçeye çevrilerek kullanılmıştır. Ölçeğin yanında, üç farklı yöntem de kullanılmıştır; bunlar ayna da kendini tanıma, battaniyenin üzerinden kalkma ve fotoğrafta kendini tanıma. Kendini kontrol becerilerini ölçmek içinde hediye için bekleme (gift-delay) yöntemi uygulanmıştır ve çocukların bekleme süreleri ile hediyeye dokunma davranışları kaydedilmiştir. Mizaç ölçeği olarak ta, "Çocuk Davranış Anketi" Türkçeye çevrilerek dört alt ölçeği (engellenme/mahrumluk, engelleme denetimi, algısal hassasiyet ve sakinleşmedir) kullanılmıştır. Uygulamalar çocuklarla bireysel olarak yapılmıştır, ölçekler ise kurumlarda bakıcı anneler evler de

anneler tarafından doldurulmuştur. Kurumlarda gelişim farklılıklarını ve mizacın aracı değişken rolünü görmek için hiyerarşik regresyon analizi kullanılmıştır. Çocuklara uygulanan benlik gelişim uygulamalarının gruplar arası farkını görmek için ise ki kare testi kullanılmıştır. Çalışma sonuçları göstermiştir ki, çocuk evinde kalan çocuklar ile çocuk yuvasında kalan çocuklar arasında benlik gelişimleri açısından anlamlı bir fark vardır. Aile yanında kalan çocuklar ile çocuk yuvasında kalan çocuklar arasında da benlik gelişimi açısından anlamlı fark bulunmuştur. Ayrıca mizacın aracı değişken olarak bakım çeşitleri ve çocukların gelişimi arasında yordayıcı rolü bulunmuştur. Tüm bu bulgular, çalışmanın katkıları ve eksiklikleri literatür kapsamında tartışılmıştır.

Anahtar kelimeler: Çocuk Yuvası, Çocuk Evi, Benlik Gelişimi, Kendini Kontrol Becerisi ve Mizaç.

To my familiy

And

To my lovely brother, Tosuncuk

And

To my extended family with my friends

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CHAPTER 1

INTRODUCTION

In this first section, characteristic of institutions and alternative care types and their effects on the development of children will be explained. Then, self-concept will be defined based on the literature. Developmental process of self-concept and assessment of it will be given. Next, development of self in children at risk will be compared. Then, development of self-regulation will be explained in the same way. Self regulation concept, developmental process, measurement types and developmental outcomes in different care types will be discussed. In the last part, temperament will be explained with the light of the Differential Susceptibility Theory. Moderating role of temperament on self-concept and self-regulation development in different care types will be explained broadly. Lastly, specific hypothesis based on the literature will be stated at the end of the introduction part.

1.1. Care Types in Social Services

1.1.1. Institutional Care

Institutional care is a type of care given to children who are cared by social services. Children stay within a group with other children usually in one building. It is the most widely used care type in the developing and under-developed countries (Ainsworth & Thoburn, 2014). These children have to be cared because of several reasons. Some of them lost their families; some of them are born in an economically disadvantage families and some of them are taken from their families because of the abuse problems (Tirella, Chan, & Miller, 2006). Therefore, most of the children have already some risk factors at birth such as lack of prenatal care, low birth rate and some developmental problems (Miller, Chan, Litvinova, Rubin, Comfort, Tirella, Cermak, Morse, & Kovalev, 2006**).** Staying in the institution increases the potential risks on their developmental outcomes.

Although most of the institutions have not got nutrition problems, physical conditions are not always in the optimal form. For example, goods and furniture are not suitable for children, and toys are not enough (McCall, 2013). However, there are other conditions that affect children's development more than physical characteristics of the environment. Being raised in a large group of children, lack of individualized and sensitive care, affect children more negatively (The St. Petersburg–USA Orphanage Research Team, 2005). For example, McCall and colleagues (2005) have conducted a research about environmental conditions in institutions. They provided a description about the life conditions of children in the orphanages. Three orphanages were observed in the St. Petersburg where pre-scholars are cared. Caregivers were also observed in the wards with 9-13 children in their free times other than basic care activities like feeding and changing clothes. The findings showed that these three baby homes were not below the standards. When they were compared with the USA non-residential home care, nutrition, safety and the health conditions seemed to be equal. Although, most of the caregivers had low education levels, they were trained about how to raise a child. However, still some institutional effects were observed. The results revealed that there was a lack of warmth and interaction between care-giver and the child. The caregivers did not responds properly to the child's initiations and they performed daily routines like feeding and bathing rapidly without showing any affection to the child (The St. Petersburg–USA Orphanage Research Team, 2005**)**. Furthermore, according to the research about time use in Russian Baby Homes, pre-school children spent their half of the time alone, while infants spent 65% of their time alone. The proportion of the individual care by the caregivers was 18%. They tried to manage children most of the time (58%) and they were not in the room 12% of the time in a day (Tirella, Chan, Cermak, Litvinova, Salas, & Miller, (2008).

In addition, Aydın (1997) also revealed the situation in Turkey. He stated that because of the lack of caregivers, one care-giver was responsible from at least 8-10 children. In some of the institutions group sizes can go up to 20 (as cited in Atli,

2008). Therefore, children cannot develop a healthy emotional relationship with their caregivers.

Furthermore, inconsistency of the caregivers is another problem in the institutions. Roy, Rutter and Pickles (2000) stated that because of the work shift, holidays, and turnovers, children are exposed to several caregivers. Children may change their wards when they reach to a certain age and this procedure also leads to the change in caregivers and peers and increases the inconsistency of the caregivers (as cited in Yağmurlu, Berument, & Celimli, 2005). There are also other staff in the institutions like teachers, nurses and cleaners. Thus, children may see 50-100 caregivers until the age of two (The St. Petersburg–USA Orphanage Research Team, 2005). These conditions are not the optimal position to raise a child and they affect the children's development negatively. Effects of institutional care on children's development will be discussed in the next session.

1.1.2. Developmental Effects of Institutional Care

Children who are raised in institutions may have developmental latencies and problems because of the given reasons above. For example, due to care-giver inconsistency, socio-emotional development of the children is affected negatively. McCall (2012) stated that insufficient caregiver - child interactions in the institutions was the main contributor to social and behavioral problems of the post-institutionalized children. Juma and Askew (2007) have found that children in the institutions especially girls used less compassion and love words compared to the home raised children. They also stated the feeling of worthlessness (as cited in Atli, 2008).

Research findings have also indicated that children who were reared in the institution have physical deficits (Smyke, Koga, Johnson, Fox, Marshall, Nelson, & Zeanah, 2007), atypical brain development (Nelson, Bos, Gunnar and Sonuga-Barke, 2011), and cognitive latencies (Smyke et al., 2007). For example, Yağmurlu, Berument and Celimli (2005) investigated the theory of mind development of institutional children

and home reared children from middle to low socio economic status (SES). It was found that institutional children had worse outcome in the theory of mind tasks than home reared children both from low and middle SES group. In addition, the effects of institutionalization on memory processing of children were investigated in a recent electrophysiological study (Güler, Hostinar, Frenn, Nelson, Gunnar, & Thomas, 2012). 9 to 11 years old adopted children who had stayed more than 12 months in the institutions and children who stayed less than two months in the institutions before the adoption and never-institutionalized children were compared on episodic memory and continuous recognition memory. The findings revealed that children who stayed in the institutions longer had more errors in the episodic memory task than other groups and they showed deficits in episodic memory. However, there was no difference between children who stayed less than two months and home reared children.

Staying in the institutions affects also development of attachment and emotions of children. Vorria et al., (2006) compared four years old adopted children who stayed in the institutions during the first two years of their life to home reared children. It was found that although their physical growth was recovered after the adoption, they were still less secure and had problems in understanding the emotions compared to home-reared children.

Furthermore, behavioral problems are also most widely observed problems of institutionalized children (Rutter, Kreppner, & O'Connor, 2001; Groza & Ryan, 2002). Kjelsberg and Nygren (2004) have examined behavior problems of the children and adolescents in the institutional care and children and adolescents in the psychiatric clinics. They found that boys in the institutional care had behavioral problems as much as boys in the psychiatric clinics. Although, girls in the residential care did not have behavioral problems as much as girls in the clinic, their problem levels were still high compared to typically developing children.

Staying in the institutions also has long term consequences. For example, Tirella, Chan and Miller (2006) conducted a study with 81 children at the age of 8-12 years who were adopted at the age of three. The results have revealed that more than half

of the children needed special education. Thirty eight percent had behavioral and attention problems. Moreover, Sigal, Perry, Rossignol and Ouimet (2003) investigated the longitudinal effects of being raised in the institutions. They found that compared to the randomly selected middle aged community sample, middle age people who stayed in the orphanages had more social problems and had more chronic illnesses because of the stress.

1.1.3. Few Studies from Turkey

Some developmental studies have also showed developmental latencies of institutionalized children in Turkey. Uyanık-Balat and Güven (2005) compared 113 home reared and 63 institution reared preschoolers in terms of basic concepts in pre-school years. The findings revealed that home reared children's concept gain was significantly higher than the children in the orphanages. Moreover, Erden (2005) found that emotional understanding and expression of the feelings of the adolescents who grew up in the institution were significantly different than the home reared adolescents'. They had more problems in the understanding and expression of emotions and there was a significant relationship between their emotional understanding and their depression level (as cited in Atli, 2008).

According to these findings, negative effects of institutional care appear to be inevitable. Therefore, some alternative care types developed by the Social services around the world including Turkey. Instead of large institutions, group homes, care villages, foster care and adoption are encouraged. In Turkey, large size institutions have been changed with the care villages and child homes since 2005 (Yolcuoğlu, 2009).

1.2 Foster Care and Adoption and Their Developmental Effects

The best environment for the children is their biological family environment. The advocators of the family based care state that "any family is better than any institution" (as cited in McCall, 2013, p. 198). According to the findings in the

literature, biological family environment is better than adoption, foster and institutional care. Adoption is better than foster and institutional care, while foster care is better than institutions for the development of children (McCall, 2012; Wiik et al., 2011; Windsor, Moraru, Nelson, Fox, & Zeanah, 2013). However, as stated above, it is not always possible for children to stay with their families. Therefore, alternative care types have to be considered. In this part, family-based care types will be defined and their developmental effects will be explained.

1.2.1 Adoption

Adoption is an alternative care type of care for children who lost their families or whose families are unable to care for them. It is a legal and psychological way to have a child. Governments have some rules for adoption like being married at least for five years for couples and at least 18 years age difference between the adopted child and the parent in Turkey (Ministry of Family and Social Policies [Aile ve Sosyal Politikalar Bakanlığı]).

Positive effects of adoption on child's development have been found by many researchers (Palacios & Brodzinsky, 2010; Tirella, Chan, & Miller, 2006). If children are adopted at an early age, they may recover the negative effects of institutional care. According to McCall (2011), early adopted children from the institutions do not show developmental deficiencies and problems more than the home-reared children (as cited in McCall, 2013). On the other hand, if children are adopted at older age after a prolong institutionalization, their developmental deficiencies persist (McCall, 2013). For instance, Hawk and McCall (2011) assessed the adopted children at the age of 12-18 years. It was found that children who stayed 18 months or more in the institution had higher problems than children who stayed less in the institutions.

1.2.2 Foster Care

Foster care is another family based care for children who are under the care of social services. It is a temporary family care for children whose families could not take care

of them for a certain time. Children get placed in another family who is approved by the social workers for a short or long term placement. The aim of this care type is to provide a healthy environment for children while problems about their families tried to be resolved (Ministry of Family and Social Policies [Aile ve Sosyal Politikalar Bakanlığı]). Foster care is the main care type in the developed countries. In Turkey this system started in 1961. In developed countries 75 % of children who are taken into care, are placed in foster care, however, only 4% of children are cared by the foster families in Turkey (Yolcuoğlu, 2009).

There are large scale research projects investigating the developmental effects of foster care on children. For example, Ghera et al. (2009) have used foster care as an intervention for children in the institutions. Institutionalized children were divided randomly to foster care or continue to stay in the institution. Families were chosen by announcement. Special education was given to families about institutions and cultural difference. Children's attention and emotional expression were compared with the never-institutionalized group at the age of 30 months and 42 months. Even after a short period of intervention, foster care children showed more positive emotions and attention than children who stayed in the institutions. In addition, children who were placed into the foster care after institutionalization had also cognitive improvement. According to the eight years follow up study from BEIP, children who randomly placed into the foster care had higher IQ scores especially verbal comprehension part of the test at the age of eight. Although, those children were not in their first places because of the intent to treat approach, the positive effects of foster care still persisted (Fox, Almas, Degnan, Nelson, & Zeanah, 2011).

Furthermore, positive effects of foster care was also found in emotional understanding (Tarullo, Bruce, & Gunnar (2007) and language development (Croft et al., 2007; Windsor, Moraru, Nelson, Fox, & Zeanah 2013) of the instuitionalized children.

1.2.3 Challenges for the family-based systems

Findings revealed the importance of the family-based care types for the development of children. This system is also cheaper way to rear children who need to be cared. Improving institutions needs more resource and energy than implementation of the family based care types (McCall, 2013). However, there are some challenges to the implementation of adoption and foster care. Firstly, culture of the country may not always allow adoption and foster care. Some religious beliefs may prohibit the adoption of someone else's child. For example, Japanese people prefer to have arranged adoption between families instead of an adoption by the governmental system. They have some cultural concerns like taking a "stranger" into their families. (Ainsworth & Thoburn, 2014). Secondly, the number of social workers may not always enough to evaluate the families for adoption and foster care (Yolcuoğlu, 2009). Thirdly, sometimes governments are willing to pay the families who cannot rear their own children because of the financial problems. However, this may be incentive for them to have more children in order to take money. Thus, governments may prefer to take children under the care of social services instead of paying money to the families (McCall, 2013). Therefore, governments have to find an alternative care types when adoption and foster care not always possible since institutional care is associated with undesirable child outcomes. Group homes and care villages appear to be other options for children in care. Thus they will be explained in the next session.

1.3 Alternative Care Types around the World

There is a huge diversity in the use of terms to refer to care types. Residential care, institutional care, orphanages, group homes, children's homes and campuses, and foster-care homes are used interchangeably. Although institutions and the orphanages are a little different than other types because of the number of children residing there, the conditions of alternative care types are not well known (Lee & Barth, 2011). Therefore, we should be careful about comparing care types in different countries. For example, group homes in US consist of 20-25 children or

adolescents. They are established inside the neighborhoods, smaller in size and have more family like settings compared to the traditional institutions. Group homes are the mediator system between institutional care and family-based care. Children have more freedom and they can participate in the neighborhood activities. This system helps children to get used to community life before they are placed into a family (Baker & Calderon, 2004). However, children's homes in Japan are placed in one campus. Children are divided into small units with the professionals who are mostly volunteers (Ainsworth & Thoburn, 2014).

Although there are differences between the countries how they name the care types, there is a tendency of all to decrease the group sizes of children in care and establish a more family-based care. UNICEF and the European Union encouraged governments to establish child homes with the size between 8-15 children (Ainsworth & Thoburn, 2014). However, the common care types are still large institutions or small groups within a campus. Both of them are far from the family-home environment. These systems are more common in the developing countries, but we can also see them in some developed European countries (Ainsworth & Thoburn, 2014).

Large institutions have been replaced with the smaller units since 2005 in Turkey (Family and Social Policies Minister [Aile ve Sosyal Politikalar Bakanlığı]). In some cities child homes and care villages have been established. Child homes resemble the group homes in the US since they are also established in the neighborhoods. Eight to ten children are placed in the child homes. There might be problems in the communities about these homes since they may think that children in the group homes may affect their children negatively. Cameron and Crewe (2006) have investigated the 23 group homes in neighborhoods in terms of the rejection by the community. They reported that majority of the group homes faced with the rejection initially. And one third of them continued to experience exclusion by the community. Therefore, establishing homes in the neighborhoods needs careful attention. On the other hand care villages resemble the system in Japan. Houses are placed in one campus but children are still separated from the community with this way. The

characteristic of the child homes and care villages in Turkey will be explained in the next session.

1.3.1 Child Homes and Care Villages in Turkey

Child homes and care villages are the alternative care types in Turkey**.** Child homes are the houses in the neighborhoods where 5-8 children are residing together. The aim is to raise children within the community as typically developing children. The houses are chosen in good neighborhoods. Compared to child homes, care villages are like institutions. However, rather than one building, different houses are established in the same campus. Children are raised in smaller houses rather than one big institution (Family and Social Policies Minister [Aile ve Sosyal Politikalar Bakanlığı]).

1.3.2 Comparison of The Care Types in Terms of Developmental Consequences

Although there is a extensive literature about the effects of institutions on children, few studies investigated the developmental effects of child homes. There is also definition problem of the alternative care types as stated above. Therefore, while interpreting the result of the studies, special concerns are needed.

Muñoz-Hoyos et al. (2001) compared two institutions with two different group size. One of them was a traditional institution and 101 children were being cared. The other institution was more group based as family-like atmosphere and there were 66 children. These two groups were compared in terms of physical growth, mental maturity and learning concepts. The findings revealed that children in the smaller group had better growth and development in all psychometric evaluations. Although, this was not a group home, this study showed that decreasing the number of the children in the group would result in better outcomes. Furthermore, Wolff and Fesseha (2005) have compared children who were reunified to their extended families, with group home and orphanage children in the Eritrea after the war. They also compared with those types of care with the home-reared children in terms of

well-being and adaptability, and emotional distress. Children were between 10 to13 years of age and they had been living in the current placement (care-types) at least for two years. Findings revealed that, reunified children had higher adaptability scores than orphanage children but their emotional distress level was same. In addition, group home children who had been living with one caregiver in a small group had higher adaptability scores and fewer signs of emotional distress than both children with their extended families and orphanage children. Interestingly, group-home orphans had also less emotional distress than home-reared children.

To the best of our knowledge, there is no study which compared the developmental effects of these care types in Turkey. Compared to the institutions, positive effects of child homes and care villages on the development are expected because of a smaller group size and more consistent caregivers. However, these expectations need to be tested. Therefore, in this thesis, two developmental dimensions (self-concept and self-regulation) will be compared in children who are living in the child homes, care villages, foster care and the institutions in Turkey.

In the next sessions, the concepts of self and self-regulation and their developmental course and the effects of different care contexts will be explained.

1.4 Self-Concept Development

1.4.1.1 Concept of Self

Self has been defined by different theorists and psychologists differently according to their theoretical perspective. There are a number of terms used to refer to self, such as "self concept, self-image, self-esteem, self-worth, self evaluation, self–appraisal, self-perception, self-representation, self-schemas, self-affects, and self-efficacy" (Harter, 2012, p. 19). Harter (2012) stated that self-representation is used as a general self-concept and is defined as how one defines him/herself thorough the language consciously. In this section self-awareness, self-concept and self-recognition will be used interchangeably.

Understanding of the self can be divided into three dimensions which are self-recognition, self-evaluation and self-regulation. Physical self-recognition is seen as one of the first signs of self-awareness in early years (Brownell, Zerwas, & Ramani, 2007; Lewis & Ramsay, 2004), while self-evaluations are the socio-emotional part of the self. How others see the identity of one shapes that person's self-concept through these social interactions. Judgment of others also plays a role on the affective part of the self by the feelings of pride and shame (Harter, 2012). In some studies, self-evaluation has been taken as a sign of self development (Bosacki, 2013; Lewis & Ramsay, 2004; Stipek, Gralinski, & Kopp, 1990). The third part of the self is self-regulation. Developing self-awareness also helps to increase one's self control. Inhibiting yourself not to do inappropriate behaviors require the development of self-awareness and a child should differenciate between own autonomy and others' (Berk, 2004).

1.4.1.2 Development of The Self

Development of the sense of self is an important dimension for later well-being and competence. It starts to develop in infancy and continues through the life. Showing anger at 4 to 5 months of age is the sign of self. Infants start to show joint attention at 9-12 months of age which implies that they have a sense of separation from others (Sheridan, 2008). Although early signs of the self can be seen very early in life, development of self-concept starts in the half of the second year of life with the recognition of self physically. Evidence of self- development is shown by children by pointing to themselves in the mirror, referring to themselves as an object, and recognizing themselves in the pictures (Lewis & Ramsay, 2004, Stipek, Gralinski, & Kopp, 1990). The development of I" self" improves with the development of language (Harter, 2012) and toddlers start to describe themselves during the second and third year of life (use "big", "little"). When they are asked to describe their self, they will probably answer as "I am a boy/girl and I have black hair" (Jacobs, Bleeker, & Constantino, 2003). I-self is defined as the actor or observer of the self, whereas me-self is the object of one's self evaluations or observed self. With the help

of the language, "I" self starts to describe me-self in early childhood (Harter, 2012). For example, children use their names to refer to themselves and describe their characteristics such as having a black hair.

During the middle childhood (nearly 5-8 years of age), children start to describe their self in a more accurate way. They may describe their self with their competencies. For example, they may say that "I am good at swimming, drawing, running". They also learn the concept of opposites. They believe that one person has one trait or not. You can be "all bad" or "all good" according to them. They could not integrate the opposing concepts yet (Jacobs, Bleeker, & Constantino, 2003). During the adolescence, they have different self-concepts based on their roles and relations. According to Pettersen and Leffert (1997), they focus more on the psychological characteristics instead of physical ones in their self-descriptions (as cited in Jacobs, Bleeker, & Constantino, 2003). Thus, children's self-descriptions changes with age. Therefore, measurements of the self-concept also changes according this.

1.4.2 Measuring the Self in Toddlers

Early sign of the objective self development is seen as physical awareness (Moore, Mealiea, Garon, & Povinelli, 2007). One of the self recognition tests is the rouge test. In this test, rouge (red spot) has been put on the toddlers' nose and they are placed in front of the mirror. If a toddler points to the rouge on his/her nose, it is taken as an evidence of self-recognition and self-awareness (Lewis & Ramsay, 2004). There are also different ways to measure body self-awareness. The blanket task is one of them. In this task first a child is placed on a mat, and then he/she is asked to give the mat to the experimenter. For example, Jennings et al. (2008) showed an attractive picture of the bear under the mat to the toddlers. Then, they placed the toddler on the mat and asked to the child "Where is the bear". If the toddler tried to give the bear while still sitting on the mat, it was interpreted as child could not understand the self as an object. If he/she first removed his/her self from the mat, then tried to show the bear, it was accepted as the evidence of the body awareness. Moreover, DeLoache, Uttal, and Rosengren (2004) have tested 18 to 30 month old children's ability to use visual

cues about sizes. Firstly, children were exposed to three large toys which were a car, indoor slides and a child size chair. They were allowed to play with the toys freely. After the experimenter was sure that children interacted with the toys at least twice, they were taken from the room. Then, toys were changed with the miniature versions. Then, the child returned to the room again and his/her reactions and behaviors were observed. Children's errors like trying to sit on a miniature chair or trying to put his/her foot inside the car were coded. It was found that until the age of 30 months, toddlers try to place their bodies into the miniature toys. This shows that objective self about their bodies has not been developed yet.

Besides the body size tasks, there are also different ways to measure physical awareness of the toddlers. Photo task is one of them. In these tasks, three face photographs are presented to the toddlers. Child's photo was taken before the experiment and placed between other toddlers' photos that had been taken for the study. The photos were presented to the toddler and asked "Where is the (child's name)". If the child could point his/her picture at the first trial, this shows the self-recognition of oneself (Jennings et al., 2008). Moreover, there are also some questionnaires to measure self-development in toddlers like Self Concept Development Questionnaire (Stipek, Gralinski, & Kopp, 1990) in which questions about self-evaluation and description, self-recognition, self-regulation and autonomy are asked to the mothers.

In the present study, one of the blanket tasks, photo task and rouge task will be used to measure body-self awareness in toddlers. In addition, Self Concept Development Questionnaire will be completed by the mothers.

1.4.3 Factors Affecting Self Development

Development of self is affected by many factors like gender, culture and social environment including friendship and peer group (Brown, Mangelsdorf, Neff, Schoppe, & Frosch, 2009). Thompson and Goodvin (2005) stated that because of primary interaction with the social environment, **family relations** correlates with the

positive self-development of children (as cited in Brown, Mangelsdorf, Neff, Schoppe, & Frosch, 2009).

Care, unconditional love and parental practices toward their children may define the children's perception about their self and environment. Üstün and Akman (2002) stated that children who are raised in the positive environment with unconditional love and care will develop positive self-perception. However, if their family environment lacks these factors, those children may develop negative or low self-perception. Yazıcı and Taştepe (2013) have investigated the relationship between family environment, perception of parents and self-perception of preschool children in Turkey. It was found that parents who focused more on the family unity and togetherness about their family environment affected their child's self- perception positively. In addition, children who have **families focused more on the control of their environment** had more negative self-perception.

Parenting roles, expectations and judgments may also affect the child's development of self. Brown, Mangelsdorf, Neff, Schoppe, and Frosch, (2009) investigated the relationship between both mother's and father's parenting behavior, triadic interaction and preschoolers' self reported personality. It was found that families who have positive triadic interaction had children who reported their selves more positively. In addition, parenting behavior was found as a moderator between temperament and self reported personality. Supportive and positive parenting behaviors one year later resulted in more positive self descriptions for children who had difficult temperament. However, negative and hostile parenting behaviors resulted in more timid self descriptions of children especially who were more shy and bold.

Moreover, **parental evaluative feedback** may also be influential on children's self development. Positive (appraise) and negative evaluations relate to particular self evaluative emotions in children (Alessandri & Lewis, 1993). Lewis (1993) stated that parents' global attribution to characteristics of a child or attribution to the situation will affect the child's self perception. For example, if the parent attributes failures to

the child's ability instead of to the hardness of the task, the child experiences shame or guilt (as cited in Kelley, Brownell, & Campbell, 2000). Similar to the **parental evaluation, parental control** also affects children's self evaluation and emotions. Kelley, Brownell and Campbell (2000) examined the role of parental control and evaluation style on children's motivations and self evaluative expressions. It has been found that negative evaluation and control of the mothers at two years of age would result in more shame at the age of three. Positive evaluations were related with more motivation and persistence on children one year later. In addition, autonomy supporting control decreased the child avoidance from the difficult task one year later.

Maternal limit settings have also implications on children's self development and self regulatory behavior. Limit setting **behaviors includes controlling and directing** the child's behavior. However, some non-limiting methods like explaining, giving feedback, and suggesting can help to improve child's cognitive reasoning and development (Houck & Lecuyer-Maus, 2002). For example, **teaching based maternal limit setting** related with the more positive self concept development. **Inconsistent and indirect maternal style** yielded the most negative outcomes on the development of toddlers (Houck and Lecuyer-Maus (2002). Lecuyer and Houck (2006) also found that mothers who gave more reasoning about the task and spent more time with the interest of the toddlers had more developed self concept at the age of three.

Moreover, **disadvantage socioeconomic (SES) background** is a major risk factor for optimal development. SES levels can be predicted by income, parental education and parental occupation. In addition to poverty, parental practices and negative environment are additional risk factors effecting children's development. Maternal education defines parenting style and how mothers behave toward their toddlers (Evans & Rosenbaum, 2008). Maternal education was found to be related with the autonomous goals for their children. Educated mothers were found to be less directive, more teaching oriented and more supportive in mother-toddler play and emphasize autonomy more (Kärtner, Borke, Maasmeier, Keller, & Kleisi, 2011).

As mentioned above, parenting practices, education and maternal limit settings are the factors that affect the toddlers' self and autonomy development. Negative environment in family and some parenting styles can be risk factors for children's self development.

1.4.3.1 Development of Self Concept in Institutions

As mentioned above, socio-emotional environment and child rearing practices are really important factors for the child's self development. Institutions are not healthy environments for children's self development. Although some institutions have better living conditions in terms of nutrition and furniture, most of them have some common characteristic. They have large groups of children, but not enough caregivers, and most of the caregivers do not show warm, sensitive and child-directed behaviors (Yağmurlu, Berument, & Celimli, 2005; McCall, 2013). These conditions result in negative developmental outcomes for selfdevelopment.

In the literature, few studies have investigated the effects of institutionalization on children's self concept development. It is inevitable that their self development is affected by the negative conditions of the institutions. One of the early studies showed that children staying in the orphanages have negative self concept (Warger & Kleman, 1986). Therefore, the writers developed an intervention program by using drama techniques and they observed an improvement in positive self concept in institutionalized children especially who had behavioral problems (Warger & Kleman, 1986). Moreover, Üstün and Akman (2002) investigated the self perception of the 8-11 years of orphanage children in Turkey. 90 children from Keçiören Atatürk Child Care Center participated in the study. The findings showed that there was a significant gap between real perception of the self and ideal self in institutional children at every age. They argue that the difference between ideal self and the real-self shows that these children do not have a healthy self development.

There are also many studies about left behind children in China. Although they are not orphanage children, they have to live separately from their parents. Families in rural areas have to move in the urban for working but they cannot take their children with themselves because of the taxes in the urban. Therefore, their children stay in their house alone or with one parent (Fan, Su, Gill, & Birmaher, 2010). Wang, Ling, Su, Cheng, Jin, and Sun (2014) have investigated 18 articles about the effects of being left behind on self development of children. It was found that left behind children have lower self-concept development, lower self-esteem and life satisfaction, lower self confidence and more behavioral problem compared to children who are living with their families.

To the best of our knowledge, there is only one study which investigated self concept development of the toddlers staying in the institutions. Andeeava (2009) compared the self image of orphanage infants with the typically developed children. They used the mirror reflection test in infants and self recognition of one-self in the picture and sense of ownership in toddlers. The results showed that there is a significant delay in self development in orphanage children compared to children who are raised by their families. The author argues that this delay would probably affect the personality development in their later life.

Compared to studies on institutional care consequences, there are studies about self-concept development in adopted and foster care children. These findings will be given in the next session.

1.4.3.2 Development of Self in Adopted and Foster Care Children

Adoption can be an advantage for the development of children and it may help them to recover their developmental latencies. Chisholm (1998) showed that compared to their age-mates in the institutions Romanian children displayed gains in their cognitive and behavioral development after the adoption (as cited in Vorria et al., 2006). Vorria et al. (2006) have studied the development of four years old children. They compared the adopted children who spent their first two years in the institutions

with the family reared children. The findings showed that adopted children recovered in physical development and behavior problems. However, when they compared with the family reared children, adopted children showed less secure attachment and lower scores on cognitive task. Studies have showed that the development of adopted children can be better than children staying institutions, but still adopted children have more behavioral problems than family reared children (Wiik et al., 2011).

Although there are number of studies about the development of adopted children, few researchers have examined the effect of being adopted and being in a foster care in terms of self development of children. However, looking for the other developmental results, it can be said that self-evaluation and self concept development of adopted children would be better than children who are staying in the institutions currently. This may also depends on the duration of stay in institutions. If the child is adopted at first year, his/her self development would be better than other children who are adopted after their second and fourth birthdays (Lansford, Ceballo, Abbey, & Stewart, 2001). It may be hypothesized that length of deprivation would affect the representation about the self and the self esteem. The longer children stay in the institutions; they are more likely to have low self esteem and distorted self representation.

Furthermore, although, there is no study about self development in adopted toddlers and preschool children, there is much more literature on the effects of adoption on the adolescents' and adult's self esteem and self evaluations. Adopted children may have low self esteem compared to the normal children. They may recognize the physical differences between their self and their families and they may evaluate themselves more negatively (Tieman, Van der Ende, & Verhulst, 2005). This situation could be more serious in internationally adopted children. Lee (2003) stated that the lack of physical similarity between family members in internationally adopted children might disturb their self concepts and self esteem. However, according to the Juffer and IJzendoorn's (2007) meta-analytic study, there was no difference between adopted and non-adopted children in terms of self esteem within results of 88 studies. They also could not find a difference between internationally

adopted children and same race adopted children. They said that only three studies found a difference between internationally adopted children and same race adopted children within 21 studies**.**

Moreover, developmental effects of other care types such as child homes or care villages on child's self development have not been investigated yet. Therefore, self-concept development of toddlers will also be compared between these care types in the current study. It is expected that children who stay in more family based cares like child homes and care villages will have better self development than children who are in the institutions.

Similar to the self- development, self-regulation of toddlers may also be affected from the adverse effects of institutional care types. In the next session, development of self-regulation will be explained and the effects of different care types on toddler's behavior regulation will be clarified.

1.5 Self Regulation

1.5.1 Definition and Components of Self-Regulation

Self concept, agency and self-regulation are the sub-constructs of the general self-system (Stipek, Gralinski, & Kopp, 1990). These constructs are connected to each other. Development of one construct may predict the development of the other. For example, early understanding of the self as object predicts the self regulatory behaviors in toddlers (Jennings et al., 2008). Development of self regulation in toddlers also predicts better adaptation and less behavioral problems in later life (Kochanska & Knaack, 2003).

Self-regulation is a comprehensive term and includes different components. It is defined as the ability to guide or control goal directed **behavior, emotion and cognition** (Karoly, 1993). In fact, it is a general definition and includes all three components of the regulation. The definition and the measurement of the self regulation change with the specific components. For instance, **cognitive processes of**

the regulation are generally explained by the executive functioning. Executive functioning refers to the ability of organizing and planning and includes the inhibitory control, working memory and attention shifting (Blair & Razza, 2007). It influences the behavior by thinking and controlling the action with shifting attention and suppressing the unrelated stimulus according to the instruction (Moran, Lengua, & Zalewski, 2013).

Emotional-regulation is another component of the self-regulation. It is defined as adjusting and evaluating the emotions and responding to them in order to reach a goal (Li-Grinnig, 2007). Emotional regulation is responsible from the regulation of the emotional balance, the speed and the intensity of the arousal and settling down (McCoy & Raver, 2011) . It is hard to differentiate emotional regulation from other components. According to the Rothbart and Posner (1985), emotional regulation is inter-related with the behavior regulations and cognitive process (as cited in Ursache, Blair, Stifter, & Voegtline, 2013, p.128). Control of the emotions can also affect the behavioral and cognitive regulations. Ursache, Blair, Stifter, and Voegtline (2013) have investigated the interaction of emotional reaction and regulation and their relations with the executive functioning. In order to elicit emotional reactions, toy removal task was used. The findings revealed that high levels of emotional regulation were related with the executive functioning in children who displayed high emotional reactivity. In addition, problems in emotion regulation can be risk factors for internalizing and externalizing behavioral problems (Eisenberg et al., 2001).

Thirdly, **self-regulation is also expressed with behaviorally** like waiting for a desired outcome, refraining yourself for the outcome, continuation of the task when challenged (Eisenberg et al., 1995). Generally, behavior regulation refers to the monitoring behaviors according to the instructions. It includes inhibitory control, working memory and attention in observable actions similar to executive function (von Suchodoletz et al., 2012). In practice, children who have high self-regulation are better able to apply social rules especially in the classroom context and better able to remember the instructions for the activities. Those children can wait for their turn while answering the questions of teacher instead of shouting the answer in the

class (McClelland & Cameron, 2011). Children's behavioral regulation is important for better adaptation to life. High self-regulation promotes the learning abilities in school context. Thus, children with self-regulation are good in their academic life, because those children are better in shifting their attention and focusing on the target activity while inhibiting the other stimulus and following the direction (Rimm-kaufman, Pianta, Cox, Carolina, & Hill, 2006; Von Suchodoletz et al., 2012; Valiente, Lemery-Chalfant, & Castro, 2007).

1.5.2 Measuring Behavior Regulation in Children

Different measures are used to assess behavior regulation of children. Self report questionnaires, teacher and parent reported questionnaires and direct observations are some of them (von Suchodoletz et al., 2012). Child Behavior Rating Scale (Bronson, Tivnan, & Seppanen, 1995) is one of the scales filled in by teachers in order to measure behavioral regulation of children in the classroom context (as cited in von Suchodoletz et al., 2012). In addition, one of the sub-scales (emotional awareness of wrong doings and self-regulation) of the Self-Concept Questionnaire (Stipek, Gralinski, & Kopp, 1990) was also used to measure self regulation of children by asking their caregivers. This scale wiil be used in the current study to measure development of both self-concept and self-regulation of children.

Delay of gratification tasks are also widely used in the recent research in order to measure effortful control and behavioral regulation of children (Henrichs et al., 2011; Mittal, Russell, Britner, & Peake, 2012; Murray & Kochanska, 2002; Russell, Londhe & Britner, 2012). According to Mischel et al. (2003), the key component of the delay tasks is the ability to refrain his/her self from the delayed but desired object (exp: gift and marshmallow) in order to gain better outcome (more marshmallow or bigger gift) (as cited in Mittal, Russell, Britner, & Peake, 2012). The most common delay gratification tasks are Gift and snack delay tasks. In snack Delay task, a candy is shown to the child and the child is supposed not to eat the candy until the ring bell or until the end of given time (Murray & Kochanska, 2002). In gift delay task, the child is placed on a chair then the experimenter brings the wrapped gift and puts it on

a table. Then, the child is asked to wait and not to touch the gift until the experimenter brings the tag which is a part of the gift. Whether the child touches the gift or not and whether he/she sits on a chair is coded.

Delay of gratification is affected by emotional and cognitive regulation of children and their interactions. Differences in these domains would result in behavioral differences in children because emotional, cognitive and behavioral regulation are overlapping construct with each other (Russell, Londhe, & Britner, 2012). Therefore, delay tasks have been used to measure different constructs by different researchers and same task can measure different components of the self-regulation. Gift delay task will be used to measure behavioral regulation of children in this study because of the high validity prediction of behavior and usefulness of the tasks (Henrichs et al., 2011; Murray & Kochanska, 2002).

1.5.3. Developmental Aspects of Self Regulation

A dramatic change is observed in infants during the first years of their life from a totally dependent being to an individual who can control their physical movement, attention, and emotions. Their self-regulation continues to increase with the age as a result of cognitive and physical maturity (Best & Miller, 2010). Infants are faced with some developmental challenges. For example, they first learn to coordinate their sleep cycles and emotions. Toddlers try to regulate their behaviors and comply to the external cues, while preschoolers confront with the delay-gratification and effortful control (Berk, 2004). Rapid improvement in self regulation is seen between the age of one and three. They start to control their behavior according to the cues from the environment and they are able to understand instructions (Jennings et al., 2008). Around 18-24 months, infants learn to control their attention and use this in emotional regulation. By age 3-4, with the help of language development they use new strategies to regulate their emotions. For example, they try to sooth their self by talking loudly like “Mom said that there is nothing to be afraid of in the dark” (Berk, 2004). Similarly, working memory develops in these age periods and this helps them to remember the instruction (Blair & Razza, 2007).

Behavior inhibition and effortful control continue to develop rapidly from toddlerhood to pre-school years (Chang & Burns, 2005). Although most self-regulation research focus on first 6 years of life, development of it does not stop until the late childhood and adolescence, because they are not fully mature cognitively until the early adolescence (Berk, 2004). Raffaelli, Crockett and Shen (2005) have investigated the developmental course of self regulation longitudinally. 646 children who were 4 to 5 years old were taken and followed up to the age of 12 to 13. Data was gathered at three time points; 4 to 5 years, 8 to 9 and 12 to 13 years. Self regulation of children was assessed by their parents. They rated attention regulation and behavior regulation of them. The results have revealed that although self regulation levels did not increase between middle childhoods to early adolescence years, dramatic increase was found from early childhood to middle childhood. Similarly, delay of gratification tasks has revealed age related differences. Studies with pre-scholars, middle age children and adolescences showed that older age children could wait more for the delayed outcomes (Green, Fry, & Myerson, 1994; Kochanska, Murray, & Harlan, 2000; Steelandt, Thierry, Broihanne, & Dufour, 2012).

In sum, as children get older their self regulation skills improve. Some developmental levels are expected at certain ages. However, there are some factors that affect the self-regulation of children other than maturation. In the next session, these factors will be explained.

1.5.4 Individual Factors That Affect Self-Regulation

Experiences during the first years of life may affect children's regulatory behaviors in their later life. Similarly, individual characteristics may also lead to differences in self-regulation. For instance, temperament, age, attention control and self understanding explain individual differences in self regulation (Harter, 2012). Negative emotionality of children is one of the risk factors for the development of self-regulation especially emotional regulation. Raikes et al. (2007) have found that

children who had more negativity at age of 14 months showed lower levels of self-regulation at 36 months. In addition, it was found that children who are more prone to anger had more difficulties in effortful control (Kochanska & Knaack, 2003). Furthermore, gender of the children can also be a risk factor. Boys have more problems in self-regulation than girls (Raikes et al., 2007). Kochanska, Murray and Harlan (2000) have examined changes and continuity of effortful control 22 to 33 months of children. Parental ratings and behavioral batteries such as slowing down walking, lowering voice activity and effortful attention were used to measure of effortful control. The result showed that girls had significantly higher scores on effortful control tasks than boys. Similarly, Raffaelli, Crockett and Shen (2005) have also found gender differences in their longitudinal study. Self regulation of children was taken at three time points; 4 to 5 years, 8 to 9 and 12 to 13 years. Girls had significantly higher levels of self regulation than boys in all three time points.

Moreover, development of attention and early understanding of self-concept are correlated with later self-regulation. Focused attention at 9 months predicts effortful control at 33 months (Kochanska, Murray, & Harlan, 2000). Changes in self-concept also contribute to the individual differences in self-regulation. When toddlers start to understand self-as an object, they feel pride if they successfully finish the task and they feel shame if they fail. These emotions may help to develop regulation skills (Stipek, Gralinski, & Kopp, 1990). Similarly, understanding of the agency should help children to understand goals and behavior. This understanding allows the toddler to control their behaviors (Jennings et al., 2008). Jennings et al., (2008) have revealed the role of self-concept development on self-regulation. It was found that understanding of the self-as object at 20 to 27 months significantly predicted self-regulatory behavior in early childhood.

1.5.5 Extra-individual Factors that Affect Self Regulation

One of the most important extra-individual factors is parenting. It is more important when children have some intra-individual risk factors. Encouraging and regulating the child's behavior is one of the goals of parenting. Adaptive and warm parenting

may help children to develop self-regulation skills, because those parents are more responsive to the child's needs. They are also more sensitive to the emotional reaction of their children (Kochanska, Murray, & Harlan, 2000). Studies have revealed that current and future self regulation of children can be predicted by maternal warmth (Jennings et al., 2008; Kochanska, Murray, & Harlan, 2000). Interaction between parent and the child is also important for the development of self regulation. Raikes et al. (2007) have investigated the role of maternal warmth and negative affect on low income toddlers. It was found that positive interaction between mother and the child at age 14 months positively correlated with the self-regulation of toddlers at 36 months. Similarly, positive parenting can be a protective factor for development of self-regulation in children who were physically abused (Kim-Spoon, Haskett, Longo, & Nice, 2012). Mother-child interaction has also been investigated through the attachment research. Secure children tended to be better in self-regulation. According to Bowlby (1969/1982), attachment to parent encourages a child to explore the environment more and motivate them toward the goal-directed behavior (as cited in Mittal, Russell, Britner, & Peake, 2012). One of the recent studies showed the link between child-parent attachment and delay gratification of toddlers. Preschool Strange Situation task was used to measure attachment of the children and Gift Delay Task was used to measure delay of gratification. Although the result was not significant, secure children were more likely to be delayers (could wait the experimenter to open the gift), while insecure children were more prone to be non-delayers (could not wait the experimenter and open the small gift) (Mittal, Russell, Britner, & Peake, 2012). Similarly, Drake, Belsky and Fearon (2013) have examined the role of early attachment on self regulation and school engagement. Attachment was measured with Strange Situation Task at the age of 15 and 36 months. Self regulation was assessed with series of laboratory tasks and social self control scale rated by teachers at grades one and five. The findings have revealed that toddlers' attachment significantly predicted later self-regulatory behaviors. In addition, the effects of attachment on school engagement were mediated by the social self-control.

Beside parenting and family environment, ecological risks factors also have decisive role on the development of self-regulation (Li-Grining, 2007). There may be different stressors depending on the characteristics of the neighborhoods and poverty situation. It may not be a safe place. This may cause drug use, lack of maternal warmth, maternal depression and lack of social support to mothers. They all affect parenting behaviors and add additional risks to children's development (Campbell, Shaw, & Gilliom, 2000). Evans (2003) have found that children who were under the cumulative risks because of the neighborhood factors like exposure to violence, poverty and single parenting had more difficulties in delay gratification (as cited in Li-Grining, 2007).

1.5.5.1 Self Regulation in Risk Groups (low SES)

Disadvantaged socioeconomic (SES) background is a major risk factor for poor self regulation skills as stated in the previous section. There might be many reasons for this. Firstly, children from these environments are usually exposed to poor parenting. Their parents are struggling with poverty and other environmental problems. Therefore, low SES effect their parenting negatively and poor parenting negatively affects the child's self regulation. Secondly, poverty itself may be a risk factor for poor self regulation because, children in low SES lack resources like toys to stimulate their development (Evans & Rosenbaum, 2008; McClelland & Cameron, 2011). Evans and Rosenbaum (2008) conducted two studies with low-SES children in order to investigate the effects of SES on children's self regulation. In the first study, children from rural areas were chosen and their self regulation was assessed by delay of gratification tasks when they were 9 years old. Their math and English scores were compared at age 13. Results showed that economic situation of the families predicted children's difficulty in delay task and academic skills. In the second study, NICHD data set were used to compare self regulation development of children at age 2 and grade 3 with the academic performance at grade 5. It was found that family income predicted cognitive development at grade five similar to the first study. In addition, the relationship between income and academic achievement was mediated by the self-regulation skills of children. Li-Grining (2007) also investigated

the role of low SES on self-regulation. 439 children from three different cities were assessed when they were 2 to 4 years old and they were assessed again 16 months later. The findings revealed that environmental stressors affected the child's effortful control negatively.

1.5.5.2 Self Regulation in Institutionalized Children

The role of interaction and attachment between the child and caregiver on child's self regulation were examined (Kochanska, Murray, & Harlan, 2000; Mittal, Russell, Britner, & Peake, 2012). However, insensitive and inconsistent care giving appeared to be the most important problem of the institutions that affect children's development more than physical conditions of institutions (Kim, Shin, & White-Traut, 2002; Smyke et al., 2007; McCall, 2012). These conditions may also affect children's self-regulation negatively.

Duration of institutional care experience appears to have decisive role on children's development. Studies have showed that long exposure to the institutional conditions affect child's executive functioning (EF) and inhibitory control behaviors (Colvert et al., 2008). For example, Merz and McCall (2011) have investigated the effects of deprived institutional environment on child's executive functioning. Preschool and school age children who were adopted from Russian institutions were rated by their parents in terms of EF. The findings revealed the importance of the timing in adoption. Children who were adopted before the 18 months of age were rated better than children who were adopted at later ages. In addition, Colvert et al. (2008) have also revealed the effects of length of stay in institutions. Children who were adopted before 43 months of age and children who were adopted before 6 months of age were compared in terms of Theory of Mind development and EF. Children were assessed at the age of 6 and 11.It was found thatchildren who stayed in the institutions more than six months had more deficits in EF and ToM.

Similarly, Merz, McCall and Groza (2013) showed the effects of varying degrees of deprivation in institutions on adopted children. Psychosocially deprived Russian

institutions provided good physical environment but there was a lack of sensitive care giving, while "globally" deprived institutions had deficiency in both physical and psychosocial environment. The effects of these institutions on EF were assessed. 6 to 18 years old children were rated by their adopted parents. The results indicated that children adopted from globally deprived institutions had worse outcomes in EF than children adopted from psychosocially deprived institutions. In addition, adoption after the age of 18 months resulted in higher difficulties in EF. These studies have shown that severe early deprivation and the duration of the deprivation may cause problems and difficulties in EF and inhibitory control.

1.5.5.3 Self-Regulation in Foster Care and Adoption

Children in the foster care may have better outcomes than children in the institutions because of the negative conditions of the institutions. Foster care provides children with family environment and more consistent care than institutions (Ghera et al., 2009). McDermott et al. (2013) showed negative impacts of institutions on child's inhibitory control and response monitoring based on the Bucharest Early Intervention Project (BEIP). Children were placed either in institutions or foster care shortly after birth. When those children were assessed at the age of 8 years, children who had been raised in the institutions displayed inhibitory control deficits. In addition, children who are raised in foster care had better performance on response monitoring task compared to institutional children. Similarly, McDermott, Westerlund, Zeanah, Nelson and Fox (2012) examined the executive functioning and inhibitory control of children in BEIP. Children placed in foster care were compared to care as usual (institutional care) and never institutionalized children at 8 years. The findings indicated that foster care children had better outcomes than children in institutions. However, both groups had decreased attention in EF tasks compared to never-institutionalized group.

Although it appears to be better than institutional care, foster care is still not an ideal care for children, since it may not be a stable place for children. Thus, foster care itself can be a risk for children's self-regulation. Therefore, adopted children may

have better outcomes than both foster care and institutional care children because of the increased consistency of the care and parenting quality. Lewis, Dozier, Ackerman and Sepulveda-Kozakowski (2007) have examined the role of instability of the placement in adopted children. Children who were adopted after more than one changes in foster care, children who were adopted after one stable foster care and children who did not experience foster care were compared in terms of inhibitory control. Children adopted after higher instability showed higher difficulties in the inhibitory control tasks than more stable group and non-foster care group. Those groups were also compared with non-adopted home reared children. It was found that placement instability were associated with the problems in inhibitory control and behavioral regulation. Thus, this study indicated that children who experience multiple foster care at risk for poorer inhibitory control because of the instability of care.

Although, adoption is better than foster care and institutional care, adopted children still have latencies compared to never-adopted community sample. For instance, Hostinar, Stellern, Schaefer, Carlson and Gunnar (2012) compared EF development of 2.5 to 4 years old children after one year adoption to non-adopted children's EF. Working memory and inhibitory control were measured to find EF score. The findings showed that socially and physically deprived institutions and longer stay in the institutions before the adoption predicted worse outcomes in EF. In addition, non-adopted children (reared by their biological family) were better than adopted children both beyond the duration time in the institutions. The results were still significant after controlling for intelligence.

To the best of our knowledge, the effects of group homes and care villages on self-regulation have not been examined. However, according to literature, family based care (foster care and adoption) seems better than institutional care; while original family care (never institutionalization) is better than other care types in terms of child development. Therefore, it is expected that foster care children would have better outcomes in self regulation tasks than institutional children and children in the group homes and care villages. It is also expected that children in a more family based care

(group home and care village) would have better outcomes in terms of self-regulation than children in institutions.

Although types of the care and conditions of the environment are really important for children's development, they do not affect every child in the same way. Their effects may change according to child's biological and temperamental characteristics. The effects of temperament on child's development will also be examined in this study.

1.6 Temperament and Differential Susceptibility Theory

Individual differences can be observed in children other than the effects of environment even very early in their lives. Some infants can be soothed easily, but some of them needs time to calm down. Some children are really sensitive to their environment, and they can be easily disrupted by the external stimulus. These traits show their temperamental characteristics and some of them continue throughout their lives. Rothbart and Bates (2006) define temperament as "constitutionally based individual differences in emotional, motor, and attentional reactivity to stimulus events and self-regulation" (as cited in Rothbart, Sheese, & Posner, 2007, p.2).

Temperament affects not only children's development but also parenting behaviors toward them (Kochanska, Freisenborg, Lange, & Martel, 2004). For example, parents do not behave in a same way to their children. They may behave more harshly and authoritarian to their child who has a difficult temperament (Calkins, Hungerford, & Dedmon, 2004). Temperament also defines the level of environmental influences on child's development. It is generally explained with differential susceptibility theory.

According to the differential susceptibility theory, children with some temperamental characteristics are more susceptible to both negative and positive environmental effects. For example, susceptible children are more likely to have better developmental outcomes in positive environment than less susceptible children. Also they are affected more by negative environments. Whereas, negative conditions do

not affect the less susceptible children as much as the susceptible children, thus, they show moderate development both in negative and positive environments (Anzman-Frasca, Stifter, Paul, & Birch, 2013). Therefore, temperament itself can be an additional risk factor for susceptible children in risky conditions. For example, Pluess and Belsky (2010) have found that low quality care result more behavioral problems in children with high negative temperament. They stated that negative temperament moderates the relationship between environment and child outcomes. Therefore, the effects of environment change according to the temperamental characteristics of children. Differences in the classification of the temperament have been emerged according to the different perspectives. They will be explained in the next session.

1.6.1 Models of Temperament

Definition of temperament and its dimensions change according to different theories. For example, Thomas and Chess (1977) have focused more on behavioral approach. Nine basic dimensions have been defined by looking "how intense" the behavior of the child. The name of the dimensions are Activity Level, Approach- Withdrawal, Mood, Adaptability, Attention Span/Persistence, and Rhythmicity, Threshold, Intensity, Distractibility (as cited in Casalin, Luyten, Vliegen, & Meurs, 2012). In contrast, Kagan (2000) interpreted temperament with behavioral inhibition. According to his view, children were categorized as behaviorally inhibited or uninhibited. Behaviorally uninhibited children are open to new situations and people, however, inhibited children react negatively to the new situations and they are more timid when they first meet with a new person (as cited in Zentner & Shiner, 2012). In addition, Goldsmith and Campos (1982) have explained temperament from the emotional regulation perspective and they explained individual differences with the experiencing emotions and reactions to them (as cited in Zentner & Shiner, 2012). Toddlers Behavior Assessment Questionnaire (TBAQ) was developed by Goldsmith (1996) based on this emotional regulation perspective. There are five subscales rated by parents which are Activity Level, Pleasure/Positive Affect, Social Fearfulness, Anger Proneness, and Interest Persistence.

Contrary to these perspectives, Rothbart (1981) have explained and classified temperament based on the psycho-biological approach. According to Rothbart and colleagues, temperament is the individual differences in self regulation and reactivity and these differences can be defined by the psychobiological process of individuals (as cited in Zentner & Shiner, 2012). Infant Behavior Questionnaire (Rothbart, 1981) was developed to measure temperament in infants. The Early Childhood Behavior Questionnaire (ECBQ) (Putnam, Gartstein, & Rothbart, 2006) was developed for toddlers while Child Behavior Questionnaire (Rothbart, Ahadi, Hersey, & Fisher, 2001) was adapted for preschoolers (as cited in Casalin, Luyten, Vliegen, & Meurs, 2012). In the present study, four subscales of ECBQ will be used to measure temperamental characteristics of toddlers which are Soothability/Reactivity, Frustration (Anger), Perceptual Sensitivity, and Inhibitory Control. ECBQ was chosen in the large scale project funded by TUBİTAK since it has versions appropriate to different age groups and high correlation with others scales like TBAQ (Putnam, Gartstein, & Rothbart, 2006).

1.6.2 Developmental Effects of Temperament

Temperament is a biological based characteristic of children and it is unique to every child. However, there are some common characteristics of one type of temperament as mentioned above. Children's development and adjustment are affected differently for each type of temperament. Chess and Thomas (1989) stated that children with difficult temperament are more likely to have behavioral problems than children with "easy" temperament who have more adaptability, positive emotionality and high emotional regulation (as cited in Stright, Gallagher, & Kelley, 2008). Moreover, moderator role of temperament has been found by many researchers. For instance, Moran, Lengua and Zalewski (2013) have investigated the moderation role of negative emotionality between social competence and behavioral problems. Effortful control and reactivity of three years old children were assessed both by their parents and observational measures. The findings have revealed that children who exhibited higher reactivity to fear and frustration and who had lower effortful control on delay task had more externalizing behavior problems. In addition, children who showed

higher fear and higher ability to delay gratification had lower external problems. Similarly, Ursache, Blair, Stifter and Voegtline (2013) have investigated the role of emotional reactivity and emotional regulation on executive functioning. 1.292 low income children were assessed by fear eliciting tasks at 7, 15 and 24 months of age. Executive functioning was also assessed by six tasks including inhibitory control, attention shifting and working memory at 48 months. It was found that children with high fear reactivity and high emotional regulation had higher executive functioning. Similarly, children with high emotional reactivity but low emotional regulation showed low levels of executive functioning.

In the current proposal, temperament will be taken as a moderator for the effects of care types on children's self-concept and self regulation development. The effects of temperament on each variable will be explained in the next session.

1.6.2.1 The Role of Temperament on Child's Self Concept Development

Temperament may affect child self concept development in two ways. Firstly, temperament may directly affect child's development of sense of self. Even very young children can have views about their self. They can rate whether they are reactive, emotional or timid (Goodvin & Romdall, 2013). Emphasizing these traits help to shape their personalities. Thompson (2006) stated that temperament is an individual difference in showing and regulating of emotions, and understanding of emotions is the core structure of developing sense of self (as cited in Brown, Mangelsdorf, Neff, Schoppe-Sullivan, & Frosch, 2009). However, little empirical research about the relation between temperament and self-concept development has been done. One of the recent studies has shown the relations between child's self-concept, temperament and family interactions. Analysis has revealed that temperament of children and family interactions at age three predicted children's self development at age four independently. Specifically, the findings showed that children who showed higher levels of distress at the age of three rated their self as more timid and less agreeable than children who showed low levels of distress (Brown, Mangelsdorf, Neff, Schoppe-Sullivan, & Frosch, 2009).

Secondly, temperament may moderate the relations of parenting and child outcomes. Child's temperament affects parenting behavior, and in turn parenting affects child's self development. Children who are more reactive and have difficult temperament may affect their parent's behaviors toward them. Reactive and difficult children may have parents who behave harsher and less responsive (Calkins, Hungerford, & Dedmon, 2004). This negative parenting may also affect the child's self-concept development because, supportive and responsive parenting is really important for children in order to develop healthy self-concept. It was found that parental negative feedback to the child's initiations and intrusive control at the age of two was correlated with more shame in children one year later. However, autonomy supported control increased child's motivation and persistency for completing the task one year later (Kelley, Brownell, & Campbell, 2000). Thus, autonomy supporting and responsive parenting may help the child to develop healthy self-concept, but parents may behave differently to their children according to their temperamental characteristics.

1.6.2.2 The Role of Temperament on Child's Self Regulation

Differences in self-regulation capacities can be observed in very young children and there is a longstanding effect of those differences for their social-emotional development. One of the factors that explain individual differences in self-regulation is temperament of children (Rothbart, Sheese, & Posner, 2007). Self-regulation and temperament are interrelated factors and it is hard to explain them separately. Sub-dimension of self-regulation can be characteristics of children. For example, emotional regulation is one of the aspects of self regulation and how children regulate their emotions defines temperamental characteristic of them (Moran, Lengua, & Zalewski, 2013). Similarly, effortful control is taken as both signs of behavior regulation and aspects of temperament (Posner & Rothbart, 2000). Rothbart and colleagues analysis revealed three higher order factors of temperament which were Surgency/Extraversion, Negative Affectivity, and Effortful Control (EC) (Rothbart, Ahadi, Hershey, & Fisher, 2001). Rothbart, Sheese and Posner (2007)

focused on effortful control in their reviews as a third higher order factor of temperament and its implications for self regulation. First two factors start to develop in early months of life but, EC develops later. Therefore, early development of Surgency and negative affectivity may have an effect on the child's effortful control which measures self-regulation. Kochanska and Knaack (2003) have investigated the antecedences and correlations of effortful control. According to the results, children who showed less intense emotions to anger and joy and who inhibited his/her behaviors more in the "Risky Room" at age two developed better effortful control at four years.

Moreover, the moderator role of temperament on children's self-regulation and parent-child mutual interaction was found by Kim and Kochanska (2012). Specifically, children who showed high level of negative emotionality had low-levels of self-regulation when they had unresponsive interaction with their mothers.

Overall, these findings have revealed that temperament of children have a decisive role on child's self-regulation and self-concept. It has more crucial role in children who are at risk. Not all children are affected in the same way from the adverse conditions of institutions. Some genetic, temperamental or physical characteristic of children may make a difference in their developmental outcomes (van Ijzendoorn et al., 2011).

1.6.3 Differential Susceptibility in Different Care Context

Farklılaşan hassasiyet teorisican be tested by looking child's temperamental characteristic or genes (Ellis, Boyce, Belsky, Bakermans-Kranenburg, & van Ijzendoorn, 2011). The effects of child's temperament in institutions and other care types (group homes and care villages) are not well known. However, genetic studies have tested the differential susceptibility hypothesis. Recent studies have showed that children with some genes and genotypes are more susceptible to adverse environment. For example, Drury et al. (2012) have investigated the role of genetic characteristics in foster care and institutional care. Children were divided as, care as

usual group and foster care group before at 30 months for the Bucharest Early Intervention Project (BEIP). Their indiscriminant social behavior was compared according to their care types and genes (Brain Derived Neurotrophic Factor (BDNF) and the Serotonin Transporter (5htt). The 5http was chosen to test differential susceptibility, because it was found to be related with more problems in negative environment. In addition, the met66val polymorphism in BDNF was also found as a moderator of negative environment and anxiety level. The results showed that children who either had met66val polymorphism or 5httplr with s/s genotypes had indiscriminate social behaviors both in foster care group and care as usual group. However, children who had both genes and who were in care as usual group showed the higher signs of indiscriminate behavior. In addition, Bakermans-kranenburg, Dobrova-krol and Ijzendoorn (2011) have tested differential susceptibility on children reared in institutional settings or by their biological family. The effects of Serotonin Transporter (5htt) on child's attachment and indiscriminant social behavior were investigated on preschoolers. It was found that 5htt moderated the relations between care types and attachment. Specifically, children who have ss or sl genotype showed disorganized attachment when they were reared in institution, but not in the family settings. Similarly, attachment of children who had l allele was not affected from the environment. Moreover, Gunnar et al. (2012) have investigated the moderating role of BDNF Val66Met on child's attention in adopted children. 612 teenagers from 25 Countries were compared in terms of lenght of stay in the institutions. According to the predominant genotypes, children who had Mat allele were more affected from the duration of institutional care. Children who had Val/Met or Met/Met genotypes showed higher attentional problems if they stayed in the institutions more, however, they showed fewer problems if they were adopted very early than children who had Val/Val genotypes.

1.7 The Current Study

These studies showed that children's genetic characteristic may affect their development in adverse situations. The findings of these studies supported the differential susceptibility theory. Genetically more susceptible children are affected

more from the adverse effect of institutions than less susceptible children. However, the role of temperament in different care types has not been investigated. Therefore, main aim of the current study is to investigate the moderating role of temperament on child's self-concept and self regulation development in different care types. In the investigation of Farklılaşan hassasiyet teorisinegative reactivity is the most commonly studied temperamental characteristic , however in the present study not only frustration (as an indicator of negative affect) but also perceptual sensitivity will be taken as a moderator. Furthermore, the role of child temparamental characteristics of frustration, perceptual sensitivity, soothability and inhibitory control on self-concept and self regulation development of children in care will be investigated. The hypotheses of the current study are stated as below.

Hypothesis for developmental outcomes according to the care types;

1. Children in the institutions will have worse outcomes on self-concept development questionare (self-description, self-recognition, self-regulation and autonomy), self-recognition tasks (mirror task, mat-pick up task, photo task) and self regulation task (gift delay task) compared to all other care types.

2. Foster care children will have better outcomes on self-concept development, self-recogntion, and self regulation measures compared to institutions, child homes, and care villages.

3. Children who are in the care villages will have better outcomes on self-concept development, self-recogntion and self regulation measures than children in institutions, while children in the child homes will have better performance on all outcome variables than children in institutions and care villages.

4. Children from low SES families will have better outcomes on self-concept development, self-recognition, and self-regulation measures compared to all other care types.

Hypothesis for developmental outcomes according to interaction with the temperament and care types;

5. Children who have susceptible temperament (higher scores on frustration) will have worse performance on self-concept, self-recognition and self-regulation measures in institutional care, child homes and care villages than foster care and family based cares.

6. Children who have less susceptible temperament (lower scores on frustration) would not be affected from institutional care types and there will be no difference in terms of self-concept, self-recognition and self regulation development between children in the institutional care or more family based cares.

7. The effects of perceptual sensitivity will be an explanatory since there are no studies tested the differencial sussceptibility theory with this temperamental characteristic before.

CHAPTER 2

METHOD

2.1 Participants

Participants of this study were children under the protection of social services. It was planned to recruite from each care type (child homes, care villages, institutions, and foster care) from different cities in Turkey. However, according to the policy of General Directorate of Children's Services (Çocuk Hizmetleri Genel Müdürlüğü), children older than three years of age are placed to the care villages. Therefore, we could not find two years old children in care villages. The situation is similar in child homes. One caregiver is staying with five or six children; therefore it is preferred not to place small children under the age of three. However, in order not to separate siblings, if the sibling's ages are close to each other, two or three years old children can be placed with their siblings. Therefore, 12 children were found in child homes in Ankara and İstanbul and included in the study. In addition, 26 children were recruited from institutions in İstanbul, Denizli and Ankara.

Duration of stay in the current places for child homes ranged between .50 to 9 months (M= 2.25, SD= 2.50). Duration of the stay for the institutional care group ranged between 1 to 35 months (M= 18.96, SD= 12.45). Duration at the institutional care before the child homes care ranged between .50 to 26 months (M= 6.79, SD= 8.02).

Reasons for taking into the government protection were summed as a total risk factor The total risk for children in child homes ranged between 1 to 4 (M= 1.83, SD= .83). The range for the total risk for institutional care group was between oneo four (M= 2.27, SD= 1.002).

Mean difference was compared in terms of the total risk and duration time in the care by one way ANOVA and it was found that there was no significant difference between institution and child homes in terms of reasons for placing (total risk) F (1, 36) = 1.71, *ns.* However, there was a significant mean difference between institution and child homes in total duration time at the cares. According to the total time, children in the institutions significantly stayed more into the care than children in child homes F (1, 36) = 5.25, $p < .05$. Moreover, only two foster care family returned to our invitation letter to the project, those children were also tested but they were not included to the analysis. In addition, 21 low SES children who stayed with their biological families were participated. In terms of children's ages there was no difference between three groups (institutions, child homes, and low SES), F (2, 58) = .20, *ns.*

A total of 59 children were included in the study. 26 of them are female (44.1%) and 33 of them were male (55.9%). Their ages range between 24 to 35 months, (M= 29.56, SD= 3.44). In low SES families and foster care mothers responded to the questions. Favorite or main caregiver who knew the child well responded to the questionnaires for children in institutions, child homes and care villages. Detailed characteristics of the care types and low SES families were given below.

2.1.1 Characteristics of Care Types in Turkey

2.1.1.1 Institutions

Institutions are residences where all children stay within large groups divided according to their ages. Pre-school and school children are generally living together in separate buildings. Most of the institutions in Turkey are in the process of closure. However, there are still children in some institutions and mostly children are placed, firstly, to an institution when they are taken under the government protection.

In the present study children were recruited from three different institutions located in İstanbul, Ankara and Denizli. There were 12 to 15 children in groups in big cities

like İstanbul and Ankara. Conversely, group sizes decreased in small cities to 5 to 8 like Denizli. Different age groups were residing in one building in Ankara and Denizli. However, in İstanbul each group had different houses in one campus similar to care villages. When the institution in İstanbul was inspected, it was seen that care conditions were same as the typical institutions; therefore this one was also accepted as an institution.

In each group there were four caregivers in total of two worked in daytime, the other two worked at night time. In addition to the caregivers, there was a teacher in each group.

Where caregivers were responsible for feeding and cleaning teachers were responsible for educational activities like drawings and reading books. Teachers worked every weekday. However, there was a shift between caregivers. Four caregivers worked every other day. Therefore, there are eight caregivers for one group. There was also staff responsible from cooking, cleaning and management. Thus, children are exposed to more people than just their caregivers. Furhermore, meals are cooked in another building in a central kitchen and delivered to the groups, and then ready meals are served to children in the unit kitchen.

In addition, institution quality was rated by two graduate assistants based on the Early Childhood Environment Rating Scale (ECERS; Harms, Clifford,&Cryer, 1998). The scale involves seven domains which are space and furnishing, personal care routines, language and reasoning, activities, interaction, program structure, and parents and staff relations. The scores range between 1 (inadequate) to 7 (excellent). The score of institutions were 2.8, 4.2, and 3.1, for Ankara, İstanbul and Denizli, respectively.

2.1.1.2 Care Villages

Compared to the institutions, in care villages children are placed in separate houses in the same campus. Each group has one house instead of one room. There are 8-12

mixed aged children in each house. Children are still separated from the community since these capuses usually located outside the city centers, but they have more family based care.There is one or two main caregiver (mother) in each house. She stays one full day with the children. Working shift changes according to the different care villages, but the main thing is that caregiver continuity is much better compared to the institutions. For example, there is one mother and one aunt (helper caregiver) in Bolluca Care Villages in İstanbul. Mother stays four full days with children, and aunt stays three full days. Care givers are cooking in the houses. Older children are participated in the house works such as tidying up their rooms, preparing the table and care to their small siblings.

2.1.1.3 Child Homes

Compared to care villages, child homes are located in the community. One or two flats are rented in an apartment complex in residential neighborhoods. The aim of child homes is to raise children inside in the community like family home settings. Five to six children live together within mixed age groups. There are three caregivers for one home and they work shifts. One caregiver stays with the children one full day and rests two days.Caregivers act like a typical mother in a family home. They cook, clean, and help to the homework of children. Children help mothers with the housework. Although they don't have a private room, they have individual wardrobe.. These homes are like a real family home. They have relationships with their neighborhoods. You can even see the child's graduation pictures on the wall. In order to understand home environment, five questions were asked to mothers from Home Environment Questionnaire (see the Table 2.2). 3 houses (30.0%) did not have any book, 5 children had 3 to 9 books (50.0%) and 2 children had more than 10 books (20.0%) in their houses. Moreover, 3 houses did not have a puzzle (30.0%), while 7 of them had (70.0%). All of the houses had at least one set of Lego or play dough (100%). 7 houses had books for the adults (70.0%) (M= 11.45, SD= 15.73), 3 of them did have any book (30.0%). Finally, it was asked that "Have you taken your

child to any museum (science, art) during the last year?" All the mothers said "no" (100.00%)[1].

2.1.1.4 Foster Care

Children are placed in families for a short or long time. Families apply to be a foster family and suitable families are chosen by social workers, these families get monthly allowance. Foster care is different than adoption. Custody of children still belongs to their biological families or the government. Children have a chance to grow up in a family until the problem is solved about their biological families. However, most of the time, they can change two or more foster care families or children can return to the institutions soon because of the problems between family and the child.

2.1.1.5 Characteristics of Low SES Families in Turkey

Low SES families were chosen from disadvantaged neighborhoods Mamak, Sincan and Altındağ in Ankara;. Their house income per months changed between 500 to 2500 TL. 4 families (19.0%) had income between 0-500TL, 3 of them (14.3%) had income between 500-1000TL, 11 of them (52.4 %) had income between 1000-1500TL, and 3 families (14.3%) had income between 2000 to 2500TL. Moreover, one mother was illiterate (4.8%), while 14 mothers (66.7%) graduated from elementary or secondary school, 6 mothers graduated from high school (28.7%). According Home Environment, 14 children (66.7%) did not have any book, 2 children had 1 or 2 books (9.5%), 3 children had 3 to 9 books (14.3%) and 2 children had 10 books (9.5%) in their houses. Moreover, 8 children did not have puzzle (38.1%), while 13 of them had (61.9%). 11 children did not have toys like Lego or play dough (52.4%), while 10 of them had (47.6%) in their houses. 13 families had books for the adults (61.9%) (M= 6.33, SD= 8.69), 8 of them did have any book (38.1%). Finally, 20 mothers did not take their child to any art or science museum during the last year (95.2%), only one mother did (4.8%), (see the Table 2.2).

[1] Two mothers did not filled the home environment questions.

Table 2.1 Demographic Characteristics of the Participants from Low SES Backgrounds (N = 21)

	Mothers	**Fathers**	**Children**	**Family**
Age (Mean; SD)	27.75; 4.49	30.61; 3.63	29.29; 3.54	
Education Levels				
Illiterate	1 (4.8 %)			
Primary School	8 (38.1 %)	8 (38.1 %)		
Secondary School	6 (28.6 %)	6 (28.6 %)		
High School	6 (28.6 %)	7 (33.3 %)		
University (undergraduate)				
Income Levels				
0-500TL				4 (19.0 %)
500-1000TL				3 (14.3 %)
1000-1500TL				11(52.4 %)
1500-2000TL				
2000-2500TL				3 (14.3 %)
Job				
House wife	18 (85.7 %)			
Worker	3 (14.4 %)	12 (57.1 %)		
Self-Employment		5 (23.8 %)		
Security Guard		2 (9.6 %)		
Technician		1 (4.8 %)		
Clerk		1 (4.8 %)		
# of children (Mean; SD)				2.05; .86
Marriage Status				
Married and Together	20 (95.2 %)	20 (95.2 %)		
Married and Separate	1 (4.8 %)	1 (4.8 %)		
Divorced				

*There were three missing in father's age.

Table 2.2 Home Characteristics of Child Homes and Low SES Houses

	Child Homes (*n* = 10)	**Low SES (*n* = 21)**
	(Mean; SD)	**(Mean; SD)**
# of Child Book	1.60; 1.17	.67; 1.06
# Child Puzzle	.67; .50	.62; .49
# Lego or Play Dough	1.00; .000	.48; .51
# Adult Book	11.45; 15.72	.05; .21
# Museum Trip (Percent)	10 (100%)	1 (4.8%)

2.2 Measures

Demographic information such as age, gender, original family situation, care history before the current placement, duration of current care type, causes of been taken under the protection of social services, and health status were determined from the child's file in the General Directorate of Children's Services or from the directors of the institutions (see Appendix A)

2.2.1 Self-Concept

In order to measure self-concept in toddlers *The Self-Concept Questionnaire (SCQ)* was used (Stipek, Gralinski, & Kopp, 1990). There are 25 items about self-concept and self-regulation and the scale involves four sub-scales which are self-description and evaluation (12 items), self-recognition (5 items), emotional awareness of wrong doings and self-regulation (5 items), and autonomy (3 items) (Stipek, Gralinski, & Kopp, 1990). Parents responded to each item on a 2-point scale (0 = No, 1 = Yes). Children can get a score of 0 to 25, higher score indicating a further development of self-concept. The scale was adapted to Turkish using translation and back-translation method. It was translated by the author and back-translated by undergrad student. Comparison and the correction were made by the supervisor (see Appendix B). Cronbach's alpha coefficient was .88 for the Self-Concept Questionnaire in the

current study. In addition to the *SCQ,* three additional tasks were chosen to measure self-recognition.

2.2.2 Self Recognition Tasks

2.2.2.1 Mirror Self-Recognition Task

The experimenter applies a red spot on a child's nose with rouge. After putting the red spot, the experimenter plays with a child in order to ensure that the child forgets the feeling of tactile sensation during the application of rouge. Approximately five minutes later, the child is placed in front of the mirror. The experimenter tries to attract the child's attention to the mirror by tapping on the mirror and saying "look at here". The experimenter should be careful not to call the child's name or spot while trying to draw his/her attention. This procedure continues until the child touches his/her nose or look at the mirror four times for at least 5 seconds (Lewis, & Ramsay, 2004). Second experimenter rates the child's behavior (e.g. touching the nose or not). According to the Lewis and Brooks-Gunn (1979), if the child touches his/her nose, it will be an evidence of the visual self-recognition ability (as cited in Lewis, & Ramsay, 2004). In the present study touching the nose was coded as pass and all other behaviors were coded as errors.

Pilot task was carried out with two children and there wasn't any problem. However, looking time to the mirror was changed as 20 seconds as total instead of four times at least 5 seconds in order to make easier to measure for the experimenter.

2.2.2.2 Mat Pick-Up Task

Mat pick-up task was used to measure body-mass understanding in children. Brownell, Zerwas and Ramani (2007) adapted the mat-task from Bullock and Lutkenhaus (1990). The task requires children to remove themselves from the mat when an experimenter asks. Firstly, the child was placed on a 25-cm x 45-cm green mat while the child was sitting on a mat a story was read to a child for approximately

3 minutes. After the story had been completed, the experimenter asked to the child "give me the mat". If the child tried to give the mat before getting up from the mat, it was coded as an error. If the child had standed up first and moved off the mat, then gave the mat to the experimenter, it was coded as pass since this shows his/her awareness of own body.

Pilot administration of the task was carried out with two 2.5 years old children. One of them did not want to listen to the story. Then, it is decided to have another book available in case originally used book was not interesting for the child. The experimenter could also use the second book as a toy since it had animals made from different matarials that a child can touch and feel the differences; this was to ensure that the child sat on the mat for at least three minutes.

2.2.2.3 Photo Task

The photo task (Jennings et al., 2008) requires children to recognize themselves on pictures. In the present study a photo of a child had been taken before starting the session. Then, the child's photo was put into a frame which was placed randomly in one of the 3 locations on the computer screen. "Picture Collage Maker Pro" program was used for this. The children were presented with three framed photos on the computer screen; and asked "Where is (child's name)". In order to pass the task children had to show his/her photo on the screen, and this was taken as an evidence of self-recognition. If the child pointed to any other photo, this was coded as an error.

The small camera of the lap top was used to take the pictures. The task was tested on three children. In this pilot phase, it was observed that sometimes a child may realize that his/her picture was taken. Therefore, one colorful paper was cut according to the camera of the computer. There was a Mickey Mouse picture on the paper and the paper covered the screen in order to camouflage the camera. In the main study before taking the photo of a child, that paper was placed on the computer. Then, the child was asked to look at the picture on the computer. The photograph was taken while the child was looking to the paper.

Total score of self-recognition was calculated from passes in the three tasks. Thus scores could range from 0 to 3, higher scores indicating greater self-recognition ability.

2.2.3 Self-regulation

Self-regulation of toddlers was measured with the Gift Delay Task which was adapted from Henrichs et al. (2011). The child was placed on a chair at a table. Then the experimenter put the "wrapped gift" on the table and instructed the child to remain seated on the chair and not to touch the gift until she got back from bringing the gift bow for the gift box. The experimenter returned after 150 seconds (Nampijja et al., 2012). During this time, another experimenter in the room observed the child's behavior but acted as if not interested in the child. Child's touching behavior and sitting position on chair scored separately. Touching behavior was scored as 1= opening the gift, 2= touching the gift, and 3= neither touching nor opening. If the child opens the gift, the duration of time passed until the child opened the gift box was recorded. Waiting time on the chair was also measured with seconds. Higher scores on both behaviors indicated greater delay ability.

Pilot trials were carried out with five children aged between 2.5 to 4.6 years and without any problems.

2.2.4 Temperament of Toddlers

In order to measure temperament in toddlers, *Early Childhood Behavior Questionnaire* (ECBQ: Putnam, Gartstein, & Rothbart, 2006) was used. ECBQ includes 18 subscales with 201 items which measure different dimensions of temperament. Dimensions are Activity Level, High-intensity Pleasure, Sociability, Positive Anticipation and Impulsivity, Discomfort, Fear, Motor Activation Sadness, Perceptual Sensitivity, Shyness, Soothability and Frustration, Inhibitory Control, Attention Shifting, Low-intensity Pleasure, Cuddliness, and Attention Focusing. Caregivers assesses the questions on a 7-point scale (1= never, 2= very rarely to 7=

always). NA is coded if the question is not applicable for the child. In the original study18 month, 24 month, 30 month and 36 month of age toddlers were assessed separately and Cronbach's alphas for subscales ranged from .57 to .90. Inter –rater reliability was found to be moderate between primary and secondary caregivers (Putnam, Gartstein, & Rothbart, 2006).

In the present study four subscales which are Soothability (9 items), Frustration (12 items), Perceptual Sensitivity (12 items) and Inhibitory Control (12 items) were used. An example item for each subscale is "Following an exciting activity or event, how often did your child calm down quickly?", "When given something to eat that s/he didn't like, how often did your child become angry?", " During everyday activities, how often did your child notice that material was very soft (cotton) or rough (wool)?", and " When told "no", how often did your child stop an activity quickly?", respectively. In the original study Cronbach's alphas were reported to range from .86 to .90 for Inhibitory Control subscale, .82 to .90 for Perceptual Sensitivity, .76 to .87 for Frustration and .77 to .88. for Soothability. Three questions to the Perceptual Sensitivity subscale and one to the Inhibitory Control subscale was added from Toddlers Behavior Assessment Questionnaire (TBAQ) (Goldsmith, 1996). Main caregivers of the children responded to the questions on 5-point scale (1= never, 2= rarely, 3= sometimes, 4= often, 5= always). For temperament subscales, frustration, inhibitory control, perceptual sensitivity and soothability new Cronbach's alpha coefficient was .83, .85, .84 and .84, respectively in the current study. It was translated by the author and back-translated by undergrad student in Turkish. Comparison and the correction were made by the supervisor (see Appendix C).

2.3 Procedure

Present study was carried out as part of a three year longitudinal project titled "Longitudinal investigation of the effects of temperament, and care type on the developmental outcomes of infant and children who are under the care of social services" funded by TÜBİTAK. Ethical approval was taken from Human Subjects Ethics Committee of Middle East Technical University under the scope of the large

project. Additional permission was taken from the low SES families. The official permission for the study had also been taken from General Directorate of Children's Services (Çocuk Hizmetleri Genel Müdürlüğü) and Ministry of Family and Social Policy (Aile ve Sosyal Politikalar Bakanlığı). In addition, informed consents were taken from the caregivers and verbal assent were taken from the children (see Appendix D).

Informed consents were sent to the foster care families through a Psychologist who works in the General Directorate of Children's Services. Then, families who agree to take part in the study were contacted by the researchers.

Demographic information obtained from the directors of the institutions. Primary caregivers and mothers who spent more time with the child completed the *Self-Concept Questionnaire (SCQ)* and *Early Childhood Behavior Questionnaire.* Two experimenters administered the tasks to children. Children were assessed in a separate room with their primary caregiver. The room and the materials for the tasks were prepared first then the experimenter asked to a each child "would you like to play with me". In case of a child's disinterest an attractive toy or a balloon were used to warm up the child to the experimenter and to the room.

First, *Mirror Self-Recognition Task, then Mat – Pick up Task* and lastly the *Photo Task were administered.* These three tasks took approximately 5 to 7 minutes to administer. After these three tasks, if the child seemed tired or uninterested, 5 minutes break was given. Then, gift delay task was administered.

CHAPTER 3

RESULTS

3.1. Data Cleaning

Data were screened before running the analysis. For the temperament scale, cases that had more than 5% missing were not taken to the analysis. Only one case had more than 5% missing values in temperament scale. Other missing values were replaced by the Expectation Maximization method. Separate analysis was carried out for each temperament domain, Frustration, Inhibitory Control, Perceptual Sensitivity and Soothability.

For the Self-Concept Questionnaire, only two cases had more than 5% missing (2 missing out of 25). However, they were not excluded from the analysis in order not to lose their total score. There were 9 missing values at total. Those missings were accepted as "0" (fail) thus not included in the total score. There was only one missing value in one case in the self-recognition tasks. Therefore, it is accepted as "0" and total score was calculated of that case. For the gift delay task, there were two missing scores for waiting time (in seconds) to open the gift. Those cases that had missing were not taken to the analysis. Total gift delay score was calculated based on the scores for behavior with regard to the gift (1= opening the gift, 2= touching the gift, and 3= neither touching nor opening). After completing the missing values, composite scores were generated for sub-scales. In addition, total composite score was formed by summing the scores of sub-scales for Self Concept Development (SCQ) scale.

Total self-recognition score was generated from the sum of passes in three self-recognition tasks which were the mirror task, the mat pick up task and the photo task. After generating the composite score, univariate outliers were checked by taking z-

scores. No univariate and multivariate outliers were found among the groups. The assumptions of normality of sampling distributions was checked based on the skewness and kurtosis and it showed that perceptual sensitivity was not between +1 and -1 out of the temperament sub-scales, sub-scales of Self-Concept Development scale, self recognition tasks and opening time of gift. They were ignored because of the low sample size and their skewness and kurtosis values were not exceeding -/+ 1 too much (kurtosis were range between -1.03 to -1.68). Linearity and homoscedasticity were also checked with the scotter-plots. In addition, multicolliniarity assumption was met and there were no correlation between variables higher than .72. Further analyses were carried out on 59 children by using SPSS 22. However, one case was missing for temperament sub-scales and mat-pick up task, while two cases were missing for opening time of the gift delay task.

3.2 Reliability Analyses

Factor analysis could not be carried out for Self-Concept Development Scale and Temperament Sub-scales because of the low sample size. However, internal reliability estimates were acceptable. For temperament subscales, frustration, inhibitory control, perceptual sensitivity and soothability, Cronbach's alpha coefficients were .83, .85, .84 and .84, respectively. For the Self-Concept Questionnaire, Cronbach's alpha coefficient for the first sub-scale, "self-description and evaluation" (12 items) was .87, for the second sub-scale, "self-recognition" (5 items) was .66, for the third sub-scale, "emotional response to wrongdoing and self-regulation" (5 items) was .56, and for the last sub-scale, "autonomy" (3 items), the coefficient was .56.

However, if the item 15 ("...communicate likes and dislikes verbally?") was deleted from self-recognition sub-scale, the alpha coefficient increased to .70. When the item 21 ("Has he/she ever called your attention to something he/she did that he/she wasn't supposed to do (e.g., pulled the TV knob off)?") was excluded from the emotional response to wrongdoing and self-regulation subscale, Cronbach's alpha coefficient increased and the new coefficient was .62. Similarly, when the item 23 ("

…ever assert his/her own will contrary to yours, just for the sake of being contrary?") was excluded from the autonomy sub-scale, alpha coefficient increased to .76. Therefore, those items were not included to their sub-scales, but they were included in the total score of Self-Concept Development Scale.

3.3 Descriptive Analyses

Descriptive results for measuring self concept, (Self-Concept Questionnaire), self recognition, (mirror task, mat-pick up task, photo task, and total scores of these tasks), self regulation (Gift delay task: delay behavior (touching, opening the box or neither of them) and waiting time (in seconds) for opening the gift) and temperament (Frustration, Inhibitory Control, Perceptual Sensitivity, Soothability) were given separately for three care groups in the Table 3.1.

Table 3.1 Descriptive Statistics for Measurements (N = 59)

	Institution (n=26)		Child Home (n=12)		Low SES (n=21)	
Measurements	Mean	SD	Mean	SD	Mean	
Self Concept Dev. Scale	9.92	5.78	14.83	4.19	17.71	4.19
Self-Description	6.66	2.71	6.67	2.71	8.47	2.31
Self-Recognition	3.58	.67	3.58	.66	3.71	.46
Self-Regulation	1.83	1.19	1.83	1.19	2.23	1.37
Autonomy	1.25	.86	1.25	.87	1.66	.730
Self-Recognition Tasks						
Mirror Task	.75	.45	.75	.45	.81	.40
Mat Pick up Task	.75	.45	.75	.45	.86	.35
Photo Task	.42	.51	.42	.51	.81	.40
Self-recognition Total	1.92	1.08	1.91	1.08	2.47	.60
Temperament Subscales			2.49			
Frustration	2.49	.78	2.49	.78	2.61	.59
Inhibitory Control	2.99	.92	2.99	.92	2.73	.89
Perceptual Sensitivity	3.00	.89	3.00	.89	3.47	.53
Soothability	3.38	.78	3.37	.76	3.28	.85
Self Regulation						
Delay Total	1.5	.80	1.83	.83	1.61	.67
Waiting Time	97.6	58.19	78.33	68.92	108.66	56.47

3.4 Correlation Analyses

Different correlation analyses were performed to understand relationship between variables which are self concept scale, self recognition tasks, self regulation task, and temperament sub-scales. In addition, correlations between dependent variables, temperament and demographic characteristics of children (type of reasons for placing into the institution, and staying time in the institution) as a risk factor were performed only for institutionalized children.

3.4.1 Correlations between the Outcome Variables

Pearson's bivariate correlations between self development scale and self recognition tasks showed that self description and evaluation (First sub-scales of the Self-Concept Questionnaire) was positively correlated with the photo task (r = .28, p < .05) and total scores of self recognition tasks (r = .27, p < .05). Photo task was also positively correlated with second sub-scale (self recognition) (r = .27, p < .05). Third sub-scale (emotional wrong doing and self-regulation) was negatively correlated with total delay score (r = -.33, p < .05).

In addition, total scores of SDCS was positively correlated with photo task (r = .30, p < .05) and total self recognition tasks (r = .28, p < .05). Opening time of the gift was positively correlated with total delay score (r = .72, p < .01).

In addition, sub-scales correlations of SCQ were also checked. Pearson's bivariate correlation indicated that self description and evaluation was positively correlated with all the other sub-scales of Self-Concept Questionnaire, self recognition (r = .57, p < .01), emotional response to wrongdoing and self-regulation (r = .44, p < .01), autonomy (r = .29, p < .05) and total scale (r = .94, p < .01). There was also positive correlation between self recognition and emotional response to wrongdoing and self-regulation (r = .27, p < .05), and total scale (r = .67, p < .01). Total self scale was positively correlated with the emotional response to wrongdoing and self-regulation (r = .59, p < .01) and autonomy (r = .41, p < .01) (see Table 3.2).

3.4.2 Correlations between Temperament and Outcome Variables

Bivariate correlations between temperament and self development scale were performed. The results indicated that frustration was significantly and positively correlated with autonomy sub-scale (r = .54, p <.01). Inhibitory control was positively correlated with emotional response to wrongdoing and self-regulation sub-scale (r = .26, p < .05), but negatively correlated with autonomy (r = -.53, p < .01). Positive correlation was also found between Perceptual sensitivity with self-description and evaluation (r = .51, p < .01), self recognition (r = .53, p < .01), and emotional response to wrongdoing and self-regulation (r = .31, p < .05), while negative correlation was found between soothability and autonomy (r = -.36, p < .01). In addition, Pearson's bivariate correlations between temperament and self-recognition tasks indicated that perceptual sensitivity was positively correlated with photo task (r = .34, p < .01) and soothability was positively correlated with mirror task (r = .29, p < .05) and total self recognition score (r = .28, p < .05). Moreover, there was no significant correlation between self-regulation scores (time for opening the gift and total delay score) and temperament.

Correlations between temperament sub-scales was also performed and results indicated that there was a significant and negative correlation between frustration and inhibitory control (r = -.71, p < .01) and soothability (r = -.67, p < .01). Positive correlation was found between inhibitory control and perceptual sensitivity (r = .29, p < .05). Finally, soothability was negatively correlated with frustration (r = -.67, p < .01), but positively correlated with inhibitory control (r = .56, p < .01) and perceptual sensitivity (r = .29, p < .05) (see Table 3.2).

3.4.3 Correlations between Outcome Variables and Causes of Taken Into to Care of Social Services

According to the correlation analysis, sexual abuse was significantly correlated with child's self-recognition in a negative way (r = -.31, p < .05). Mother's psychological problem was also negatively correlated with child's self-description and evaluation (r

= -.38, $p < .05$), self-recognition, ($r = -.61$, $p < .01$) and total self-development scale ($r = -.42$, $p < .01$). Having an imprisoned father was negatively correlated with emotional response to wrongdoing and self-regulation ($r = -.35$, $p < .05$), mirror task ($r = -.38$, $p < .05$), and total score of self recognition tasks ($r = -.50$, $p < .01$), but positively correlated with child's autonomy ($r = .38$, $p < .05$).

Interestingly, positive correlation was found between emotional abuse and child's photo task ($r = .34$, $p < .05$) and total self recognition score ($r = .32$, $p < .05$). Similarly, there was positive correlation between being an illegitimate child and mat-pick up task ($r = .33$, $p < .05$). Left by mother was also positively correlated with delay total score ($r = .38$, $p < .05$) (see Table 3.3).

3.5 Hierarchical Regression Analyses

In order to test hypotheses, hierarchical regression analysis was carried out. However, chi-squire analysis was used to see the effects of care types on self-recognition tasks (mirror task, mat-pick up task and photo task), because both dependent and independent variables were categorical. Self-recognition score was used in the regression analysis by summing the results of three tasks.

In order to examine the role of the temperament and care types on the self concept development measured by a scale (self-description, self recognition, self-regulation, and autonomy), by self recognition tasks and self regulation (total delay and timing to open the gift), hierarchical regression analysis was performed. Before conducting the regression, care types were dummy coded. Three dummy variables were created which are dummy-institution (coded as institution = 1, child homes = 0, low SES = 0), dummy-child home (coded as child homes = 1, institution = 0, low SES = 0) and dummy-low SES (coded as low SES = 1, institution = 0, child homes = 0). In order to compare care types (institution and child homes) with low SES, dummy-low SES were taken as comparison group and not entered into the analysis. However, in order to compare institution with child homes, dummy-institution was taken as comparison group and was not entered into the equation.

For the moderation analysis, two-way interactions between temperament and care types were conducted. Therefore, continuous variables (frustration and perceptual sensitivity) were centered. Interaction terms were created by multiplying centered variables and dummy coded variables.

Firstly, age and gender were entered into the equation for all hierarchical regression analyses. However, the results indicated that age and gender were not related to the outcomes. Therefore, age and gender were excluded from the all further analyses. Thus, in the first step, four temperament domains were entered which were frustration, inhibitory control, perceptual sensitivity and soothability. In the second step, two dummy variables were entered (dummy-institution and dummy-child homes or dummy-low SES and dummy-child homes). In the third and final step, in order to see the interactions of temperament and care types, frustration and perceptual sensitivity were taken as moderators and interaction variables were created by multiplying centered temperament score and one of the care types.

Two regression analyses were run for each outcome variable to see the differences between care types- institutional care and child homes and low SES as another comparison group with one of the moderators (frustration and perceptual sensitivity) separately.

Table 3.2 Pearson's Correlations between All Variables (N = 59)

Correlations															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Self-Description	1														
2. Self-Recognition	.57**	1													
3. Self-Regulation	.44**	.26*	1												
4. Autonomy	.29*	.20	-.05	1											
5.Self-Scale Total	.94**	.67**	.59**	.41**	1										
6. Mirror Task	.11	.17	.07	.04	.14	1									
7. Math Pick up T.	.11	.02	.15	-.09	.07	.21	1								
8. Photo Task	.28*	.27*	.25	.07	.30*	.15	-.06	1							
9.Self-Recog. Total	.27*	.25	.25	.02	.28*	.72**	.55**	.62**	1						
10. Time for Gift	-.04	-.08	-.15	.25	-.02	-.18	.06	.24	.08	1					
11. Delay Total	-.14	.05	-.33*	-.05	-.16	-.07	-.01	.13	.03	.72**	1				
12. Frustration	-.03	.06	-.24	.54**	.03	-.17	-.09	.00	-.14	.03	.01	1			
13.Inhibitory Cont.	.20	-.01	.26*	-.53**	.08	.02	.12	.23	.20	.01	.04	-.71**	1		
14.Perceptual Sen.	.51**	.53**	.31*	.05	.54*	-.03	.09	.34**	.22	-.00	-.13	-.13	.28	1	
15. Soothability	.01	.04	.14	-.37**	-.02	.27	.17	.08	.28*	.11	.08	-.67**	.56**	.29*	1

*p<.05, **p<.01

Table 3.3 Pearson's Correlations between Some Reasons for Institutionalization and All Other Variables (N = 38)

	Correlations																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Self-Description	1																			
2. Self-Recognition	.51**	1																		
3. Self-Regulation	.40**	.30	1																	
4. Autonomy	.17	.01	-.02	1																
5. Mirror Task	.11	.14	.20	-.10	1															
6. Math Pick up T.	.06	.02	.32	-.14	.22	1														
7. Photo Task	.10	.18	.11	.00	.22	-.06	1													
8.Self-Recog. Total	.14	.18	.31	.02	.75**	.55**	.63**	1												
9. Physical Abuse	-.20	-.11	-.03	-.19	.02	-.07	.09	.03	1											
10. Sexual Abuse	-.08	-.32*	.03	-.11	-.06	.13	.00	.03	.37*	1										
11. Psy. Dis. (M)	-.38*	-.61**	-.08	-.09	-.14	-.17	.00	-.15	.33*	.17	1									
12. Phy. Dis. (M)	.02	.12	.32*	.03	.18	.13	.00	.15	-.07	-.06	-.12	1								
13. Psy. Dis. (F)	.03	-.02	.12	-.05	.08	-.01	.00	.04	-.10	-.08	.45**	.30	1							
14. Imprisoned (F)	-.14	.04	-	.38*	-.38*	-.30	-.30	-.51*	-.09	-.07	-.15	-.07	-.10	1						
15. Imprisoned (M)	-.11	.12	-.25	.31	-.31	-.15	-.24	-.36*	-.07	-.06	-.12	-.06	-.08	.80**	1					
16. Divorce	.08	.04	.28	-.08	.22	.16	-.10	.14	-.09	.37*	-.15	.80**	.21	-.07	-.07	1				
17. Illegitimate (C)	-.17	.22	.28	-.14	-.08	.33*	.00	.20	-.17	-.14	-.31	.13	-.20	-.17	-.14	.05	1			
18. Father Left	.14	.17	-.13	.14	-.19	-.15	-.08	-.21	-.11	-.09	-.20	-.09	-.13	.46**	.61**	-.11	-.23	1		
19. Mother Left	.21	.07	-.18	.14	.13	-.02	.00	.06	-.15	-.12	-.27	-.12	-.18	-.15	-.12	-.15	-.16	-.21	1	
20. Duration Time	-.23	-.18	-.02	-.08	.04	-.02	-.04	-.00	-.18	-.25	.08	-.03	-.27	-13	-.01	-.11	.36*	.02	-.40*	1

*p<.05, **p<.01

Table 3.4 Pearson's Correlations between Some Reasons for Institutionalization and All Other Variables (N = 38)

	Correlations																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Delay Total	1																	
2. Time for Waiting	.72*	1																
3. Frustration	.05	-.08	1															
4. Inhibitory C.	-.05	.01	-.73**	1														
5. Perceptual Sen.	-.13	-.07	-.24	.41*	1													
6. Soothability	.01	.07	-.74**	.61**	.46**	1												
7. Physical Abuse	-.24	-.20	.01	.05	-.03	-.08	1											
8. Sexual Abuse	-.19	.12	-.10	.15	-.16	-.05	.37*	1										
9. Psy. Dis. (M)	-.18	.13	.07	-.04	-.18	-.06	.33*	.17	1									
10. Phy. Dis. (M)	-.05	.24	-.17	.20	.20	.18	-.07	-.06	-.12	1								
11. Psy. Dis. (F)	.04	.19	-11	.31	.16	.08	-.10	-.08	.45**	.30	1							
12. Imprisoned (F)	.25	.17	.63**	-.45**	-.30	-.59**	-.09	-.08	-.15	-.07	-.10	1						
13. Imprisoned (M)	.25		.52**	-.32*	-.21	-.40*	-.07	-.06	-.12	-.06	-.08	.80**	1					
14. Divorce	-.12	.20	-.23	.23	.07	.16	-.09	.37*	-.15	.80**	.21	-.09	-.07	1				
15. Illegitimate (C)	-.04	.02	-.16	-.05	.25	.20	-.17	-.14	-.31	.13	-.20	-.17	-.14	.05	1			
16. Father Left	-.03	-.30	.24	-.04	-.20	-.30	-.11	-.09	-.20	-.09	-.13	.46**	.61**	-.11	-.23	1		
17. Mother Left	.38*	.16	-.19	.06	-.11	.16	-.15	-.12	-.27	-.12	-.18	-.15	-.12	-.15	-.16	-.20	1	
18. Duration Time	-.22	-.17	.11	-.21	.04	.13	-.16	-.25	.08	-.02	-.27	-.12	-.01	-.11	.36*	.02	-.40*	1

*p<.05, **p<.01

3.5.1 Hierarchical Regression Analyses for Predicting Self Concept Development

Four hierarchical regression analyses were run to predict self-concept development of children. Different analysis was performed for each sub-scale of the Self-Concept Questionnaire namely -self description and evaluation, self-recognition, emotional response to wrongdoing and self-regulation, and autonomy.

3.5.1.1 Comparison between Care Types (Institution and Child Home) and Low SES In Terms of Self-Concept Development

For the first outcome **(self-description and evaluation),** all temperamental characteristics; frustration, inhibitory control, perceptual sensitivity and soothability were entered into **the first step** and the step was significant R^2 = .31 (adjusted R^2 =.25), F (4, 53) = 5.88, p < .01. That is they contributed to the variance in predicting the outcome. **In the second step**, two coded variables (dummy-institution and dummy-child homes) were added and dummy-low SES group was taken as comparison group. The result was significant and showed that they explained additional variance, R^2 = .51 (adjusted R^2 =.46), ΔR^2 = .21, *Finc* (2, 51) = 10.77, p < .001). There was a unique effect of perceptual sensitivity on the outcome, (β = .31, p < .05). This shows that perceptual sensitivity positively predicted child's self-description and evaluation scores. **In the third step**, interaction terms were added into the equation and two final steps were conducted for two different moderators and they were not significant. That is, they did not make a significant contribution to the equation. For the perceptual sensitivity, R^2 = .51 (adjusted R^2 =.43), ΔR^2 = .00, *Finc* (2, 49) = .02, *ns.* For the frustration, R^2 = .51 (adjusted R^2 =.44), ΔR^2 = .00, *Finc* (2, 49) = .18, *ns.* However, unique effect of institutions was still significant in the final step after controlling temperaments, (β = -.57, p < .001). It means that children in the institutions were worse on self-description sub-scale compared to low SES children (see Table 3.4).

Table 3.5 Hierarchical Regression Analysis in Predicting Child's Self-Description and Evaluation: Moderators are Perceptual Sensitivity and Frustration

Perceptual Sensitivity										
	Predictors	R	R^2	ΔR^2	F	Finc	B	SE	β	Part
Step 1	Frustration						-.68	.97	-.12	-.07
	Inhibitory Cont.						1.17	.66	.27	.18
	Perceptual Sens.						1.37	1.22	.31	.11
	Soothability	**.31**	**.25**	**.31**	**5.89****	**5.89****	-1.05	.65	-.24	-.16
Step 2	Institution						-4.12	1.02	-.57**	-.40
	Child Homes	**.51**	**.46**	**.21**	**8.96*****	**10.77*****	-1.36	1.12	-.15	-.12
Step 3	Perc. Sen.*Inst.						.09	1.39	.01	.01
	Perc. Sen.*Child H.	**.51**	**.43**	**.00**	**6.47*****	**.02**	-.16	1.51	-.02	-.01
Frustration										
Step 1	Frustration						-.12	1.27	-.02	-.01
	Inhibitory Cont.						1.22	.66	.28	.19
	Perceptual Sen.						1.38	.54	.31	.25
	Soothability	**.31**	**.25**	**.31**	**5.89****	**5.89****	-1.05	.62	-.24	-.17
Step 2	Institution						-4.09	.94	-.57**	-.43
	Child Homes	**.51**	**.46**	**.21**	**8.96*****	**10.77*****	-1.23	1.06	-.14	-.12
Step 3	Frust.*Ins.						-.84	1.40	-.09	-.06
	Frust.*Child H.	**.51**	**.44**	**.00**	**6.55*****	**.18**	-.52	1.48	-.05	-.03

*p<.05, **p<.01, ***p<.001, [a]marginally significant. Note: Standard Error (SE), B, β and part values in the final steps were reported.

For the second outcome **(self-recognition),** the same analysis was run. The results indicated that **first step** was significant, R^2 = .31 (adjusted R^2 =.26), F (4, 53) = 5.94, p < .01. **Second step** was also significant, R^2 = .42 (adjusted R^2 =.35), ΔR^2 = .11, *Finc* (2, 51) = 5.02, p < .05). There was a unique effect of perceptual sensitivity on the outcome, (β = .48, p < .001). Moreover, **third step** with interaction term with

perceptual sensitivity accounted additional variance in predicting the outcome, R^2 = .51 (adjusted R^2 =.43), ΔR^2 = .09, *Finc* (2, 49) = 4.47, p < .05), but not the interaction term with frustration R^2 = .44 (adjusted R^2 =.35), ΔR^2 = .02, *Finc* (2, 49) = .85, *ns.*

For the third step with perceptual sensitivity, unique effect of institution was significant after controlling the temperaments, (β = -.39, p < .01) and it accounted 8 percent of unique variance of total. Unique effect of interaction term between perceptual sensitivity and institution was also significant, (β = .50, p < .05) and 5 percent of unique variance was explained by this term. Simple Slope test was run and the result showed that when children had low levels of perceptual sensitivity, children in the institution had lower levels of self recognition compared to children in the low SES families. However, when the level of perceptual sensitivity was high, the negative effects of staying in the institution were disappearing (see Table 3.5) (see Figure 3.1).

For the **third step** with frustration, although unique effects of interaction term were not found, there was a significant unique effect of perceptual sensitivity (β = .49, p < .001) and institutional care (β = -.32, p < .05). 16 and 6 percent of unique variance of total variance were explained by perceptual sensitivity and institution, respectively. That is, perceptual sensitivity positively predicted child's self-recognition and children in the institution had lower levels of self recognition compared to children in the low SES (see Table 3.5).

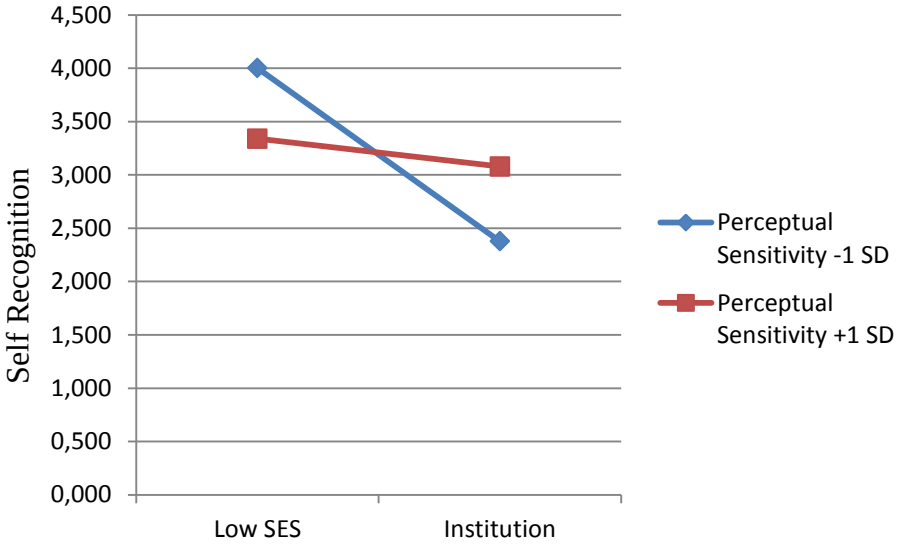

Figure 3.1 Graph for the interaction between perceptual sensitivity and institution compared to low SES in predicting child's self-recognition.

Table 3.6 Hierarchical Regression Analysis in Predicting Child's Self-Recognition: Moderators are Perceptual Sensitivity and Frustration

Perceptual Sensitivity										
	Predictors	R	R^2	ΔR^2	F	Finc	B	SE	β	Part
Step 1	Frustration						.51	.32	-.28	-.15
	Inhibitory Control						-.24	.22	-.16	-.11
	Perceptual Sensitivity						.13	.41	.09	.03
	Soothability	**.31**	**.25**	**.31**	**5.94****	**5.94****	-.24	.21	-.16	-.11
Step 2	Institution						-.94	.34	-.39**	-.28
	Child Homes	**.42**	**.35**	**.11**	**6.24*****	**5.02***	-.03	.38	.01	-.01
Step 3	Perceptual Sen.*Inst.						1.04	.46	.50*	.22
	Perceptual Sen.*Child H.	**.51**	**.43**	**.02**	**4.86*****	**4.47***	.02	.50	.01	.00
Frustration										
Step 1	Frustration						.09	.45	.05	.02
	Inhibitory Control						-.19	.23	-.13	-.08
	Perceptual Sensitivity						.73	.19	-.49***	.40
	Soothability	**.31**	**.26**	**.31**	**5.94****	**5.94****	-.09	.22	-.06	-.04
Step 2	Institution						-.76	.34	-.32*	-.24
	Child Homes	**.42**	**.35**	**.11**	**6.24*****	**5.03***	.30	.38	.10	.09
Step 3	Frustration* Ins.						-.62	.50	-.21	-.13
	Frustration* Child H.	**.44**	**.35**	**.02**	**4.86*****	**.85**	-.14	.53	-.04	-.04

*p<.05, **p<.01, ***p<.001, [a]marginally significant. Note: Standard Error (SE), B, β and part values in the final steps were reported.

For the third outcome **(emotional understanding of wrongdoing and self regulation)**, four temperament characteristics were entered in the first equation similar to previous ones. The result was marginally significant, R^2 = .15 (adjusted R^2 =.09), F (4, 53) = 2.42, p = .06. There was a unique effect of perceptual sensitivity on the outcome, (β = .30, p < .05). After adding the dummy variables, they did not significantly explain additional variance in predicting the outcome, R^2 = .17 (adjusted R^2 = .07), ΔR^2 = .01, *Finc* (2, 51) = .40, *ns.* In the final step, interaction terms were added for perceptual sensitivity and frustration separately and they did not significantly explained additional variance: for perceptual sensitivity, R^2 = .19 (adjusted R^2 = .06), ΔR^2 = .03, *Finc* (2, 49) = .81, *ns;* for frustration R^2 = .20 (adjusted R^2 = .07), ΔR^2 = .03, *Finc* (2, 49) = 1.09, *ns.* (see Table 3.6).

Table 3.7 Hierarchical Regression Analysis in Predicting Child's Emotional Understanding of Wrongdoing Self-Regulation: Moderators are Perceptual Sensitivity and Frustration

Perceptual Sensitivity										
	Predictors	R	R^2	ΔR^2	F	Finc	B	SE	β	Part
Step 1	Frustration						-.72	.45	-.36	-.20
	Inhibitory Control						.15	.31	.10	.06
	Perceptual Sensitivity						.35	.57	.22	.08
	Soothability	**.15**	**.09**	**.15**	**2.42[a]**	**2.42[a]**	-.34	.30	-.21	-.14
Step 2	Institution						-.37	.47	-.14	-.10
	Child Homes	**.16**	**.07**	**.01**	**1.71**	**.40**	-.33	.52	-.10	-.08
Step 3	Perceptual Sen.*Inst.						.27	.65	.12	.05
	Perceptual Sen.*Child H.	**.19**	**.06**	**.03**	**1.48**	**.81**	-.43	.70	-.13	-.08
Frustration										
Step 1	Frustration						-.34	.59	-.17	-.07
	Inhibitory Control						.22	.30	.14	.09
	Perceptual Sensitivity						.44	.25	.27	.22
	Soothability	.15	.09	.15	2.42[a]	2.42[a]	-.30	.29	-.19	-.13
Step 2	Institution						-.41	.44	-.16	-.12
	Child Homes	**.16**	**.07**	**.01**	**1.71**	**.40**	-.26	.49	-.08	-.07
Step 3	Frustration* Ins.						-.66	.65	-.21	-.13
	Frustration* Child H.	.20	.07	.03	1.56	1.09	.26	.69	.07	.05

*p<.05, **p<.01, ***p<.001, [a]marginally significant. Note: Standard Error (SE), B, β and part values in the final steps were reported.

For the fourth outcome of self-concept development**, autonomy,** same regression analysis was run. Step one was significant and it means that temperament characteristics explained some variance on autonomy development R^2 = .38 (adjusted R^2 =.33), F (4, 53) = 7.99, p < .001. Step two was also marginally significant, R^2 = .44 (adjusted R^2 = .38), ΔR^2 = .01, *Finc* (2, 51) = 2.97, p = .06. However, third step did not significantly explain more variance after adding interaction terms with perceptual sensitivity R^2 = .44 (adjusted R^2 = .35), ΔR^2 = .00, *Finc* (2, 49) = .07, *ns.*, and frustration R^2 = .44 (adjusted R^2 = .35), ΔR^2 = .00, *Finc* (2, 49) = .18, *ns.* However, unique effect of institution was still significant after controlling temperament characteristics, (β = -.33, p < .05). It means that institutionalized children had worse autonomy scores compared to low SES children (see Table 3.7).

Table 3.8 Hierarchical Regression Analysis in Predicting Child's Autonomy: Moderators are Perceptual Sensitivity and Frustration

Perceptual Sensitivity										
	Predictors	R	R^2	ΔR^2	F	Finc	B	SE	β	Part
Step 1	Frustration						.29	.26	.21	.12
	Inhibitory Control						-.36	.18	-.33*	-.22
	Perceptual Sensitivity						-.02	.32	-.02	-.01
	Soothability	**.38**	**.33**	**.38**	**7.99*** **	**7.99*** **	-.02	.17	-.02	-.01
Step 2	Institution						-.63	.27	-.35*	-.25
	Child Homes	**.44**	**.38**	**.06**	**6.72*** **	**2.97**[a]	-.27	.30	-.12	-.09
Step 3	Perceptual Sen.*Inst.						.13	.37	.08	.04
	Perceptual Sen.*Child H.	**.44**	**.35**	**.00**	**4.87*** **	**.07**	.14	.40	.06	.04
Frustration										
Step 1	Frustration						.20	.34	.15	.06
	Inhibitory Control						-.38	.17	-.35*	-.23
	Perceptual Sensitivity						.08	.14	.07	.06
	Soothability	**.38**	**.33**	**.38**	**7.99*** **	**7.99*** **	-.00	.16	-.00	-.00
Step 2	Institution						-.59	.25	-.33*	-.25
	Child Homes	**.44**	**.38**	**.06**	**6.72*** **	**2.97**[a]	-.24	.28	-.11	-.09
Step 3	Frustration* Ins.						.20	.37	.09	-.06
	Frustration* Child H.	**.44**	**.35**	**.00**	**4.92*** **	**.17**	.02	.39	.01	.01

*p<.05, **p<.01, ***p<.001, [a]marginally significant. Note: Standard Error (SE), B, β and part values in the final steps were reported.

3.5.1.2 Comparison between Care Types: Institutions and Child Homes for Predicting Child's Self Concept

In order to compare institutional care and child homes in terms of child's self concept development same sets of regression analyses were carried out by leaving the dummy-institution variable out.

For the self description and evaluation sub-scale, temperament variables were entered in the **first step**, R^2 = .31 (adjusted R^2 =.25), F (4, 53) = 5.88, p < .01. In the **second step**, dummy-child homes and dummy-low SES were entered, they made significant contribution to the prediction R^2 = .51 (adjusted R^2 =.46), ΔR^2 = .21, *Finc* (2, 51) = 10.77, p < .001). In **the final step**, interaction terms (perceptual sensitivity X dummy-low SES and perceptual sensitivity X dummy-child homes) were entered and they did not explain additional variance on self-description, R^2 = .51 (adjusted R^2 = .43), ΔR^2 = .00, *Finc* (2, 49) = .02, *ns*. However, unique effect of low-SES was significant after controlling the temperaments (β = .55, p < .001). That is staying in the low SES family positively predicted self-description of children compared to staying in institutions. In addition, unique effect of child homes was also found on self- description of children (β = .31, p < .01) and it showed that being cared in the child homes positively predicted child's self description compared to the institutional care. 16 % and 8% of variance of unique variance of total variance was accounted by low-SES and child home, respectively (see Table 3.8).

Interaction terms with frustration were also entered into **the third step** in the separate analysis for the self-description outcome and their contribution to the equation was not significant R^2 = .51 (adjusted R^2 = .43), ΔR^2 = .00, *Finc* (2, 49) = .18, *ns*. However, low SES and child homes were positively predicted self-description of children compared to institutions (β = .54, p < .001) and (β = .32, p < .01). 19 and 8 percent of unique variance were accounted by low SES and child home, respectively (see Table 3.8).

Table 3.9 Hierarchical Regression Analysis in Predicting Child's Self-Description: Moderators are Perceptual Sensitivity and Frustration

Perceptual Sensitivity										
	Predictors	R	R^2	ΔR^2	F	Finc	B	SE	β	Part
Step 1	Frustration						-.68	.97	-.12	-.07
	Inhibit. C.						1.17	.66	.27	.18
	Percept. Sen.						1.45	.71	.33*	.20
	Soothability	**.31**	**.25**	**.31**	**5.89****	**5.89****	-1.05	.65	-.24	-.16
Step 2	Low SES						4.12	1.02	.55***	-.40
	Child H.	**.51**	**.46**	**.21**	**8.96*****	**10.77*****	2.76	.98	.31**	.28
Step 3	Perceptual Sen.*Low						-.09	1.39	-.01	-.01
	Perceptual Sen.*Child	**.51**	**.43**	**.00**	**6.47*****	**.02**	-.25	1.18	-.03	-.02
Frustration										
Step 1	Frustration						-.96	1.16	-.17	-.08
	Inhibitory C.						1.23	.66	.28a	.19
	Percept. Sen.						1.38	.54	.31*	.25
	Soothability	**.31**	**.25**	**.31**	**5.89****	**5.89****	-1.06	.62	-.24	-.17
Step 2	Low SES						4.10	.94	.54***	.43
	Child H.	**.51**	**.46**	**.21**	**8.96*****	**10.77*****	2.86	.98	.32**	.29
Step 3	Frustration* Low SES						.84	1.40	.08	.06
	Frustration* Child H.	**.52**	**.44**	**.00**	**6.55*****	**.18**	.32	1.41	.03	.02

*p<.05, **p<.01, ***p<.001, [a]marginally significant. Note: Standard Error (SE), B, β and part values in the final steps were reported.

Same sets of regression analyses were run for the **self-recognition sub-scale**. **First step** explained significance variance in predicting the outcome, R^2 = .31 (adjusted R^2 = .26), F (4, 53) = 5.94, p < .001. **Second step** significantly contributed to explain additional variance , R^2 = .42 (adjusted R^2 = .35), ΔR^2 = .11, *Finc* (2, 51) = 5.03, p < .05. **In the final step**, interaction terms were entered into the equation. When interaction terms for perceptual sensitivity were entered there was a significant change in the explained variance R^2 = .51 (adjusted R^2 = .43), ΔR^2 = .09, *Finc* (2, 49) = 4.47, p < .05, but interaction term with frustration did not make a significant contribution to explained variance, R^2 = .44 (adjusted R^2 = .35), ΔR^2 = .02, *Finc* (2, 49) = .85, *ns*. In the final step, perceptual sensitivity had significant unique effect on self description, (β = .79, p < .001) and accounted 24 percent of the variance. There were also significant unique effects of low SES (β = .38, p < .01) and child homes (β = .31, p < .01). That is children in the low SES and child homes had higher scores on self-recognition scale than children in the institutions. Among the interaction terms both between perceptual sensitivity and low SES, and perceptual sensitivity and child homes were found to be significant, (β = -.31, p < .05) and (β = -.34, p < .04) (see Table 3.9).

Table 3.10 Hierarchical Regression Analysis in Predicting Child's Self-Recognition: Moderators are Perceptual Sensitivity and Frustration

Perceptual Sensitivity										
	Predictors	R	R^2	ΔR^2	F	Finc	B	SE	β	Part
Step 1	Frustration						-.51	.32	-.28	-.15
	Inhibitory Control						.24	.22	-.16	-.11
	Perceptual Sensitivity						1.17	.24	.79***	.49
	Soothability	**.31**	**.26**	**.31**	**5.94****	**5.94****	-.24	.22	-.16	-.11
Step 2	Low SES						.94	.34	.37**	.28
	Child Homes	**.42**	**.35**	**.11**	**6.24*****	**5.03***	.91	.33	.31**	.28
Step 3	Perceptual Sen.*Low						-1.04	.46	-.31*	-.22
	Perceptual Sen.*Child H.	**.44**	**.35**	**.02**	**6.43*****	**4.47***	-1.02	.39	-.34*	-.26
Frustration										
Step 1	Frustration						-.52	.42	-.29	-.13
	Inhibitory Control						-.19	.23	-.13	-.08
	Perceptual Sensitivity						.73	.19	.49***	.40
	Soothability	**.31**	**.26**	**.31**	**5.94****	**5.94****	-.09	.22	-.06	-.04
Step 2	Low SES						.76	.34	.30*	.24
	Child Homes	**.42**	**.35**	**.11**	**6.24*****	**5.03***	1.07	.35	.36**	.32
Step 3	Frustration* Low SES						.62	.50	.18	.13
	Frustration* Child H.	**.44**	**.35**	**.02**	**4.86*****	**.85**	.47	.51	.14	.10

*p<.05, **p<.01, ***p<.001, [a]marginally significant. Note: Standard Error (SE), B, β and part values in the final steps were reported.

Simple slope test was run separately for each interaction term. It was found that when the child's perceptual sensitivity was low, institutionalized children had worse outcomes on self-recognition, and when the child had higher levels of perceptual sensitivity the positive effects of low SES disappeared compared to institutional care group (see Figure 3.1). Moreover, simple slope analysis was also run for the interaction between perceptual sensitivity and child homes. It was found that when children had lower levels of perceptual sensitivity, staying in the child homes were positively predicted child's self recognition compared to staying in the institutions. However, when the level of perceptual sensitivity was high, the positive effects of child homes disappeared compared to institutional care (see Figure 3.2).

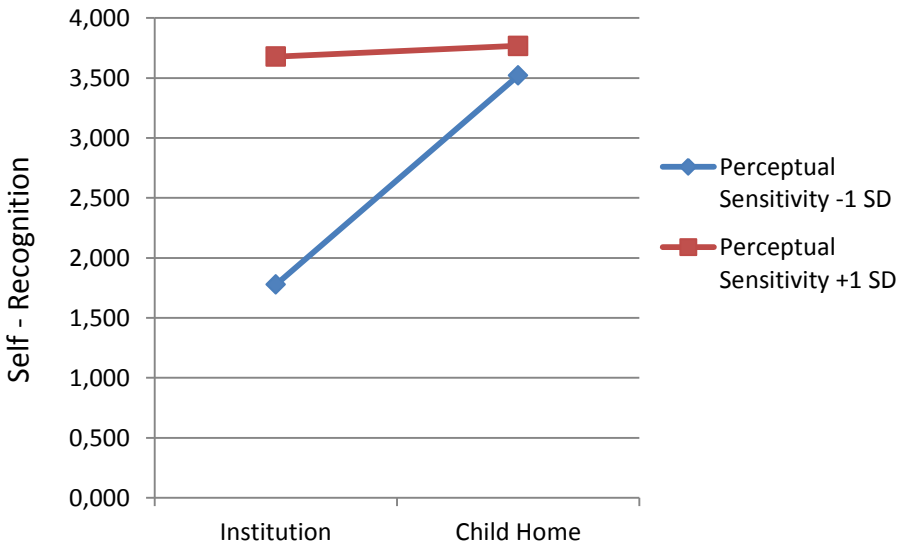

Figure 3.2 Graph for the interaction between perceptual sensitivity and child homes compared to institution in predicting child's self-recognition.

For the emotional response to wrongdoing and self-regulation sub-scale, same analysis was employed. First step was marginally significant, R^2 = .15 (adjusted R^2 = .09), F (4, 53) = 2.42, p = .06. There was a unique effect of perceptual sensitivity on the outcome, (β = .30, p < .05). It means that perceptual sensitivity positively predicted child's emotional response to wrongdoing and self-regulation sub-scale.

Second step did not explain additional variance, R^2 = .16 (adjusted R^2 = .07), ΔR^2 = .01, *Finc* (2, 51) = .40, *ns*. **Third step** did not also explain additional variance significanty, when interaction terms for perceptual sensitivity were added R^2 = .19 (adjusted R^2 = .06), ΔR^2 = .03, *Finc* (2, 49) = .81, *ns*. However, perceptual sensitivity had marginally significant unique effect on self-regulation, (β = .39, p = .06). Third step was repeated for the interaction term with frustration, and it was not significant R^2 = .20 (adjusted R^2 = .07), ΔR^2 = .03, *Finc* (2, 49) = 1.09, *ns*. (see Table 3.10). However, frustration had marginally significance unique effect on emotional response to wrongdoing and self-regulation, (β = -.51, p = .07).

Table 3.11 Hierarchical Regression Analysis in Predicting Child's Emotional Understanding of Wrongdoing Self-Regulation: Moderators are Perceptual Sensitivity and Frustration

	Perceptual Sensitivity								
	Predictors	R	R^2	ΔR^2	F	Finc	B	SE	β	Part
	Frustration						-.72	.45	-.36	-.20
Step 1	Inhibitory Control						.15	.31	.10	.06
	Perceptual Sensitivity						.63	.33	.39[a]	.24
	Soothability	**.15**	**.09**	**.15**	**2.42[a]**	**2.42[a]**	-.34	.30	-.21	-.14
Step 2	Low SES						.37	.47	.14	-.10
	Child Homes	**.17**	**.07**	**.01**	**1.71**	**.40**	.05	.46	.01	.01
Step 3	Perc. Sen.*Low SES						.27	.65	-.07	-.05
	Perc. Sen.*Child H.	**.19**	**.06**	**.03**	**1.48**	**.81**	-.70	.55	-.21	-.16
	Frustration									
Step 1	Frustration						-.01	.54	-.51[a]	-.24
	Inhibitory Control						.23	.30	.14	.09
	Perceptual Sensitivity						.44	.25	.27	.22
	Soothability	**.15**	**.09**	**.15**	**2.42[a]**	**2.42[a]**	-.30	.29	-.19	-.13
Step 2	Low SES						-.41	.44	.15	.12
	Child Homes	**.17**	**.07**	**.01**	**1.71**	**.40**	.15	.45	.05	.04
Step 3	Frust.*Low SES						.67	.65	.18	.13
	Frust.*Child H.	**.20**	**.07**	**.03**	**1.56**	**1.09**	.92	.66	.25	.18

*p<.05, **p<.01, ***p<.001, [a]marginally significant. Note: Standard Error (SE), B, β and part values in the final steps were reported.

For the last sub-scale, autonomy, **first step** significantly explained variance in predicting the outcome, R^2 = .38 (adjusted R^2 = .33), F (4, 53) = 7.99, p < .001**.** **Second step** explained variance marginally, R^2 = .44 (adjusted R^2 = .38), ΔR^2 = .06, *Finc* (2, 51) = 2.97, p = .06. **Third step** did not account any variance in explaining the equation after adding interaction term with perceptual sensitivity, R^2 = .44 (adjusted R^2 = .35), ΔR^2 = .00, *Finc* (2, 49) = .07, *ns*. However, unique effects of inhibitory control on autonomy was found at the final step, (β = -.33, p < .05). In addition, low SES had also unique effect on autonomy (β = .33, p < .05). 4 and 6 percent of unique variance were explained by inhibitory control and low SES, respectively (see Table 3.11). That is having high inhibitory control resulted in better scores on autonomy and children who were from low SES family backgrounds had better outcomes on autonomy compared to institutional care conditions.

Table 3.12 Hierarchical Regression Analysis in Predicting Child's Autonomy: Moderators are Perceptual Sensitivity and Frustration

	Perceptual Sensitivity								
	Predictors	R	R^2	ΔR^2	F	Finc	B	SE	β	Part
	Frustration						.29	.26	.21	.12
Step 1	Inhibitory Control						-.36	.18	-.33*	-.22
	Perceptual Sensitivity						.11	.18	.10	.06
	Soothability	**.38**	**.33**	**.38**	**7.99*** **	**7.99*** **	-.02	.17	-.02	-.01
Step 2	Low SES						.62	.27	.34*	.25
	Child Homes	**.44**	**.38**	**.06**	**6.72*** **	**2.97**[a]	.36	.26	.16	.15
Step 3	Perc. Sen.*Low SES						-.13	.37	-.05	-.04
	Perc. Sen.*Child H.	**.44**	**.35**	**.00**	**4.87*** **	**.07**	.02	.31	.01	.00
	Frustration									
Step 1	Frustration						.40	.31	.29	.14
	Inhibitory Control						-.38	.17	-.35*	-.23
	Perceptual Sensitivity						.08	.14	.07	.06
	Soothability	**.38**	**.33**	**.38**	**7.99*** **	**7.99*** **	-.00	.16	-.00	-.00
Step 2	Low SES						.59	.25	.31*	.25
	Child Homes	**.44**	**.38**	**.06**	**6.72*** **	**2.97**[a]	.34	.26	.16	.14
Step 3	Frust.*Low SES						-.20	.37	-.08	-.06
	Frust.*Child H.	**.44**	**.35**	**.00**	**4.92*** **	**.18**	-.17	.38	-.07	-.05

*p<.05, **p<.01, ***p<.001, [a]marginally significant. Note: Standard Error (SE), B, β and part values in the final steps were reported.

3.5.2 Hierarchical Regression Analyses for Predicting Self Recognition of Children

Hierarchical regression analysis was run for the total self recognition score which was created from summing the result of three self-recognition tasks (mirror task, mat-pick up task and photo task). Two different regression analyses were run in order to compare low SES group with others and institution group with others. In addition, two moderators (perceptual sensitivity and frustration) were entered into the equations separately.

3.5.2.1 Comparison between Care Types (Institution and Child Home) and Low SES In Terms of Total Self-Recognition Score

In the first step, all temperamental characteristics (frustration, inhibitory control, perceptual sensitivity and soothability) were entered into the equation and the step was not significant, $R^2 = .11$ (adjusted $R^2 = .04$), F (4, 53) = 1.66, *ns.* Dummy coded variables, institutions and child homes were entered into **the second step** and they significantly contributed to the explained variance $R^2 = .22$ (adjusted $R^2 = .13$), $\Delta R^2 = .11$, *Finc* (2, 51) = 3.51, $p < .05$. There was a significant unique effect of child home on child's self-recognition scores, ($\beta = -.29$, $p = .07$). That is staying in the child homes negatively predicted child's self recognition scores compared to staying in the low SES families. **In the third step,** interactions with perceptual sensitivity and institution, and perceptual sensitivity and child homes were entered but they did not make significant contribution to the explained variance, $R^2 = .22$ (adjusted $R^2 = .04$), $\Delta R^2 = .00$, *Finc* (2, 49) = .08, *ns*. However, institution had significant unique effect on child's total self-recognition score beyond the temperaments, ($\beta = -.41$, $p < .05$). In addition, child home had marginally unique effect, ($\beta = -.30$, $p = .07$) in the final step.

Same analysis was repeated in order to see moderation effect of frustration. Third step did not explain any variance in predicting the outcome, $R^2 = .22$ (adjusted $R^2 =$

.09), ΔR^2 = .00, *Finc* (2, 49) = .13, *ns*. Unique effect of institution and marginal effect of child homes were remained after controlling the temperament in the final step, (β = -.40, p < .05) and (β = -.29, p = .06), respectively (see Table 3.12).

Table 3.13 Hierarchical Regression Analysis in Predicting Child's Total Self-Recognition Tasks: Moderators are Perceptual Sensitivity and Frustration

	Perceptual Sensitivity								
	Predictors	R	R^2	ΔR^2	F	Finc	B	SE	β	Part
	Frustration						.09	.29	.07	.04
Step 1	Inhibitory Control						.19	.20	.18	.12
	Perceptual Sensitivity						-.08	.37	-.07	-.03
	Soothability	**.11**	**.04**	**.11**	**1.66**	**1.66**	.30	.20	.29	.19
Step 2	Institution						-.71	.31	-.41*	-.29
	Child Homes	**.22**	**.13**	**.11**	**2.35***	**3.52***	-.64	.34	-.30[a]	-.24
Step 3	Perceptual Sen.*Inst.						.09	.42	.06	.03
	Perceptual Sen.*Child H.	**.22**	**.09**	**.00**	**1.74**	**.08**	-.05	.46	-.03	-.01
	Frustration									
Step 1	Frustration						.16	.39	.12	.05
	Inhibitory Control						.20	.20	.19	.12
	Perceptual Sensitivity						-.06	.16	-.06	-.05
	Soothability	**.11**	**.04**	**.11**	**1.66**	**1.66**	.33	.19	.31	.22
Step 2	Institution						-.69	.29	-.40*	-.30
	Child Homes	**.22**	**.13**	**.11**	**2.38***	**3.51***	-.61	.32	-.29[a]	-.24
Step 3	Frustration*Ins.						.05	.43	.03	.02
	Frustration*Child H.	**.22**	**.10**	**.00**	**1.76**	**.13**	-.16	.45	-.06	-.04

*p<.05, **p<.01, ***p<.001, [a]marginally significant. Note: Standard Error (SE), B, β and part values in the final steps were reported.

3.5.2.2 Comparison between Care Types: Institution and Child Home In Terms of Total Self-Recognition Score

In order to compare child home and institution, dummy-institution variable was not entered into the equation and taken as a comparison group. Same procedure was followed with other regression analysis. Temperaments were entered in **the first step** and they did not explained step significantly, R^2 = .11 (adjusted R^2 = .04), F (4, 53) = 1.66, *ns.* **The second step** was significant after entering low-SES and child homes groups into the equation, R^2 = .22 (adjusted R^2 = .13), ΔR^2 = .11, *Finc* (2, 51) = 3.51, $p < .05$. **In the final step**, the interactions between perceptual sensitivity and the dummy coded variables were entered but they did not make significant contribution to the explained variance, R^2 = .22 (adjusted R^2 = .04), ΔR^2 = .00, *Finc* (2, 49) = .08, *ns*. However, unique effect of low SES was significant similar with institution effect, (β = .39, $p < .05$). **Third step** was repeated frustration as a moderator, but the moderation was not significant, R^2 = .22 (adjusted R^2 = .10), ΔR^2 = .00, *Finc* (2, 49) = .13, *ns*. Unique effect of low SES compared to institution remained to be significant, (β = .38, $p < .05$) (see Table 3.13).

Table 3.14 Hierarchical Regression Analysis in Predicting Child's Total Self-Recognition Tasks: Moderators are Perceptual Sensitivity and Frustration

	Perceptual Sensitivity								
	Predictors	R	R^2	ΔR^2	F	Finc	B	SE	β	Part
	Frustration						.09	.29	.07	.04
Step 1	Inhibitory Control						.19	.20	.18	.12
	Perceptual Sensitivity						.01	.21	.01	.00
	Soothability	**.11**	**.04**	**.11**	**1.66**	**1.66**	.30	.20	.29	.19
Step 2	Low SES						.71	.31	.39*	.29
	Child Homes	**.22**	**.13**	**.11**	**2.38***	**3.51***	.07	.30	.03	.03
Step 3	Perc. Sen.*Low SES						-.09	.42	-.03	-.03
	Perc.*Child H.	**.22**	**.09**	**.00**	**1.74**	**.08**	-.13	.36	-.06	-.05
	Frustration									
Step 1	Frustration						.21	.35	.16	.08
	Inhibitory Control						.20	.20	.19	.12
	Perceptual Sensitivity						-.06	.16	-.06	-.05
	Soothability	**.11**	**.04**	**.11**	**1.66**	**1.66**	.30	.19	.31	.22
Step 2	Low SES						.71	.29	.38*	.30
	Child Homes	**.22**	**.13**	**.11**	**2.38***	**3.51***	.07	.30	.04	.03
Step 3	Frust.*Low SES						-.09	.43	-.02	-.02
	Frust.*Child H.	**.22**	**.10**	**.00**	**1.76**	**.13**	-.14	.43	-.09	-.06

*p<.05, **p<.01, ***p<.001, [a]marginally significant. Note: Standard Error (SE), B, β and part values in the final steps were reported.

3.5.3 Hierarchical Regression Analyses for predicting Self Regulation of Children

In order to predict self-regulation of children, two scores from gift delay task were computed. Delay behavior (1= opening the gift, 2= touching the gift, and 3= neither touching nor opening) was taken as total delay score, and waiting time (in seconds) for opening the gift was taken as seconds. Therefore, two different regression analyses were run for each outcome variable. Similar with the previous analysis, same analysis was carried out for perceptual sensitivity and frustration separately.

3.5.3.1 Comparison between Care Types (Institution and Child Home) and Low SES In Terms of Self-Regulation Scores

For the delay behavior score, temperament characteristics were entered into **the first step** and step one was not significant, R^2 = .05 (adjusted R^2 = -.02), F (4, 53) = .70, *ns.* Institution and child home were entered into **the second step**, and step two was also not significant, R^2 = .08 (adjusted R^2 = -.03), ΔR^2 = .02, *Finc* (2, 51) = .70, *ns*. **Third step** with the interaction terms (perceptual sensitivity*institution, and perceptual sensitivity*child home) was not significant, R^2 = .08 (adjusted R^2 = -.07), ΔR^2 = .00, *Finc* (2, 49) = .12, *ns*. That is they did not account any variance from the equation. There were no unique effects of other variables in the final step. In addition, third step was repeated for the moderation role of frustration (frustration*institution, frustration*child home). They did not explain any significant variance on delay total, R^2 = .09 (adjusted R^2 = -.06), ΔR^2 = .01, *Finc* (2, 49) = .27, *ns*. No unique effect was found in the last step (see Table 3.14).

Table 3.15 Hierarchical Regression Analysis in Predicting Child's Delay Behavior Score: Moderators are Perceptual Sensitivity and Frustration

				Perceptual Sensitivity						
	Predictors	R	R^2	ΔR^2	F	Finc	B	SE	β	Part
	Frustration						.14	.28	.12	.07
Step 1	Inhibitory Control						.12	.19	.13	.09
	Perceptual Sensitivity						-.24	.36	-.25	-.09
	Soothability	**.05**	**-.02**	**.05**	**.70**	**.70**	.17	.19	.19	.13
Step 2	Institution						-.25	.30	-.16	-.12
	Child Homes	**.08**	**-.03**	**.02**	**.70**	**.70**	.03	.33	.02	.01
Step 3	Perceptual Sen.*Inst.						.06	.40	.04	.02
	Perceptual Sen.*Child H.	**.08**	**-.07**	**.00**	**.54**	**.12**	-.11	.44	-.06	-.03
				Frustration						
Step 1	Frustration						.10	.37	.09	.04
	Inhibitory Control						.12	.19	.13	.09
	Perceptual Sensitivity						-.26	.16	-.27	-.22
	Soothability	**.05**	**-.02**	**.05**	**.70**	**.70**	.21	.18	.23	.16
Step 2	Institution						-.25	.27	-.16	-.12
	Child Homes	**.08**	**-.03**	**.02**	**.70**	**.70**	.03	.31	.01	.01
Step 3	Frustration*Ins.						.24	.41	.13	.08
	Frustration*Child H.	**.09**	**-.06**	**.01**	**.58**	**.27**	-.03	.43	-.01	-.01

*p<.05, **p<.01, ***p<.001, [a]marginally significant. Note: Standard Error (SE), B, β and part values in the final steps were reported.

Same hierarchical regression analysis was carried out for **waiting time** (in seconds) for opening the gift**. First step** was not significant, R^2 = .03 (adjusted R^2 = -.05), F (4, 47) = .39, *ns.* **Second step** with care types was also not significant and they did not explain any significant variance, R^2 = .06 (adjusted R^2 = -.06), ΔR^2 = .03, F_{inc} (2, 45) = .76, *ns.* Interaction terms with the perceptual sensitivity did not add any variance to the explained variance, R^2 = .10 (adjusted R^2 = -.07), ΔR^2 = .03, F_{inc} (2, 43) = .78, *ns.* **Third step** was run for the interaction terms with the frustration. It was

found that, they significantly explain variance in predicting the outcome, R^2 = .19 (adjusted R^2 = .04), ΔR^2 = .13, *Finc* (2, 43) = 3.41, p < .05. Interaction term with frustration and child home had unique effect on waiting time, (β = -.37, p < .05). Simple slope analysis was employed to test the significance. It was found that, when the children' frustration level high, children who stayed in the child home had worse outcome than children in the low SES. However, when their frustration level was low, low SES children and child home children had the same effort. It means that the difference between low SES and child home in terms of waiting time was disappearing (see Table 3.15) (see Figure 3.3).

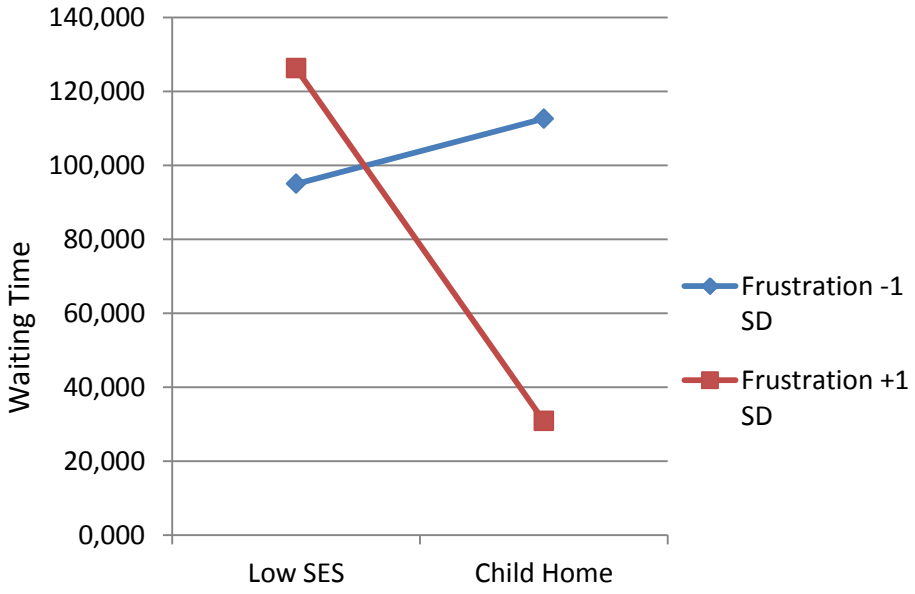

Figure 3.3 Graph for the interaction between frustration and child home compared to institution in predicting waiting time (in seconds) for opening the gift

Table 3.16 Hierarchical Regression Analysis in Predicting Waiting Time (in seconds) For Opening The Gift Moderators are Perceptual Sensitivity and Frustration

				Perceptual Sensitivity						
	Predictors	R	R^2	ΔR^2	F	Finc	B	SE	β	Part
Step 1	Frustration						25.70	23.74	.27	.16
	Inhibitory Control						5.00	15.80	.07	.05
	Perceptual Sensitivity						8.40	27.93	.11	.04
	Soothability	**.03**	**-.05**	**.03**	**.39**	**.39**	22.50	14.84	.30	.22
Step 2	Institution						-7.50	23.91	-.06	-.04
	Child Homes	**.06**	**-.06**	**.03**	**.51**	**.76**	-28.74	28.15	-.18	-.15
Step 3	Perceptual Sen.*Inst.						-28.78	32.15	-.28	-.13
	Perceptual Sen.*Child H.	**.10**	**-.07**	**.03**	**.57**	**.78**	6.51	37.80	.04	.03
				Frustration						
Step 1	Frustration						25.19	27.63	.26	.12
	Inhibitory Control						2.05	14.96	.03	.02
	Perceptual Sensitivity						-13.86	12.93	-.18	-.15
	Soothability	**.03**	**-.05**	**.03**	**.39**	**.39**	22.82	13.65	.31	.23
Step 2	Institution						-9.18	20.95	-.08	-.06
	Child Homes	**.06**	**-.06**	**.03**	**.51**	**.76**	-38.90	24.47	-.25	-.22
Step 3	Frustration*Ins.						16.97	31.43	.12	.07
	Frustration*Child H.	**.19**	**.04**	**.12**	**1.28**	**3.41***	-91.08	41.66	-.37*	-.30

*p<.05, **p<.01, ***p<.001, [a]marginally significant. Note: Standard Error (SE), B, β and part values in the final steps were reported.

3.5.3.2 Comparison between Care Types: Institution and Child Home In Terms of Self-Regulation Scores

Same analyses were repeated for the delay behavior (1= opening the gift, 2= touching the gift, and 3= neither touching nor opening) and waiting time (in seconds) for opening the gift in order to see the difference between institutional care and child homes. Therefore, dummy-institution was not entered into the equation and it was taken as a comparison group.

First step for the **delay behavior** was not significant as shown in the previous analysis, R^2 = .05 (adjusted R^2 = -.02), F (4, 53) = .70, *ns.* Second step with dummy-low SES and child did not contribute in explaining variance, R^2 = .08 (adjusted R^2 = -.03), ΔR^2 = .02, *Finc* (2, 51) = .70, *ns*. Similar with the previous analysis, third step did not explain any significant variance on delay behavior, R^2 = .08 (adjusted R^2 = -.07), ΔR^2 = .00, *Finc* (2, 49) = .12, *ns*. In addition, third step was carried out again for the moderation role of frustration (frustration*low SES, frustration*child home and it was not significant, R^2 = .09 (adjusted R^2 = -.06), ΔR^2 = .01, *Finc* (2, 49) = .27, *ns*. No unique effect was found in the last step of both interaction terms (see Table 3.16).

Table 3.17 Hierarchical Regression Analysis in Predicting Child's Delay Behavior Score: Moderators are Perceptual Sensitivity and Frustration

	Perceptual Sensitivity								
	Predictors	R	R^2	ΔR^2	F	Finc	B	SE	β	Part
	Frustration						.14	.28	.12	.07
Step 1	Inhibitory Control						.12	.19	.13	.09
	Perceptual Sen.						-.18	.21	-.19	-.12
	Soothability	**.05**	**-.02**	**.05**	**.70**	**.70**	.17	.19	.19	-.13
Step 2	Low SES						.25	.30	.15	.11
	Child Homes	**.08**	**-.03**	**.02**	**.70**	**.70**	.28	.28	.15	.13
Step 3	Perc. Sen.*Low S.						-.06	.40	-.03	-.02
	Perc. Sen.*Child H.	**.08**	**-.07**	**.00**	**.54**	**.12**	-.17	.34	-.09	-.07
	Frustration									
Step 1	Frustration						.35	.34	.30	.14
	Inhibitory Control						.12	.19	.13	.09
	Perceptual Sen.						-.26	.16	-.27	-.22
	Soothability	**.05**	**-.02**	**.05**	**.70**	**.70**	.21	.18	.23	.16
Step 2	Low SES						.25	.27	.16	.12
	Child Homes	**.08**	**-.03**	**.02**	**.70**	**.70**	.27	.28	.15	.13
Step 3	Frust.*Low SES						-.24	.41	-.11	-.08
	Frust.*Child H.	**.09**	**-.06**	**.01**	**.58**	**.27**	-.27	.41	-.12	-.09

*p<.05, **p<.01, ***p<.001, [a]marginally significant. Note: Standard Error (SE), B, β and part values in the final steps were reported.

For the waiting time (in seconds) for opening the gift**, first step** with temperaments (frustration, inhibitory control, perceptual sensitivity and soothability) did not explain variance, R^2 = .03 (adjusted R^2 = -.05), F (4, 47) = .39, *ns.* **Second step** with care types (low SES and child home) did also not explain additional variance, R^2 = .06 (adjusted R^2 = -.06), ΔR^2 = .03, *Finc* (2, 45) = .76, *ns.* For the interaction terms

(perceptual sensitivity*low SES and perceptual sensitivity*child home), **third step** was run and it was found that they did not explain any variance on waiting time, R^2 = .09 (adjusted R^2 = -.07), ΔR^2 = .03, *Finc* (2, 43) = .78, *ns.* Variables in the last step did not have unique variance on waiting time.

Moreover, **third step** was run frustration as a moderator. Frustration*low SES and frustration*child home were entered into the final step. It was found that interaction terms made significant contribution to the explained variance, R^2 = .19 (adjusted R^2 = .04), ΔR^2 = .13, *Finc* (2, 43) = 3.41, $p < .05$. Unique effects were also checked and it was found that interaction term with frustration and child home had significant unique effect, (β = -.44, $p < .05$). Therefore, simple slope analysis was employed to examine the significant dimensions of the interaction. However, when the frustration level was low, there was no significant difference between child homes and institution in terms of waiting time for the gift (see Table 3.17) (see Figure 3.4).

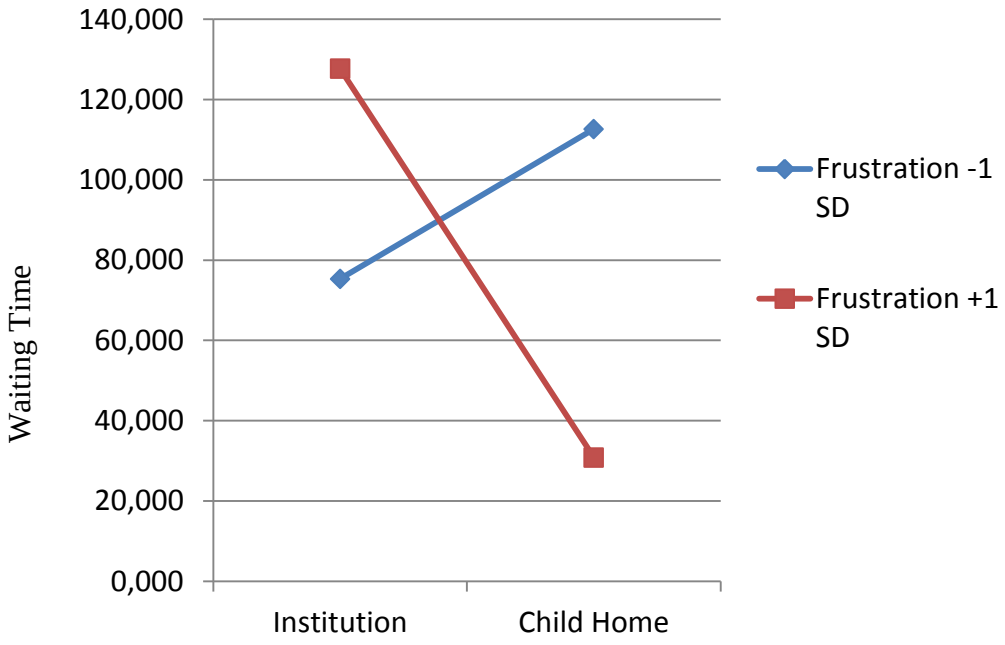

Figure 3.4 Graph for the interaction between frustration and child home compared to institution in predicting child's waiting time for opening the gift.

Table 3.18 Hierarchical Regression Analysis in Predicting Child's Waiting Time: Moderators are Perceptual Sensitivity and Frustration

	Perceptual Sensitivity								
	Predictors	R	R^2	ΔR^2	F	Finc	B	SE	β	Part
	Frustration						25.70	23.74	.27	.16
Step 1	Inhibitory Control						4.99	15.80	.07	.05
	Perceptual Sen.						-20.38	17.09	.11	.04
	Soothability	**.03**	**-.05**	**.03**	**.39**	**.39**	22.50	14.84	.30	.22
Step 2	Low SES						7.50	23.91	-.06	-.04
	Child Homes	**.06**	**-.06**	**.03**	**.51**	**.76**	-21.23	25.48	-.18	-.15
Step 3	Perc. Sen.*Low S.						28.78	32.15	-.28	-.13
	Perc.Sen.*Child H.	**.10**	**-.07**	**.03**	**.57**	**.78**	35.29	31.99	.04	.03
	Frustration									
Step 1	Frustration						42.16	27.21	.44	.21
	Inhibitory Control						2.05	14.96	.03	.03
	Perceptual Sen.						-13.86	12.93	-.18	-.15
	Soothability	**.03**	**-.05**	**.03**	**.39**	**.39**	22.82	13.65	.31	.23
Step 2	Low SES						9.18	20.95	-.08	.06
	Child Homes	**.06**	**-.06**	**.03**	**.51**	**.76**	-29.72	24.24	-.19	-.17
Step 3	Frust.*Low SES						-16.97	31.43	-.11	-.07
	Frust.*Child H.	**.19**	**.04**	**.12**	**1.28**	**3.41***	-108.05	41.10	-.44*	-.35

*p<.05, **p<.01, ***p<.001, [a]marginally significant. Note: Standard Error (SE), B, β and part values in the final steps were reported.

3.6 Chi-Square Analysis to test the Group Difference for Self Recognition Tasks

Chi-square analyses were employed to see the difference between three groups (institution, low SES, and child home) in terms of child's outcomes in three tasks (mirror task, mat pick-up task and photo task). Therefore, separate chi-square analysis (3x2) was run for each outcome.

According to chi-squire analysis for the mirror task, there was no significant difference between the groups χ^2 (1, n = 59) = 3.18, *ns.* Similarly, there was no significance difference between cells in terms of mat-pick up task χ^2 (1, n = 59) = .76, *ns.* For the photo task, there was marginally significant result, χ^2 (1, n = 59) = 5.96, p = .05. According to post-hoc analysis, there was no one cell contributes to the significance more than other cells, because no cells had beyond the -/+1.98 value in standardized residuals. However, standardized residual for low SES was near to the value, -1.50, it may showed that children had less fails than other children (see Table 3.18).

Table 3.19 Chi Square Analysis Results for Photo Task

			Photo Task		Total
			Fail	Pass	
Care Types	Institution	Count	12	14	26
		Std. Residual	,6	-,5	
	Child Home	Count	7	5	12
		Std. Residual	1,1	-,9	
	Low SES	Count	4	17	21
		Std. Residual	**-1,5***	1,2	
Total		Count	23	36	59

*Standardized residuals near to +/- 1.98.

To summarize the results, hypothesis 1, 2, and 4 was partially supported. Children in the low SES had better outcomes on self-description, self-recognition and autonomy

sub-scales on SDCS compared to children in the institutions. Low SES children had also better outcomes on photo task and total scores of self-recognition tasks (marginally) compared to other children. Children who stayed in child homes had better scores on self-description and evaluation and self-recognition sub-scales compared to children who stayed in the institution.

Moreover, hypothesis 5 and 6 was also partially supported. When children had higher frustration level, low SES children were better than children in child homes in waiting for the gift. In addition, when children had higher frustration level, children in institutions were better in waiting for opening the gift than children in the child homes. This result was the opposite of the expectation. It was hypothesized that when children had high frustration level, children in the institution would have worse outcomes compared to children in the child homes. When children had lower levels of frustration, there was no difference between child homes – institution and child homes - low SES in terms of waiting time for the gift.

In addition, hypothesis 7 was explanatory and it was found that when perceptual sensitivity of children were low, children in the child homes had better scores on self-recognition than children in the institution. Similarly, children in low SES were better than children in the institutions in terms of self-recognition scale.
Lastly, Hypothesis 3 could not be tested, because two years old children could not be found in care villages.

3.7 Results for Comparing Only Two Groups: Institution and Low SES

In previous analysis, comparison results for three groups (child homes, institutions, low SES) were given. However, group's sizes were not equal and it should be considered carefully. There were only 12 participants in child homes. Some of the results might be affected because of the low sample size. Therefore, a result for excluding child homes was given in order to see the difference between institution and home reared children in dis-advanted families.

Similar with previous analysis, hierarchical regression analysis was used. In the first step, four centered temperament characteristics were added which are frustration, inhibitory control, perceptual sensitivity and soothability. In the second step, coded variable as institution was added and low SES was taken as a comparison group. For the final step, interaction between temperament and institution was added. Separate analyses were run for each moderator: frustration and perceptual sensitivity.

3.7.1 Comparison between Institutions and Low SES families in Predicting Self-Concept

For the first outcome, self description and evaluation, first step was significant, $R^2 = .35$ (adjusted $R^2 = .27$), F (4, 41) = 5.50, $p < .01$, which means that temperament characteristics explained variance in the equation. **Second step** also explained additional variance significantly, $R^2 = .66$ (adjusted $R^2 = .50$), $\Delta R^2 = .21$, *Finc* (1, 40) = 18.68, $p < .001$. However, **third step** with interaction terms (perceptual sensitivity*institution) did not provide significant results, $R^2 = .56$ (adjusted $R^2 = .49$), $\Delta R^2 = .00$, *Finc* (1, 39) = .06, *ns.* However, there was a unique effect of inhibitory control ($\beta = .36$, $p < .05$) and soothability ($\beta = -.31$, $p < .05$). Similarly, unique effect of institutions was still significant after controlling temperament, ($\beta = -.56$, $p < .001$).

Third step with the interaction terms for moderation did not account for any additional variance, $R^2 = .56$ (adjusted $R^2 = .49$), $\Delta R^2 = .01$, *Finc* (1, 39) = .53, *ns.* Unique effects of inhibitory control, ($\beta = .37$, $p < .05$), soothability ($\beta = -.32$, $p < .05$) and perceptual sensitivity ($\beta = .29$, $p < .05$) were found to be significant. Unique effect of institution was also significant after controlling temperament, ($\beta = -.55$, $p < .001$).

For the second outcome, self-recognition, **first step** with temperamental characteristics significantly explained variance in the equation, $R^2 = .42$ (adjusted R^2

= .36), F (4, 41) = 7.42, p < .001. **Second step** with institution did not account additional variance for predicting self-recognition, R^2 = .46 (adjusted R^2 = .39), ΔR^2 = .04, *Finc* (1, 40) = 3.17, *ns.* **Third step** with interaction terms (perceptual sensitivity*institution) significantly contributed to variance explained in predicting self recognition, R^2 = .52 (adjusted R^2 = .44), ΔR^2 = .05, *Finc* (1, 39) = 4.30, p < .05. Significant unique effect of institutions was found, (β = -.36, p < .05). That is staying in the institutions negatively predicted child's self-recognition.

Third step with the interaction term for frustration (frustration*institution) did not explain any variance in the equation, R^2 = .48 (adjusted R^2 = .40), ΔR^2 = .02, *Finc* (1, 39) = 1.52, *ns.* However, unique effects of perceptual sensitivity was found to be significant, (β = .58, p < .001). It means that perceptual sensitivity positively predicted child's self recognition.

For the third outcome, understanding of emotional wrongdoing and self-regulation, first step was significant, R^2 = .21 (adjusted R^2 = .14), F (4, 41) = 2.81, p < .05, which means that temperament characteristics provided additional amount of variance to the equation. There was a significant unique effect of perceptual sensitivity, (β = .38, p < .05). Second step with institution did not account for additional variance in predicting the outcome, R^2 = .23 (adjusted R^2 = .13), ΔR^2 = .01, *Finc* (1, 40) = .67, *ns.* Third step for the interaction term with perceptual sensitivity did not also account additional variance, R^2 = .23 (adjusted R^2 = .12), ΔR^2 = .00, *Finc* (1, 39) = .28, *ns.* No unique effect was found in the last step.

Third step was repeated for the frustration, and it was not significant, R^2 = .25 (adjusted R^2 = .14), ΔR^2 = .02, *Finc* (1, 39) = 1.18, *ns.* That is they did not significantly increase the R^2 in predicting the outcome. Marginally significant unique effects of perceptual sensitivity was found, (β = .32, p = .07).

For the fourth outcome of SDQ, **autonomy**, first step with temperament characteristics significantly contributed to variance explained in predicting autonomy, ***R*² = .37 (adjusted *R*² = .31), *F* (4, 41) = 6.06, *p* < .01.** Second step

explained also significant variance in the equation, $\boldsymbol{R^2}$ **= .45 (adjusted** $\boldsymbol{R^2}$ **= .38),** $\boldsymbol{\Delta R^2}$ **= .08,** ***Finc*** **(1, 40) = 5.56,** $\boldsymbol{p}$ < .05. Third step for interaction terms with perceptual sensitivity did not account for additional variance, $\boldsymbol{R^2}$ **= .45 (adjusted** $\boldsymbol{R^2}$ **= .37),** $\boldsymbol{\Delta R^2}$ **= .00,** ***Finc*** **(1, 39) = .18,** ***ns.*** However, unique effect of institutions was still found to be significant at the final step, **(**$\boldsymbol{\beta}$ **= -.36,** $\boldsymbol{p}$ **< .05).**

Third step was repeated for frustration, and it did not provided additional amount of variance to the equation, R^2 = .45 (adjusted R^2 = .37), ΔR^2 = .00, *Finc* (1, 39) = .22, *ns.* Similar with previous analysis, significant unique effect of institutions was found, **(**$\boldsymbol{\beta}$ **= -.34,** $\boldsymbol{p}$ **< .05).**

3.7.2 Comparison between Institutions and Low SES Families in Predicting Total Self-Recognition Score

Similar analysis was carried out for **total self-recognition score** from the tasks (mirror task, mat-pick-up task, and photo task). **First step** with four temperament characteristics did not significantly increase the R^2 in predicting self-recognition, R^2 = .14 (adjusted R^2 = .06), F (4, 41) = 1.67, *ns*. **Second step** with the institution significantly explained variance into the equation, R^2 = .24 (adjusted R^2 = .15), ΔR^2 = .10, *Finc* (1, 40) = 5.59, p < .05. For the interaction term with perceptual sensitivity, **third step** did not contributed to variance explained in predicting the outcome, R^2 = .25 (adjusted R^2 = .13), ΔR^2 = .00, *Finc* (1, 39) = .02, *ns.* However, unique effect of institution was still significant, (β = -.40, p < .05).

Final step was repeated for the frustration as a moderator, and it did not account for additional variance in predicting the outcome, R^2 = .25 (adjusted R^2 = .13), ΔR^2 = .00, *Finc* (1, 39) = .03, *ns.* Unique effect of institution was still significant, (β = -.39, p < .05) similar with previous analysis. That is child's total self recognition score was negatively predicted by institution.

3.7.3 Comparison between Institutions and Low SES Families in Predicting Self-Regulation

In order to measure self regulation, two scores were taken from gift-delay task. Same hierarchical analysis was run. For the **delay behavior, first step** with four temperament characteristics did not explain any variance in predicting delay behavior, R^2 = .02 (adjusted R^2 = -.07), F (4, 41) = .26, *ns*. Institution was added in the **second step** and it did not account significant variance, R^2 = .04 (adjusted R^2 = -.08), ΔR^2 = .01, *Finc* (1, 40) = .45, *ns*. Interaction term with the perceptual sensitivity was added in **the last step**, and it did not contributed to variance explained in predicting the outcome, R^2 = .04 (adjusted R^2 = -.11), ΔR^2 = .00, *Finc* (1, 39) = .02, *ns*. No significant unique effect was found in the last step for predicting delay behavior.

Third step was carried out with the interaction term for frustration, and it did not explained any significant variance, R^2 = .04 (adjusted R^2 = -.10), ΔR^2 = .01, *Finc* (1, 39) = .31, *ns*.

For the **waiting time** (in seconds) for opening the gift**, first step** was not significant, R^2 = .07 (adjusted R^2 = -.03), F (4, 38) = .68, *ns*. That is temperament characteristics did not contribute any variance in predicting the outcome. **Second step** did not also explain any variance, R^2 = .07 (adjusted R^2 = -.06), ΔR^2 = .00, *Finc* (1, 37) = .15, *ns*. Finally, interaction term (perceptual sensitivity*institution) was added in the **third step**, and it did not add significant variance to the model, R^2 = .09 (adjusted R^2 = -.05), ΔR^2 = .03, *Finc* (1, 36) = 1.06, *ns*. **Third step** was repeated for the second interaction term (frustration*institution), it did not account for additional variance in predicting waiting time, R^2 = .07 (adjusted R^2 = -.08), ΔR^2 = .00, *Finc* (1, 36) = .20, *ns*. No unique effect was found in the third step both with perceptual sensitivity and frustration.

CHAPTER 4

DISCUSSION

The aim of the present study was to examine the effects of care types offered by the social services for children in care, on children's development, specifically their self-concept and self-regulation development. In addition, the role of the temperament (frustration, inhibitory control, perceptual sensitivity and soothability) on child's development in different care types (institutions, child home and low SES) were examined and frustration and perceptual sensitivity were taken as moderators.

There are many studies that investigated the effects institutionalization on child's development, (Nelson, Bos, Gunnar, & Sonuga-Barke, 2011; Smyke, Koga, Johnson, Fox, Marshall, Nelson, & Zeanah, 2007). However, few studies have examined the effect of institutionalization on child's self concept development. In addition, institutional care system has been changing to be more similar to family home care conditions like care villages and child homes in Turkey. However, the effects of these care types on child's development have not been investigated yet. To the best of our knowledge, no study was found to explore the effects of different care types on the child's self concept and self-regulation development with the moderation role of temperament. Therefore, it is important to identify the effects of these care types for the development of children and make optimal choices for children in care.

In this final chapter, the results of the study will be discussed in the light of the literature. Firstly, direct effects of care types on child's development will be given. Then, moderating role of temperament between child's self-concept and self-regulation and care types will be discussed. Finally, contributions, strengths and limitations, implications and future suggestions will be stated.

4.1 Discussion of Findings in Relation to Hypotheses of the Study

One of the main aims of the study was to see the difference between care types in terms of child's self-concept and self-regulation development. It was hypothesized that children who stay in the more family based care (child homes and foster care) would have better development than more traditional care (institution). In addition, it was predicted that children in the low SES families would be better in all outcomes than children under the government protection. Because of the government procedure, 2 years old children could not be found in care villages. Foster care families did not return to our invitation letters therefore; only two types of care were taken and compared with low SES families. Families were chosen as comparison group from socially disadvantage places in order to equalize family back-ground of children. Therefore, back-ground of children was tried to be controlled by choosing families from low SES.

The second aim of the study was to examine the moderation role of the temperament. Therefore, it was hypothesized that highly susceptible children (who have high frustration level) would be affected more negatively by the adverse condition. The results will be discussed separately for each outcome variable.

4.1.1 The Role of Care Types on Child's Self Concept Development and Child's Self-Recognition

Developing a healthy self-concept predicts later self-competence and well-being (Sheridan, 2008). Early years are important for developing a sense of self. Although it starts from infancy, the sign of the self-recognition and self-concept are shown in the half of the second year (Lewis & Ramsay, 2004). Present study investigated the self-development of 2 years old children who were residing in child homes, institutions and with their biological families.

There are many factors that affect child's self development. Early interaction with the environment is one of them. Individualized care, parental practices, judgments and evaluations are also important factors to develop a healthy self (Lecuyer, & Houck, 2006; Kelley, Brownell, & Campbell, 2000). Institutions generally have lack of individualized and sensitive care because of the large groups and less caregivers compared to family condition and this affects child development negatively (McCall, 2013; The St. Petersburg–USA Orphanage Research Team, 2005**)**. Therefore, rearing in the institutions can be a risk factor for children's self development. Although low SES itself can be risk factor because of low educated parents and lack of materials that support child's self development (Evans, & Rosenbaum, 2008), it was expected that children in the institution would have worse outcomes on self-concept development compared to child homes and low SES children.

According to the analysis of the study, it was found that low SES children had better development in self-description, self-recognition and autonomy than institutionalized children as expected. These findings are supported by the literature. For example, self-perception of 8 to 11 years old institutionalized children were investigated and it was found that there was significant gap between their real self and ideal self (Üstün & Akman, 2002). It was stated that this was the sign of un-healthy development of the self concept. Similarly, self-development of left behind children was examined and it was found that children who had to live without their parents in their homes. Because of the government policies in China had low self-esteem and lower self-concept development compared to typically developing children (Wang, Ling, Su, Cheng, Jin, & Sun, 2014). In addition, Andeeava (2009) has examined the self-concept development of infants in orphanages. Their self-development was measured with self recognition tasks; mirror task and photo tasks similar to the current study. It was found that there was a delay in child's self development compared to typically developing children.

In addition, children in the child homes had also better development in self-description and self-recognition according to the Self-Concept Questionnaire which

was filled by the mothers and caregivers compared to children in the institution. Although, there was no study which compared child homes and institutions in terms of the self development of children, this result was expected because of the smaller size of the group and more consistent caregivers. However, one study compared the extended family care, group-home care (similar to child homes in Turkey) and institutional care in terms of emotional distress after war. It was found that children in the group homes had better adaptability and less emotional stress compared to institutional children and extended family care (Wolff & Fesseha, 2005).

Moreover, according to the results of the self-recognition tasks separately, only photo task could make difference marginally between low SES group and institutional care. However, there was no difference between children in the care types and low SES in terms of mat-pick up task and mirror task. It was hypothesized that children in the institutional care would have the worse outcomes on mirror task and mat-pick up task than children in the child homes and low SES. The reason might be the improvement in the physical conditions of institutions. Every institutions and child homes have mirrors on the walls within the child's eye level. Therefore, they seem to have opportunities to see themselves compared to past.

The result of mat-pick up task may show that body recognition of the child develops earlier than face recognition. Moore, Mealiea, Garon, and Povinelli (2007) have tested 16 to 21 monhts old toddlers' body awareness by two different tasks. The first task was different version of the blanket task. They used body as "obstacle". The child's task was to push a toy shopping cart toward their parents. However, the shopping cart was attached to the mat from the back axle. After the toddlers were placed on the mat, they were asked to push the cart. Toddlers had to step onto the mat in order to push the cart. Second task was mirror task. They found that child's performance was improved with the ages and performance of the children in two tasks was correlated. They stated that body awareness of the child develops during the second year of the child. In the current study, all children were above the age of

24 months. Therefore, mat-pick up task may be suitable for children lower than 24 months of age.

4.1.2 The Role of Care Types on Child's Self-Regulation

Self regulation is one of the construct of general self system (Stipek, Gralinski, & Kopp, 1990). Rapid improvement in self regulation is seen between the age of one and three. They start to control their behavior according to cues from the environment and instruction (Jennings et al., 2008). Healthy development in self-regulation predicts better adaptation to the life (Kochanska & Knaack, 2003). These findings show that early years are important for the self-regulation development. Therefore, self-regulation was examined in the current research on 2 years old children.

There are many factors that affect development of child's self regulation other than age. For example, experiences during the first years of life, individual characteristics, and temperament, gender and attention control can have decisive role on self-regulation development (Harter, 2012; Kochanska & Knaack, 2003; Raikes et al., 2007). Besides to intra-individual factors, extra-individual factors have also important role on the development of self regulation. Parenting and mother-child interaction affects child's self regulation. They are more important especially if child has already intra-individual risk factors like negative emotionality (Kochanska, Murray, & Harlan, 2000; Raikes et al. 2007). There is a lack of individualized care and one to one interactions in institutions; therefore it was hypothesized that children in the institutions would have worse self-regulation development compared to children in the child homes and children in the low SES families.

Unique effect of institution and child homes on self-regulation was not found in the current study. There may be some explanation for this. Child's temperamental characteristic may be more related to self-regulation than environment. For example, in the current study it was found that perceptual sensitivity positively predicted

child's self regulation. It means that children who had higher levels of perceptual sensitivity were better in self-regulation. This result may show that, temperament of children is more important on their self regulation development. In the literature, self-regulation and temperament are found to be inter-related factors (Moran, Lengua, & Zalewski, 2013; Rothbart, Sheese, & Posner, 2007). Most of the researchers take self-regulation as one of the higher order dimensions of temperament. For example, Rothbart and colloquies have defined temperament as three higher order factors which are Surgency/Extraversion, Negative Affectivity, and Effortful Control (EC), where effortful control is taken as the sign of the behavioral regulation (Rothbart, Ahadi, Hershey, & Fisher, 2001; Posner & Rothbart, 2000).

Although, there was no study to compare self-regulation of two years old children between different care types, one of the recent study have examined the effects of early institutionalization. They compared institutionalization at the age of birth to four years old and institutionalization at the age of five to 14 years of age. It was found that early institutionalized children had more mental health problems than late institutionalized children at primary school (Hermenau, Hecker, Elbert, & Ruf-Leuschner, 2014). This study shows that children are affected adverse conditions more if they are institutionalized early on. In addition, a negative effect of duration of the institutionalization on child's executive functioning was found in the literature (Colvert et al., 2008). For example, Merz, McCall and Groza (2013) have investigated the effects of both duration time in institution and deprivation on child's executive functioning. 6 to 8 years old children were rated by their adopted parents and it was found that children who were adopted from globally deprived (both physically and psychologically) institution had worse outcomes than children adopted from psychologically deprived institutions. It was also found that children who were adopted after 18 months of age had more difficulties than children adopted early.

In addition, it was also hypothesized that children in low SES would be better than children in the institutions and child homes in terms of self-regulation. However, the difference was not found between children in two groups. Characteristics of mothers might be reason for this. Mothers in the low SES had low education level. Education level was found to be related with parenting practices in the literature. For example, high educated mothers used less maternal limit settings and give their children more positive evaluative feedback compared to low educated mothers. In addition, it was found that educated mothers are more responsive to the child's needs and they have more positive interactions (Evans & Rosenbaum, 2008; Kärtner, Borke, Maasmeier, Keller, & Kleisi, 2011). These parental characteristics affects child self-regulation development (Houck & Lecuyer-Maus, 2002; Kochanska, Murray, & Harlan, 2000; Raikes et al., 2007). Moreover, disadvantaged socioeconomic (SES) background is already risk factor for children in low SES, because of the lack of resources (McClelland & Cameron, 2011; Li-Grining, 2007). Therefore, it is possible that the difference could not be seen between low SES and care types due to maternal characteristics but this should be tested in future studies.

4.1.3 The Role of Temperament as a Moderator on Child's Development

Developmental differences can be explained by not only environmental conditions but also individual differences. One of the main sources of individual differences is temperament. Child's adjustment to the environment may change according to different temperamental characteristics (Stright, Gallagher, & Kelley, 2008). The moderator role of negative affectivity has been studied in the literature commonly. It was found that negative motionality moderated the role of parenting and child' development (Anzman-Frasca, Stifter, Paul, & Birch, 2013; Ursache, Blair, Stifter, & Voegtline, 2013). Based on the differential susceptibility theory, current study hypothesized that children who have susceptible temperament (who have high frustration level) would be affected more from the adverse conditions of institutions. Comperad to negative emotionality, the role of perceptual sensitivity was not

investigated in the literature. Therefore, the effect of perceptual sensitivity was tested as explaratory.

It was found that children in the low SES families were better at gift delay task than children in the child homes when their frustration level was high. It is in the line with the literature. For example, Pluess and Belsky (2010) have examined that when child's negative emotionality was high, low care quality affected child more negatively. Interestingly, in the current study it was found that when children had higher frustration level, children in the institutions had better results in the gift delay task than children in the child homes. However, when the frustration level was low, the difference was disappearing. This finding seemed to be contradictory to the hypothesis. It was expected that children who had high frustration level would be affected more negatively in the institutions than in the child homes. However, this finding can be explained by the caregivers' behavioral difference toward children in the institutions. There is more control and less tolerance to children in the institutions because of the large groups and less caregivers. Children do not have freedom to go out from the group, or to do another activity instead of the current program. However, children have more freedom in child homes. They are restricted less than institutionalized children, because of the less number of children. Caregiver can take care of them without restriction. Therefore, children in the institutions get used to be controlled by the caregivers. This is explained in the literature with the parenting styles. There are contradictory findings in the literature about the effects of parental control. Some studies have found that parental control negatively predicted child's self regulation (Feldman & Klein, 2003; Lee, Zhou, Eisenberg, & Wang, 2013), but some studies found that parental control result in higher self-regulation (Belsky et al., 2000; Kochanska & Knaack, 2003). In the current study, parental control was positively related with child's self-regulation. The reason might be that children are spoiled more in the child homes, especially in our sample. There is one or two years old children in the child homes, other children are generally older than five years old. Therefore, compared to the children in the institution, they may be more spoiled and this may affect their self-regulation. For example, Putnam et al., 2002 have found

that when the parents use more positive control, children had lower levels of inhibitory control. Mother's acceptance was also found to be correlated with less inhibition (Kienbaum, Volland, & Ulich, 2001). However, it was hard to explain the relationship between parental control and frustration level. The findings of the study was contradictory with the literature. It was found that higher parental control resulted in higher frustration level (Zhou, Eisenberg, Wang, & Reiser, 2004; Xu, Farver, M., & Zhang, 2009).Therefore, it was expected that children in the institutions would have higher frustration level and this would affect them more negatively than children in the child homes. The reason might be the low sample size of the third group; child homes. If the sample size could be higher, the resuts might change.

Moreover, moderation effect of perceptual sensitivity was found. When the children had low perceptual sensitivity, children in the child homes were better in self-recognition than children in the institutions. Similarly, children in the low SES were better at self-recognition than children in the institution when their perceptual sensitivity was low. When children had high levels of perceptual sensitivity, the positive effects of child homes and low SES compared to institutions disappeared. It seems that perceptual sensitivity plays as a protective factor for children under risk. The explanation might be that children with high perceptual sensitivity can detect the cues better from the environment. Therefore, they can recognize also themselves better than children with low perceptual sensitivity. When the items of the self-recognition sub-scale were checked, they are all related to visual cues about themselves; "whether he/she can try to attract your attention to his/her hair" or "whether she/can recognize him/her self on picture".

4.2 Conclusion

As a conclusion, findings about the care types showed that children in the low SES families had better developmental outcomes on self-description and evaluation, self-recognition, autonomy and total scores of self-recognition tasks compared to

institutional children. However, the difference between low SES and child homes was found only on total scores of self-recognition tasks. This shows that the conditions in the child homes were better than conditions in the institutions. However, compared to low SES families, child homes were not worse. Physical conditions were even better in child homes than low SES families. Moreover, the moderator role of frustration was found on self-regulation of children. Children with high frustration level had worse scores on gift delay task if they were in child homes compared to children in the low SES families. This result showed that when children had susceptible temperament (high frustration), their self-regulation development was affected more negatively in adverse environment. Interestingly, when the children had high frustration level, children in the institution were better than children in the child homes in terms of self-regulation.

In addition, moderator role of perceptual sensitivity was also found on child's self-recognition. Interaction between perceptual sensitivity and institution showed that when children had low levels of perceptual sensitivity, children in the institution had worse outcomes on self-recognition compared to children in the low SES. Similarly, when children had low levels of perceptual sensitivity, children in the child homes were better than children in the institutions in terms of self recognition. However, when the children were high on perceptual sensitivity, the differences were disappearing. These findings revealed that perceptual sensitivity can be a protective factor for institutionalized children.

4.3 Contributions of the Study to the Existing Literature and Strengths of the Study

As mentioned before, there are extensive studies about the effects of institutions on child's development. Therefore, governments try to make better conditions for institutionalized children by decreasing group sizes and increasing the consistency of the caregivers. Thus, traditional institutions have been replaced with alternative care types like child homes and care villages. However, the effects of new care types on

child's development have not been tested yet. Thus current study contributes to the literature by showing the differences between child homes and institutions in terms of developmental effects. Similarly, no study compared the child homes and family houses in terms of child's development. This is the first study to compare new care types with the family-based care.

Moreover, this is the first study to examine the interaction between temperamental characteristics of the children and care types on child's development specifically self concept and self regulation. Although, temperaments of children were tested in adverse conditions under the scope of differential susceptibility theory, no study had examined the moderation role of temperament in institutionalized children. In addition, the effects of perceptual sensitivity on child's development have not been examined before. This is also the first study in terms of showing the effects of perceptual sensitivity and moderator role of it.

Furthermore, the effects of institutions on toddlers' self concept development were examined by only one study. Andeeava (2009) compared the self-images of institutionalized and typically develop toddlers by mirror and photo task and delay was found in institutional children. However, there is no study to show the effects of institutions on toddlers' self-concept development and self-recognition in Turkey and no study compared the different care types in terms self development. Therefore, this study contributes to the literature in the scope of self-development of toddlers in institutions. In addition, developmental outcomes were taken from both parents/caregivers and child. Self-recognition and self-regulation of the children were measured both with the scale and tasks. Only temperamental characteristic of children was asked to the caregivers and mothers.

Besides to the contributions to the literature, one of the strengths of the study is that developmental effects of care types were compared with the low SES families in order to control family back-ground of the children. Secondly, the sample is very unique. It is hard to find toddlers in child homes because of the government policy in

Turkey. Therefore this study is unique in terms of comparing toddlers' self-concept and self-recognition development with the institutions.

4.4 Limitations of the Study

One of the main limitation of the study was low sample size of the third group. Thus, results must be considered carefully, and interpreted as preliminary. There was a tendency to find a difference between child homes and institutions because of the better environment in child homes. Although, the sample size of third group was very low, it was added to main analylsis because, finding two years old children is hard in child homes. Toddlers generally were not placed to the child homes. Only 12 children who were placed to the child homes with their siblings were taken to the study. In addition, most of the findings were in line with expectations thus, we wanted see the results of this very special group. Secondly, general sample size of the study was also low. Many results in the analysis were near to significance level and their "β" value was high but because of the low sample size they could not reach the significance level.

4.5 Future Suggestions and Implications

As mentioned in the above, this is the first study to compare developmental effects of child homes and institutions. These results can be used in the government's social policies. For example, family based (child homes) care can be supported more and the number of child homes can be increased. In addition, based on these findings, group sizes can be decreased and consistency of caregivers should be increased. In addition, some suggestions will be provided for the future researches. Firstly, this study took only self-concept and self regulation development as an outcome variable. Other developmental outcomes can be compared between different care types like social-emotional development. There may be more exclusion toward children in child homes by their neighborhood and this may affect child's social and emotional development more negatively compared to institutions. Secondly, only two care

types could be compared in the current study. Self development of children in foster care and care villages can be compared in the future studies with older children. Thirdly, only two temperament characteristic (frustration and perceptual sensitivity) were taken as a moderator in the current study. Moderation role of other temperamental characteristic can be tested in the future studies.

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APPENDICES

Appendix A: Deneyim Hikayesi

GENEL BİLGİLER			
Adı soyadı:		Katılımcı numarası:	
Şehir:		Kurum adı:	
Cinsiyet:	K◯ E◯	Doğum tarihi-yeri:	_ _ / _ _ / _ _ _ _ -
Engel durumu:	Var◯ Yok ◯	Premature durumu:	Evet ◯ Hayır ◯

GELİŞ BİLGİLERİ			
Geliş tarihi:	------ / ------ / ----------	Geliş yaşı:	

Geliş nedeni: *(Geliş nedenleri birden çok ise hepsi işaretlenmelidir)*

◯ Kimsesiz olması (sokakta bulunması)	◯ Fiziksel istismar
◯ Cinsel istismar	◯ Duygusal istismar
◯ Annenin hastalığı (fiziksel)	◯ Babanın hastalığı (fiziksel)
◯ Annenin hastalığı (psikolojik)	◯ Babanın hastalığı (psikolojik)
◯ Anneni evi terk etmesi	◯ Babanın evi terk etmesi
◯ Aile içi şiddet	◯ Ailenin ekonomik sıkıntıları
◯ Annenin hapiste olması	◯ Babanın hapiste olması
◯ Annenin ölümü	◯ Babanın ölümü
◯ Anne babanın boşanması	◯ Diğer (lütfen belirtiniz) .....

BAKIM ÖYKÜSÜ	
Daha önce başka bir kurumda kaldı mı?	Evet ◯ Hayır ◯

Cevap **EVET** ise, birden fazla kurumda kaldıysa veya aynı kurumda farklı zamanlarda kaldıysa, her kurum veya her kalış dönemi için bilgileri ayrı ayrı doldurunuz.

Birinci Kurum		**İkinci Kurum**	
Kurum Adı		Kurum Adı	
İli		İli	
Kabul tarihi		Kabul tarihi	
Ayrılış tarihi		Ayrılış tarihi	
Üçüncü Kurum		**Dördüncü Kurum**	
Kurum Adı		Kurum Adı	
İli		İli	
Kabul tarihi		Kabul tarihi	
Ayrılış tarihi		Ayrılış tarihi	

GEÇMİŞ ÖYKÜSÜ			
Şu anda bulunduğu kuruma gelmeden önce kim tarafından bakılıyordu?	Süre	İlk kez kaldığı kuruma gelmeden önce kim tarafından bakılıyordu?	Süre
◯Anne-baba		◯Anne-baba	

◯Büyükanne – büyükbaba		◯Büyükanne – büyükbaba	
◯Akraba		◯Akraba	
◯Koruyucu aile		◯Koruyucu aile	
◯Evlatlık		◯Evlatlık	
◯Diğer		◯Diğer	

AİLE BİLGİLERİ		
Öz anne babası sağ ise görüşüyorlar mı?	Evet ◯ Hayır ◯	
Cevap **EVET** ise, ne şekilde ve hangi sıklıkta? (Birden çok şık işaretlenebilir)	Görüşme şekli	Sıklığı (ve süresi)
	◯Telefonla	
	◯Mektupla	
	◯Kurumda ziyaret	
	◯Evine giderek	

Kardeşleri var mı?	Evet ◯ Hayır ◯ *Evet ise aşağıdaki soruları yanıtlayın*		
Kardeş sayısı:		Kaçıncı çocuk olduğu:	
Aynı kurumda kalan kardeş sayısı:		Başka kurumlarda kalan kardeş sayısı:	
Kardeşler aynı kurumda değil ise, ne şekilde ve hangi sıklıkla görüşüyorlar? (Birden çok şık işaretlenebilir)	Görüşme şekli	Sıklığı (ve süresi)	
	◯Telefonla		
	◯Mektupla		
	◯Kurumda ziyaret		
	◯Evine giderek		

GÖNÜLLÜ AİLE BİLGİLERİ		
Şu anda ya da daha önce gönüllü aile tarafından alındığı zamanlar var mı?	Evet ◯ Hayır ◯	
Cevap **EVET** ise, ne şekilde ve hangi sıklıkta? (Birden çok şık işaretlenebilir)	Zaman	Sıklığı (ve süresi)
	◯ Hafta sonları	
	◯ Tatillerde	

OKUL ÖNCESİ BİLGİLERİ		
Okul öncesi bir kuruma devam etti mi?	Evet ◯ Hayır ◯	*Evetse*, süresi: ……..

Appendix B: Benlik Gelişim Envanteri

Lütfen aşağıdaki soruları çocuğunuzu düşünerek cevaplayınız ve en uygun olanı şıkkı işaretleyiniz.

Kendini tanımlama ve değerlendirme	**0= Hayır**	**1= Evet**
1) Hiç kendisini değerlendirmeye yönelik genel tanımlayıcı ifadeler kullanır mı? (örn: "Ben iyi bir kızım", "En güzel Ayşe")?		
2) Hiç kendi ismini kullanır mı? (örn: "Ayşe'ye ver", "Ali'nin kamyonu")		
3) Hiç yardımınızı "kendim yaparım", "Ali/Ayşe yapar" vb. diyerek ret eder mi?		
4) Hiç birisi hakkında konuşurken, o kişiyi değerlendirmeye yönelik ifadeler kullanır mı? (örn: "Kötü kopek", "Ali kötü veya kaba")		
5) Hiç ben yapamam der mi?		
6) Hiç değerlendirme içeren tanımlayıcı ifadeler kullanır mı? (örn: "Yapışkan eller", "oyuncakları göstererek kirli ya da kırılmış")?		
7) Hiç herhangi bir kıyafetini giymekte ısrar eder mi? (örn: özellikle kırmızı kazağını giymekte ısrar etmesi gibi)		
8) "bana/beni" kelimesini kullanır mı?		
9) "benim" kelimesini kullanır mı?		
10) Kız ya da erkek olduğunu biliyor mu?		
11) "ben" kelimesini kullanır mı?		
12) Kendi fiziksel özelliklerini tarif edebilir mi? (örn: "kıvırcık saç")		

Kendini tanıma	**0=Hayır**	**1= Evet**
13) Kendini aynada tanıyabilir (örn: Aynaya bakarken "Ali/Ayşe nerede diye sorduğunuzda aynada kendini gösterir)		
14) Hiç saçı ya da kıyafeti gibi kendisiyle alakalı bir şeye dikkat çeker mi?		
15) Bir şeyden hoşlanıp hoşlanmadığını sözel olarak ifade eder mi?		
16) Kendisini fotoğrafta tanıya bilir mi?		
17) hiç kendisinin yaptığı bir şeye dikkat çeker mi? (Örn: "Bak, ne yaptım", ya da el hareketleriyle kendi yaptığı şeyi göstermek")		
Hatalara verdiği duygusal tepkiler ve kendini düzenleme	**0=Hayır**	**1= Evet**
18) Çocuğunuzun yanlış yaptığı bir davranışına (örn: arkadaşına vurmak) dikkat çektiğiniz zaman hiç üzgün görünür mü?		
19) Çocuğunuzu yapmaması gereken bir şeyi yaparken bulduğunuzda ve onaylamadığınızı gösterdiğinizde hiç üzgün (utanmış, pişman) görünür mü?		
20) Çocuğunuz hiç yapmaması gereken bir şeyi yaptığında kanıtlarını saklamaya çalıştığı oldu mu?		
21) Çocuğunuz yapmaması gereken bir şeyi yaptığında hiç sizin dikkatinizi yaptığı şeye çekmeye çalıştığı oldu mu? (örn:prize parmağını sokmaya çalışmak).		
22) Çocuğunuz bir şeyi çok yapmak istediği halde siz izliyor olduğunuz için hiç kendisini tutmaya/kısıtlamaya çalıştığı oldu mu?		

Özerklik	**0=Hayır**	**1= Evet**
23) Şimdiye kadar hiç , sizin isteğinize karşı gelen bir isteği olduğunda, sırf size karşı gelmek için o isteğini savunduğu oldu mu?		
24) Şimdiye kadar hiç fiziksel müdahaleye direndiği oldu mu? (örn: bezini değiştirmek, giydirmek, öpmek, kucağa almak)		
25) Şimdiye kadar hiç elerinizi iterek ya da "hayır" diyerek sizin yardımınıza karşı çıktığı oldu mu ?		

Appendix C: Erken Çocukluk Davranışları Anketi

Lütfen aşağıdaki ifadeler için çocuğunuzun son "iki hafta" sını düşünerek cevaplayınız. İki hafta içerisinde o davranışı ne sıklıkta gerçekleştirdiğini işaretleyiniz.

	Hiçbir zaman	**Nadiren**	**Bazen**	**Çoğu zaman**	**Her zaman**
Uyku zamanı geldiği söylendiğinde çocuğunuz ne sıklıkta;	1	2	3	4	5
1. Öfke ile karşılık verir?	1	2	3	4	5
2. Huysuzlanır?	1	2	3	4	5
Bir aktiviteyi yaparken zorlandığında/sorun yaşandığında (örn: resim yapmak, giyinmek, Legolarla ya da tahta bloklarla ev ya da köprü yapmaya çalışması gibi) çocuğunuz ne sıklıkta;	1	2	3	4	5
3. Kolayca huysuzlanır/öfkelenir?	1	2	3	4	5
Oynayacak bir şey bulamadığı zaman, çocuğunuz ne sıklıkta;	1	2	3	4	5
4. Sinirlenir?	1	2	3	4	5
Başka bir çocuk sevdiği bir oyuncağını elinden aldığı zaman, çocuğunuz ne sıklıkta;.	1	2	3	4	5
5. Öfke ile bağırır?	1	2	3	4	5
6. Hiç kızmaz?	1	2	3	4	5
Sevmediği bir şeyi yemesi istendiğinde, çocuğunuz ne sıklıkta;	1	2	3	4	5
7. Sinirlenir?.	1	2	3	4	5
Bir şey istediğinde ve siz "hayır" dediğinizde, çocuğunuz ne sıklıkta;	1	2	3	4	5
8. Hırçınlaşır/huysuzlanır?	1	2	3	4	5
9. Öfkeyle/Kızgınlıkla karşı çıkar?.	1	2	3	4	5
10. Öfke nöbeti geçirir?	1	2	3	4	5
Aktivitelerle dolu uzun bir günün ardından yorulduğunda, çocuğunuz ne sıklıkta;	1	2	3	4	5

11. kolayca huysuzlanır/hırçınlaşır.	1	2	3	4	5
Kibarca bir davranışını eleştirdiğinizde ya da düzelttiğinizde, çocuğunuz ne sıklıkta;	1	2	3	4	5
12. Sinirlenir/öfkelenir?	1	2	3	4	5
Yapmamasını söylediğiniz halde, çocuğunuz ne sıklıkta;	1	2	3	4	5
13. evin veya apartmanın etrafında koşturmaya devam eder?	1	2	3	4	5
14. İlgisini çeken bir şeye (örn: bibloya) dokunmaya devam eder?	1	2	3	4	5
15. "o" şeyle oynamaya devam eder	1	2	3	4	5
Bir şeye hayır dediğinizde, çocuğunuz ne sıklıkta;	1	2	3	4	5
16. Yapıyor olduğu şeyi/aktiviteyi hemen durdurur?	1	2	3	4	5
17. Yasaklanan aktiviteyi durdurur	1	2	3	4	5
18. Uyarınızı dikkate almaz?	1	2	3	4	5
Cazip gelen ya da canının çektiği (örn: dondurma) bir şey için beklemesini söylediğinizde, çocuğunuz ne sıklıkta;	1	2	3	4	5
19. Bir dakika kadar bile bekleyemez?	1	2	3	4	5
20. Beklemez/almak için uğraşır?	1	2	3	4	5
21. Sabırla bekler?	1	2	3	4	5
Öyle yapmasını istediğinizde, çocuğunuz ne sıklıkta;	1	2	3	4	5
22. Devam eden aktiviteyi durdurabilir?	1	2	3	4	5
23. Senini alçaltabilir?	1	2	3	4	5
24. Kırılabilir bir şeyle dikkatli olabilir?	1	2	3	4	5
Oyun için kendi sırasını beklerken, çocuğunuz ne sıklıkta ;	1	2	3	4	5
25. Zorluk çeker?	1	2	3	4	5
Günlük aktiviteler sırasında, çocuğunuz ne sıklıkta;	1	2	3	4	5
26. Kumaşın (giysinin/battaniyenin) çok yumuşak ya da pürüzlü/sert olduğunu	1	2	3	4	5

fark eder (örn: pamuk ya da yün gibi)?					
27. Düşük frekanstaki sesleri fark eder; örneğin klima, ısıtıcı ve buzdolabının çalışma ve ya başlama sesini?	1	2	3	4	5
28. Dokunduğu eşyanın pürüzsüzlüğünü/pürüzlülüğünü fark eder?	1	2	3	4	5
29. Kıyafetinin üzerindeki kir ya da leke gibi küçük şeyleri fark eder?	1	2	3	4	5
30. Yeni bir kıyafet giydiğinizde fark eder?	1	2	3	4	5
31. Bip sesine karşı tepki verir (örneğin; mikrodalga veya fırının yemek piştiğinde çıkardığı ses?	1	2	3	4	5
32. Görünüşünüzdeki değişikliği fark eder (örn: ıslak saç, şapka veya takı)?	1	2	3	4	5
33. Çok düşük seviyedeki sesleri bile dinliyor gibi görünür?	1	2	3	4	5
34. Yemek pişirilirken çıkan yemek kokularını fark eder?	1	2	3	5	5
35. Ambulans ya da itfaiye arabasının srenini uzaktan fark eder?	1	2	3	4	5
36. Vücudunu saran ya da sıkan kıyafetin değişimine itiraz eder/karşı çıkar? (örn: yeni yıkanmış kotun giyilmesi, yeni ayakkabı giyilmesi, bere ya da eldiven takılması)	1	2	3	4	5
37. Yapışkan ya da vıcık vıcık bir şeye dokunmayı ret eder (örn: ketçap/ mayonez, tıraş köpüğü, çamur)?	1	2	3	4	5
38. Saçının taranma hissine, ya da diş fırçasının diş etine dokunmasına karşı çıkar?	1	2	3	4	5
Dışarıda oynarken ya da yürürken, çocuğunuz ne sıklıkta;	1	2	3	5	5
39. Görüntüleri ve ya sesleri fark eder	1	2	3	5	5

(örn: kuşun kanat çırparak havalanmasını, çiçekleri/hayvanları, su fıskiyesini)					
40. Uçan ya da yürüyen böcekleri fark eder (karınca,sinek vb.)?	1	2	3	4	5
Ne sıklıkta çocuğunuz, çarpma veya sıyrıktan sonra;	1	2	3	4	5
41. Birkaç dakika içinde bu durumu unutur?	1	2	3	4	5
Ne sıklıkta çocuğunuz mutsuz olduğu veya hayal kırıklığına uğradığı zaman;	1	2	3	4	5
42. Birkaç dakika içinde kendisini daha iyi hisseder?	1	2	3	4	5
43. Biraz zorlanarak sakinleşir?	1	2	3	4	5
44. On dakika veya daha uzun süre böyle kalır?	1	2	3	4	5
45. Yatıştırılmaya çalışıldığında bile üç dakikadan fazla ağlar?	1	2	3	4	5
46. Yatıştırıldığında bir ya da iki dakika içinde neşelenir?	1	2	3	4	5
47. Kolayca sakinleştirilir?	1	2	3	4	5
Ne sıklıkta çocuğunuz heyecanlı bir aktivite ya da olaydan sonra;	1	2	3	4	5
48. Çabukça sakinleşir/yatışır?	1	2	3	4	5
49. Yatışıp sakinleşmekte zorlanır?	1	2	3	4	5
	1	2	3	4	5

Appendix D: Veli İzin Formu

ORTA DOĞU TEKNİK ÜNİVERSİTESİ

1956

MIDDLE EAST TECHNICAL UNIVERSITY
06531 ANKARA-TURKEY

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Sevgili Anne-Babalar,

Orta Doğu Teknik Üniversitesi Psikoloji Bölümü olarak 0-5 yaş arasındaki çocukların zihinsel, dil ve sosyal duygusal gelişimleri üzerinde yaşadıkları çevrenin etkilerini inceleyen bir araştırma projesi yürütmekteyiz. Bu proje çerçevesinde devlet tarafından korunma altına alınmış yuva, sevgi evleri ve çocuk evlerinde büyüyen çocuklarla kendi öz aileleri yanında büyüyen çocukların gelişimlerini karşılaştırmayı planlıyoruz.

Bu çalışma kapsamında çocuğunuzla bazı oyunlar oynayarak (oyuncak tavşanla doktorculuk oynamak, kuklaları konuşturmak, bilgisayarda şekilleri takip etmek, hikayedeki çocuğun nasıl hissettiğini tanımlamak) veya resimli kartlara bakarak onun dil, bilişsel ve duygusal gelişimini değerlendirmek istemekteyiz. Bu oyunların onların gelişimini üzerinde hiçbir olumsuz etkisi bulunmamakta, ve çocuklar bu oyunlardan keyif almaktadır.

Sizin de bazı anketleri doldurarak çocuğunuzun mizacı, gelişimi ve davranışları hakkında bilgi vermenize ihtiyaç duymaktayız. Katılımınız bizim için son derece değerli ve önemlidir. Bu çalışmaya destek vermeye karar verdiğiniz takdirde, size uygun olan bir zamanda ev ziyareti gerçekleştirecektir. Bu ziyaretler çocuklarla çalışma konusunda eğitimli ve deneyimli, ODTÜ Gelişim Psikolojisi lisans üstü veya Psikoloji Bölümü son sınıf lisans öğrencileri tarafından yapılacaktır.

Çocuğunuzun değerlendirmeleri ile sizin dolduracağınız anketlerdeki cevaplarınız kesinlikle gizli tutulacak ve bu cevaplar sadece bilimsel araştırma amacıyla kullanılacaktır. Bu formu imzaladıktan sonra hem siz hem de çocuğunuz katılımcılıktan ayrılma hakkına sahipsiniz.

Bu çalışmaya katılarak sağlayacağınız bilgiler, ülkemizdeki korunma altında bulunan çocukların gelişimlerini anlamamıza çok önemli katkılarda bulunacaktır.

Proje Yürütücüsü: Prof. Dr. Sibel Kazak Berument
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Orta Doğu Teknik Üniversitesi Psikoloji Bölümü öğretim Üyelerinden Prof. Dr. Sibel Kazak Berument'in yürütücülüğünü yaptığı 0-5 yaş arasındaki çocukların zihinsel, dil ve sosyal duygusal gelişimleri üzerinde yaşadıkları çevrenin etkilerini inceleyen araştırma projesine tamamen gönüllü olarak katılıyorum ve çocuğum ..... katılımcı olmasına izin veriyorum. Çalışmayı istediğim zaman yarıda kesip bırakabileceğimi biliyorum, ve verdiğim bilgilerim bilimsel amaçlı kullanılmasını kabul ediyorum.

Adı Soyadı .....

İmza .....

Appendix E: Turkish Summary

1 Giriş

1.1 Bakım Çeşitleri

1.1.1 Korunma Altındaki Çocuklar İçin Bakım Çeşitleri

Kurum bakımı, çeşitli nedenlerle devlet koruması altına alınan çocuklar için verilen bir bakım türüdür. Çocuklar genellikle gruplar halinde, bir binanın içinde kalırlar. Bu binalara da, çocuk yuvası ya da, yetiştirme yurtları denir. Gelişmemiş ve gelişmekte olan ülkelerde en yaygın bakım türü yuvalardır (Yolcuoğlu, 2009). Bu çocukların devlet bakımına alınmasının pek çok nedenleri vardır. Bazıları ailelerini kaybetmiştir, bazıları ekonomik sıkıntılardan dolayı kuruma bırakılmıştır ve bazıları da istismar yüzünden koruma altına alınmış çocuklardır (Tirella, Chan, & Miller, 2006). Bu yüzden bu çocuklar doğduklarında zaten gelişimsel açıdan bazı riskler taşımaktadırlar (Miller, Chan, Litvinova, Rubin, Comfort, Tirella, Cermak, Morse, & Kovalev, 2006). Doğuştan bu risklere sahip olan çocuklara, kurum bakımında kalıyor olmakta ayrıca risk oluşturmaktadır.

Türkiye'de bir bakıcıya ortalama 8-10 çocuk düşmektedir. Bazı kurumlarda bu 20'ye kadar çıkabilmektedir. Bu şartlarda da çocuğa hassas ve bireysel bir bakım verilememektedir. Bu yüzden çocuğun gelişimi olumsuz etkilenmektedir (Atli, 2008). Roy, Rutter ve Pickles (2000)'in belirttikleri gibi, bakım elemanlarının yetersizliğinin yanında, bakıcıların sürekli değişiyor olması da çocukları olumsuz etkilemektedir. Vardiya değişikliği, tatiller, işten ayrılmalar yüzünden çocuklar pek çok bakıcı değiştirmektedir. Ayrıca çocuğun yaşı ilerledikçe, grubu da değiştiği için, bakıcı anneleri de değişmektedir (Yağmurlu, Berument, & Celimli, 2005). Bakıcıların yanında, kurumda çalışan diğer çalışanlar da vardır, örneğin, öğretmenler, hemşireler, ve temizlikçiler. Bu yüzden çocuklar iki yaşına gelene kadar 50 ila 100 arası bakıcı görmektedir (The St. Petersburg–USA Orphanage Research

Team, 2005). Bu saydığımız nedenlerden dolayı, çocuklar gelişimsel açıdan olumsuz etkilenmektedirler. Bir sonraki bölümde, kurumların çocuk gelişimine etkileri tartışılacaktır.

1.1.2 Yuvaların Çocukların Gelişimi Üzerine Etkisi

Yukarıda belirtilen sebeplerden dolayı, çocuk yuvalarında kalan çocukların bir çok gelişimsel problemi ve gecikmesi olabilmektedir.

Araştırmalar gösteriyor ki, yuvalarda kalan çocuklar aile yanında büyüyen çocuklara göre daha çok fiziksel problem (Smyke, Koga, Johnson, Fox, Marshall, Nelson, & Zeanah, 2007), normal olmayan beyin gelişimi (atypical brain development) (Nelson, Bos, Gunnar ve Sonuga-Barke, 2011), ve bilişsel gerilik (Smyke ve arkadaşları, 2007) yaşamaktadırlar.

Kurumlarda büyüyor olmak çocukların bağlanmalarını ve duygusal gelişimlerini de olumsuz etkilemektedir (Vorria ve arkadaşları, 2006). Bunların yanında, davranış problemleri de yuvalarda büyüyen çocuklarda yaygınca gözükmektedir (Rutter, Kreppner, & O'Connor, 2001; Groza & Ryan, 2002).

1.2 Koruyucu Aile, Evlat Edinme ve Bunların Gelişimsel Etkileri

1.2.1 Evlat Edinme

Evlat edinme ailesini kaybetmiş, yada ailesi tarafından bakılamayan çocuklar için bir bakım türüdür. Evlat edinme sistemi yasal ve psikolojik olarak çocuk sahip olmayı sağlar. Devletlerin, bu sistem için bazı kuralları vardır. Örneğin Türkiye'de, evlat edinmek için başvuran çiftlerde aranan özellik, en az beş yıllık evli olmak ve çocuktan en az 18 yaş daha büyük olmaktır (Aile ve Sosyal Politikalar Bakanlığı). Evlat edinmenin çocukların gelişimi üzerinde olumlu etkileri olduğu bulunmuştur (Palacios & Brodzinsky, 2010; Tirella, Chan, & Miller, 2006).

1.2.2 Koruyucu Aile

Koruyucu aile sistemi ise bir başka aile-temelli bakım türüdür. Devlet korumasına alınan çocuklar, kurumda kalmak yerine geçici olarak başka bir ailenin yanına yerleştirilmektedirler. Bu süre bazen çocukların ailelerindeki problem çözülene kadar yada bazen daha uzun süredir (Aile ve Sosyal Politikalar Bakanlığı).

Koruyu ailenin çocukların gelişimleri üzerindeki etkisini izleyen pek çok geniş çaplı projeler ve araştırmalar vardır. Yapılan araştırmalara bakıldığında ise, koruyucu aile yanına yerleştirilen çocuklarda kurumda kalmaya devam eden çocuklara göre zeka gelişimlerinin Fox, Almas, Degnan, Nelson, & Zeanah, 2011), dil gelişimlerinin Croft ve arkadaşları, 2007; Windsor, Moraru, Nelson, Fox, & Zeanah 2013), ve duygusal gelişimlerinin (Tarullo, Bruce, & Gunnar (2007) (daha iyi olduğu görülmüştür.

1.3 Dünya Çapında Diğer Alternatif Bakım Çeşitleri

Bakım çeşitleri için kullanılan terimler dünyada çeşitlilik göstermektedir. Kurum bakımı, yetiştirme yurdu, yetimhane, çocuk yuvası, çocuk evi, çocuk kampüsü bunlardan bazılarıdır. Çok fazla çeşit olsa da, kurumlar diğer bakım türlerine göre biraz daha farklılık göstermektedir. Çünkü buralarda çocuk sayısı diğerlerine göre daha çoktur. Fakat yinede, diğer bakım türlerinin kesin ayrımları ve özellikleri net bir şekilde bilinmemektedir (Lee & Barth, 2011). Bu yüzden terimleri kullanırken dikkatli olunmalıdır.

Terim kullanımında farklılıklar görülse de, tüm dünyada grup sayılarını azaltma ve bakıcı sürekliliğini artırma yönünde bir eğilim vardır. Fakat yine de, büyük kurumlar bakım çeşidi olarak dünya çapında yaygınca kullanılmaktadır (Ainsworth & Thoburn, 2014). Türkiye'de ise 2005 yılından beri daha aile temelli bakım türü, büyük kurumlarla yer değiştirmeye başlamıştır (Aile ve Sosyal Politikalar

Bakanlığı). Çocuk evleri ve sevgi evleri bu yeni bakım türlerinden ikisidir. Çocuk evleri Amerika'daki grup evlerine benzemektedir. Toplumda genellikle apartman dairesinde açılan çocuk evlerine 5 ile 6 çocuk yerleştirilmektedir. Sevgi evlerinde de çocuklar ayrı ayrı evlere yerleştirilmektedirler. Fakat evler aynı kampus içine kurulmuştur. Gelişimsel açıdan çocuk evlerinin ve sevgi evlerinin etkileri bir sonraki kısımda verilecektir.

1.3.1 Çocuk Evleri ve Sevgi Evleri

1.3.2 Gelişimsel Etkileri Açısından Karşılaştırma

Kurumların çocukların gelişimi üzerine etkisi yaygınca araştırılmış olsa da, çocuk evlerinin ve sevgi evlerinin etkileri üzerine çok az çalışma yapılmıştır. Ayrıca, yukarıda da belirtildiğimi gibi ülkeler arasında terim farklılıkları vardır, bu yüzden çalışmaların sonuçları dikkatli incelenmelidir.

Örneğin, Wolff ve Fesseha (2005)'da savaş sonrası Eritrea da akrabası yanında kalan çocuklar, çocuk evlerine yerleştirilen çocuklar ve kurumda kalan çocukların gelişimlerini karşılaştırmıştır. Grup evinde çocuklar bir bakıcı ve küçük gruplar halinde yaşamaktadırlar. Sonuçlar göstermiştir ki, akrabası yanına kalan çocukların hayata uyumları ve duygusal problemleri kurumda kalan çocuklar ile aynı seviyede çıkmıştır. Fakat çocuk evinde kalan çocukların uyumları ve duygusal sorunları diğer iki gruba göre daha az çıkmıştır.

Bilgimiz dahilinde Türkiye'de çocuk evlerinin gelişimsel etkileri üzerine bir çalışma yapılmamıştır. Fakat literatürdeki bulgular ışığında, çocuk evlerinin sevgi evlerine ve kurumlara göre daha olumlu etkisi olacağı düşünülmektedir. Fakat bu beklentinler test edilmelidir. Bu yüzden bu çalışmada, çocukların benlik gelişimi ve kendini kontrol becerileri kurum çeşitleri açısından (çocuk evi, sevgi evi, koruyucu aile, çocuk yuvası) karşılaştırılacaktır. Bir sonraki bölümde, benlik gelişimi ve kendini

kontrol etme becerisinin gelişimsel özellikleri ve bakım türlerine göre etkileri literatür ışında anlatılacaktır.

1.4 Benlik

1.4.1 Benliğin Gelişimi

Benlik gelişimi bebeklikten başlayıp, hayat boyu devam eder. Dört veya beş aylık iken öfke göstergesi belki gelişim belirtisi iken, 9-12 aylık olduklarında, dikkat ve ortak dikkat (joint attention) gelişimi benlik gelişimi belirtisidir (Sheridan, 2008). Bunlar benliğin ilk belirtileri olsa da, asıl benlik göstergesi ikinci yılın ilk yarısında kendini tanımayla başlar. Çocukların kendilerini aynada gösterebilmeleri, kendisini obje olarak görebilmesi ve fotoğrafta kendini tanıyabilmesi benlik farkındalığının belirtileri olarak kabul edilir (Lewis & Ramsay, 2004, Stipek, Gralinski, & Kopp, 1990). Dilin gelişimi ile birlikte, benlik gelişimi de hız kazanır (Harter, 2012). Emekleme çağındaki 2-3 yaşındaki çocuklar kendilerini tanımlamaya başlarlar (ben bir kızım/erkeğim veya saçlarım siyah) (Jacobs, Bleeker, & Constantino, 2003).

Orta çocukluğa yaklaştıkça (5-8 yaş), çocuklar kendilerini daha doğru bir şekilde tanımlamaya başlarlar. Yetenekleriyle birlikte kendilerini tanımlamayı öğrenirler. Örneğin, ben hızlı koşabilirim veya ben çok güzel resim yaparım gibi. Yine bu yaşlarda, her şey onlar için siyah ve beyaz gibidir. Bir şey ya iyidir, ya da tamamen kötü (Jacobs, Bleeker, & Constantino, 2003). Ergenlikte ise farklı farklı rollere göre kendilerini tanımlamayı öğrenirler (Jacobs, Bleeker, & Constantino, 2003). Sonuç olarak çocukların kendini tanımlamaları yaşa göre değişmektedir. Bu yüzden de çocuklarda benlik gelişimini ölçmek için, ölçüm araçları da değişmektedir. Bir sonraki kısımda çeşitli ölçüm araçları anlatılacaktır.

1.4.3 Benlik Gelişimini Etkileyen Faktörler

Benliğin gelişimini pek çok faktör etkileyebilir örneğin, cinsiyet, kültür ve sosyal çevre (Brown, Mangelsdorf, Neff, Schoppe, & Frosch, 2009). Thompson ve Goodvin (2005)'a göre, birincil sıradaki etkileşimden dolayı, aile içi etkileşim pozitif benlik gelişimiyle doğru orantılıdır. Etkileşimin yanında, ebeveyn davranışları, yargılamaları ve beklentileri de çocuğun benlik gelişimini etkilemektedir. Destekleyici ve pozitif ebeveyn davranışlarının bir yıl sonra çocuğun gelişiminde olumlu etkisi olduğu gözlemlenmiştir (Brown, Mangelsdorf, Neff, Schoppe, & Frosch, (2009). Bir diğer çalışama da ise, ebeveyn kontrol davranışı incelenmiştir. İki yaşında kontrolcü ve negatif değerlendirmelerde bulunan ebeveyne sahip olan iki yaşındaki çocukların, üç yaşlarına geldiklerinde daha fazla utanma ve suçluluk hissettikleri bulunmuştur (Kelley, Brownell, & Campbell, 2000). Bunların yanında, annenin kısıtlayıcı davranışlarının ve istikrarsız değerlendirmelerinin çocuğun benlik gelişimini olumsuz yönde etkilediği görülmüştür (Houck ve Lecuyer-Maus (2002).

Ebeveyn davranışlarının yanında, çevrenin ve mahallenin etkisi de görülmektedir. Dez-avantajlı çevrelerde yetişen çocukların gelişimleri de olumsuz yönde etkilenmektedir. Ayrıca düşük soysa-ekonomik çevrede oturan annelerin eğitim durumları da genellikle düşük olmaktadır. Eğitim durumu da annenin olumlu ebeveyn davranışlarıyla doğru orantılıdır Kärtner, Borke, Maasmeier, Keller, & Kleisi, 2011). Eğitim seviyesi düşük olan annelerin yüksek olan annelere oranla, çocuklarına karşı daha çok kontrolcü ve negatif değerlendirmelerde bulundukları gözlemlenmiştir. Bu davranış biçimleri de çocuğun benlik gelişimini olumsuz etkilemektedir (Evans & Rosenbaum, 2008).

1.4.3.1 Çocuk Yuvalarında Kalan Çocukların Benlik Gelişimi

Bir önceki kısımda da belirtildiği gibi, sosyo-ekonomik çevre ve çocuk yetiştirme pratikleri çocuğun gelişimini etkilemektedir. Çocuk yuvalarının bazıları iyi durumda olsa da, pek çok çocuk yuvasında bakıcı anneler yetersiz, ve grup içindeki çocuk

sayısı fazladır. Bu yüzden bakıcı annelerin ebeveyn davranışları çok olumlu olamamaktadır (McCall, 2013).

Literatüre baktığımızda, kurumların, çocuk yuvalarının çocukların gelişimi üzerine olumsuz etkisi bulunmuştur. Ama kurum bakımında kalıyor olmanın çocukların benlik gelişimini nasıl etkilediğiyle ilgili çok az çalışma vardır. Yukarıda belirtilen sebeplere göre, benlik gelişimlerinin de olumsuz yönde etkilenmesi kaçınılmazdır.

2 yaş çocukları ile yapılan tek çalışma, Veeeava (2009)'nın yaptığı araştırmadır. Bu araştırmada, kurumda kalan 2 yaşındaki çocukların benlik gelişimleri ile tipik olarak yetişen çocukların benlik gelişimleri karşılaştırılmıştır. Sonuçlar aile yanında büyüyen çocuklara göre kurumda kalan çocukların benlik gelişimlerinde ciddi derecede gerilik olduğunu göstermiştir.. Kurumda kalmanın etkisi yanında, koruyucu aile ve evlat edinme sisteminin çocukların benlik gelişimine olan etkisi de araştırılmıştır. Bir sonraki kısımda bunlar verilecektir.

1.4.3.2 Evlat edinilen ya da Koruyucu Aile Yanında Kalan Çocukların Benlik Gelişimi

Evlat edinme ve koruyucu aile sistemi çocukların benlik gelişimi açısından daha avantajlı olabilir. Bu iki bakım türünün etkileri pek çok gelişimsel açıdan araştırılmış olsa da, çok az çalışma benlik gelişimleri üzerindeki etkilere bakmıştır. Ama diğer gelişimsel etkilerin verildiği çalışmalar göz önüne alındığında, evlat edinme ve koruyucu aile sisteminin kurum bakımına göre benlik gelişimi açısından olumlu etkisi olacağını düşündürmektedir. Çocuğun, kurumda kaldığı sürede etkili olmaktadır. Eğer çocuk yuvada kaldığı ilk yıl evlat edinilirse, benlik gelişimi daha geç evlat edinilen çocuklara göre daha iyi olmaktadır (Lansford, Ceballo, Abbey, & Stewart, 2001).

Bunların yanında, çocuk evlerinin ve sevgi evlerinin çocukların benlik gelişimi üzerine etkiler henüz araştırılmamıştır. Bu yüzden bu çalışmada çocuk evlerinde ve sevgi evlerinde kalan 2 yaş çocuklarının benlik gelişimleri karşılaştırılacaktır.

1.5 Kendini Kontrol Etme/Denetleme

1.5.1 Tanımı ve Gelişimsel Boyutları

Kendini denetleme kavramı genellikle amaca yönelik davranışı, duyguyu ve düşünceyi kontrol edebilme becerisi olarak tanımlanır (Karoly, 1993). Duygusal, bilişsel ve davranışsal olmak üzere üç parçadan oluşmaktadır (Li-Grinnig, 2007).
Yaşamın ilk yılında kendini kontrol etme becerisinde ciddi bir değişim gözlenmektedir. Yaş ilerledikçe de, bilişsel ve fiziksel gelişmeye bağlı olarak kendini denetleme becerisi de artmaktadır (Best & Miller, 2010). 1 ila 3 yaş arasında hızlı bir değişim gözlenmektedir. Çocuklar dil gelişimiyle, yönergeleri anlamaya başlamaktadırlar ve dışarıdan gelen yönergeye göre davranışlarını kontrol etmeyi öğrenirler (Jennings ve arkadaşları, 2008). 3 ve 4 yaş arası duygularını kontrol edebilmeyi öğrenirler. Çalışma belleğinin de (working memory) bu yaşlarda gelişiyor olması yönergeleri hatırlamasını kolaylaştırır (Blair & Razza, 2007).

Davranışı kısıtlayabilme ve çaba kontrolü emekleme çağı ile okul öncesi yaş arasında hızla gelişir (Chang & Burns, 2005). Beklenildiği üzere, yaş ilerledikçe kendini kontrol etme becerisi de gelişir. Fakat yaş dışında, bu becerinin gelişmesini etkileyen faktörler vardır. Bir sonraki kısımda bunlara yer verilecektir.

1.5.4 Kendini Kontrol Etme Beceri Gelişimini Etkileyen Faktörler

Yaşamın ilk yıllarında yaşanan deneyimler, ilerleyen yıllarda kendini kontrole etme becerisini etkileyebilir. Yaşam deneyimlerin yanında, mizaç, dikkat ve benlik algısının da kendini kontrol becerisi üzerinde etkisi vardır (Harter, 2012). Örneğin negatif duygulanım çocukların kontrol becerisini olumsuz etkilemektedir (Raikes ve

arkadaşları, 2007). Aynı şekilde öfkeye daha yatkın olan çocukların çaba kontrolünde zorlandıkları gözlemlenmiştir (Kochanska & Knaack, 2003).

Bireysel faktörlerin yanında, kontrol becerisini etkileyen çevresel faktörler de vardır. Bunların en başında, ebeveyn davranışları gelmektedir. Ilımlı ebeveyn davranışı çocukların kontrol becerilerinin gelişimine yardımcı olmaktadır (Kochanska, Murray, & Harlan, 2000). Bunun yanında anne çocuk etkileşiminin de kendini kontrol becerisi üzerinde olumlu etkisi bulunmuştur (Mittal, Russell, Britner, & Peake, 2012). Ebeveynliğin yanında, aile ortamının ve çevreninde kontrol becerisi üzerinde etkisi olduğu görülmüştür (Li-Grining, 2007).

1.5.5.1 Risk Gruplarında Kendini Kontrol Etme Becerisi

Düşük soysa-ekonomik çevrelerde büyüyor olmak çocukların kontrol becerileri için önemli risk faktörlerinden birisidir. Ekonomik durum genellikle eğitim durumuyla doğru orantılı olduğu için, annelerin eğitim durumu ebeveynlik davranışlarını da etkilemektedir. Daha katı ve kontrolcü ebeveyn davranışı çocukların kendini denetleme becerilerini de olumsuz etkilemektedir. Ayrıca, ekonomik durumun kendisi de kaynak kısıtlılığından dolayı başlı başına bir risk faktörü oluşturmaktadır (Evans & Rosenbaum, 2008; McClellve & Cameron, 2011).

Düşük ekonomik çevreler gibi, kurumlarda kalıyor olmak ta çocuklar için risk faktörü oluşturmaktadır. Hassas ve sürekli olamayan bakıcılar çocukların kendini denetleme becerilerini olumuz etkilemektedir. Ayrıca yuvalarda kalan çocukların bağlanmalarında problem olduğu için, bu da kendini kontrol etme becerisini olumsuz etkilemektedir (Kim, Shin, & White-Traut, 2002; Smyke ve arkadaşları, 2007; McCall, 2012). Ayrıca kurumda kalan çocukların koruyucu aile yanında kalanlara göre davranışlarını kontrol etmede gerilik ve problem yaşadıkları bulunmuştur (McDermott ve arkadaşları, 2013)

Ama maalesef bazen koruyucu aile sisteminin kendisi de risk faktörü oluşturabilmektedir. Çocuklar kısa sürelerde birden fazla aile değiştirebilmektedir. Bu da onların kendini denetleme becerilerini olumsuz etkilemektedir (Lewis, Dozier, Ackerman, & Sepulveda-Kozakowski, 2007).

Bildiğimiz kadarıyla, çocuk evleri ve sevgi evleri çocukların kendini denetleme becerileri açısından karşılaştırılmamışlardır. Fakat, çocuk yuvalarına göre bu iki bakım türünün olumlu etkisi beklenmektedir.

Bakım türü ve çevrenin çocuklar üzerindeki etkisi büyük olsa da, her çocuk her ortamdan aynı derece de etkilenmemektedir. Çocukların mizacı, çevrelerinden ne kadar etkilendiklerinde belirleyici rol oynayabilmektedir. Bir sonraki kısımda, mizacın benlik gelişimi ve kendini kontrol etme becerileri üzerindeki etkileri, ve bakım türleri ile etkileşimi anlatılacaktır.

1.6 Mizaç ve Farklılaşan Hassasiyet Teorisi (Differential Susceptibility Theory)

1.6.1 Mizacın Tanımı

Mizacın tanımı farklı teori ve yazarların bakış açısına göre değişmektedir. Örneğin, Thomas ve Chess (1977) mizacın daha çok davranış kısmını vurgulamışlardır ve davranışın ne kadar güçlü olduğuna göre de mizacı sınıflandırrmışlardır. Kagan (2000) ise mizacı davranışı nasıl kontrol ettiği ve inhibe edebildiğiyle sınıflandırmıştır. Bunlara karşın, Rothbart (1981) mizacı psiko-biyolojik temelli açıklamış ve sınıflandırmıştır. Rothbart ve arkadaşlarına göre mizaç kendini denetleme becerisinde ve reaksiyonlarda ortaya çıkan kişisel farklılıklardır bu farklılıklar psikolojik süreçler ile açıklanabilir (aktaran Zentner & Shiner, 2012). Bu çalışmada bakış açısı temel alınmıştır ve Rothbart ve arkadaşlarının geliştirdiği, Çocuk Davranış Anketi mizacı ölçmek için kullanılmıştır (ECBQ; Putnam, Gartstein, & Rothbart, 2006).

1.6.2 Mizacın Çocukların Gelişimi Üzerine Etkisi

Mizaç çocuğun gelişimini iki yönden etkileyebilir. Birincisi, mizaç direk olarak çocuğun gelişimini etkiler (Goodvin & Romdall, 2013). İkincisi ise çocuğun mizacı anne ve babanın ebeveynlik davranışı etkiler ve buda yine çocuğun gelişimini etkiler. Örneğin, aşırı reaktif ve zor çocukların aileleri daha sert ve kontrolcü bir ebeveynlik davranışı sergileyebilir ve bu da çocuğun benlik gelişimini olumsuz etkileyebilir (Calkins, Hungerford, & Dedmon, 2004). Aynı şekilde, çocuğun kendini kontol becerisi de bu davranışlardan olumsuz etkilenebilmektedir (Kim & Kochanska, 2012). Ama kendini kontrol becerisi daha çok mizaç ile iç içe bir kavramdır ve bunlar birbirlerini karşılıklı olarak etkilemektedirler (Rothbart, Sheese, & Posner, 2007).

Mizacın benlik gelişimi ve kendini kontrol etme becerisi üzerine etkisi pek çok çalışma tarafından bulunmuştur (Moran, Lengua, & Zalewski, 2013; Rothbart, Ahadi, Hershey, & Fisher, 2001). Eğer çocuk riski bir çevrede yetişiyorsa mizacın etkisi ve önemi de artmaktadır. Mizacın farklı çevrelerdeki etkisi de genellikle farklılaşan hassasiyet teorisi ile açıklanmaktadır. Bir sonraki kısımda bu teori açıklanacaktır.

1.7 Mevcut Çalışma

Literatürdeki tüm bu bulgular ışığında, mevcut çalışmanın amacı çocukların mizaçlarına bakarak Differential Susceptibility theory'e göre bakım farklılıklarından gelişimlerinin nasıl etkilendiklerini bulmaktır. Çocukların mizacı burada aracı değişken olarak alınmıştır ve bakım çeşitlerinin (çocuk yuvası, sevgi evi, çocuk evi, koruyu aile) çocukların benlik gelişimleri ve kendini kontrol etme becerileri üzerindeki etkisini araştırmaktır. Ayrıca kurumlarla karşılaştırmak için ailesinin yanında büyüyen fakat düşük sosya-ekonomik çevrede yetişen çocuklar da alınmıştır. Çocukların bu çevreden seçilmelerinin amacı kurumlarda kalan çocuklar ile düşük-

sosya-ekonomik çevredeki çocukların aile öykülerinin benzer olduğu düşüncesidir. Literatür bulguları ışığında, çalışmanın hipotezleri aşağıda verilmiştir.

Bakım çeşitlerine göre hipotezler;

1) Çocuk Yuvasında kalan çocukların benlik gelişimi envanterinin dört alt ölçeğinden (Kendini tanımlama ve değerlendirme, kendini tanıma, hatalara verdiği duygusal tepkiler ve kendini düzenleme, ve özerklik), üç ayrı kendini tanıma görevinden (ayna, battaniye ve kendini fotoğrafta tanıma yöntemi) ve kendini denetleme ölçeğinden (hediye için bekleyebilme) diğer bakım çeşitlerine göre (sevgi evi, çocuk evi, koruyucu aile).
2) Daha düşük performans gösterecektir. Koruyucu aile yanında kalan çocukların da benlik gelişimi ve kendini denetleme becerisi açısından yuvada, sevgi evinde ve çocuk evlerinde kalan çocuklara göre daha iyi olmaları beklenmektedir.
3) Aynı şekilde, çocuk evlerinde kalan çocukların yuvada ve sevgi evlerinde kalan çocuklara göre daha iyi olmaları beklenirken, sevgi evlerinde kalanların çocuk yuvasında kalanlara göre daha iyi olmaları beklenmektedir.
4) Aile yanında düşük soysa ekonomik çevrede büyüyen çocukların ise diğer tüm bakım çeşitlerine göre, benlik gelişimlerinin ve kendini denetleme becerilerinin daha iyi olması beklenmektedir.

Mizacın ve bakım çeşitlerinin etkileşimi için hipotezler;

5) Hassas ve duyarlı mizaca sahip olmayan çocukların (engelleme/mahrumluk ölçeğinden düşük sonuç alanlar), yuvada kalmaları onları kötü yönde etkilememesi beklenmektedir ve yuva ile daha aile temelli bakım çeşitleri arasında benlik gelişim ve kendini kontrol etme becerileri açısından fark beklenmemektedir.
6) Daha hassas ve duyarlı olan çocukların ise (engelleme/mahrumluk ölçeğinden daha yüksek sonuç alanlar), yuvada kaldıklarında diğer tüm bakım çeşitlerine

göre benlik gelişimleri ve kontrol becerileri açısından olumsuz sonuçlara sahip olmaları beklenmektedir.

7) Algısal Hassasiyetin mizaç olarak etkisi ise, literatürde daha önce araştırılmadığı için, yeni bir bulgu olacaktır.

2. Yöntem

2.1 Örneklem

Bu çalışmanın katılımcıları, korunma altına alınmış 2 yaşındaki çocuklardır. Dört farklı bakım çeşidinden katılımcılar alınması planlanmıştır. Fakat, sevgi ve çocuk evlerinde devlet politikası nedeniyle 2 yaşındaki çocuklar yerleştirilmemektedir. Yine de, eğer bu evlere yerleştirilen çocukların küçük kardeşleri varsa, kardeşleri birbirinden ayırmamak için 2 yaş çocuklar nadir de olsa kalabilmektedir. Bu yüzden çocuk evlerden 12 çocuk alınmıştır. 26 çocuk, İstanbul, Denizli ve Ankara'daki çocuk yuvalarından, 21 çocuk ise Ankara da düşük sosya-ekonomik çevredeki ailelerden alınmıştır. Koruyucu aile için gönderilen mektuplara, sadece iki aile dönmüştür. Bu iki çocuk test edilmiştir fakat, analize katılmamıştır. Bu durumda toplam katılımcısı 59 dur.

2.2 Ölçekler

Çocukların benlik gelişimlerini ölçmek için Benlik Gelişim Envanteri kullanılmıştır (Stipek, Gralinski, & Kopp, 1990). Ölçek dört alt kısımdan oluşmaktadır (Kendini tanımlama ve değerlendirme, kendini tanıma, hatalara verdiği duygusal tepkiler ve kendini düzenleme ve özerklik), ve analizler bu alt kısımlar için ayrı olarak yapılmıştır. Ayrıca çocukların kendini tanımalarını ölçmek için üç farklı yöntem kullanılmıştır. Bunlar, aynada kendini tanıma, battaniyenin üzerinden kalkma ve fotoğrafta kendini tanımadır. Çocukların kendini denetleme becerilerini ölçmek için ise, hediyeyi erteleme yöntemi uygulanmıştır. Çocuk Davranış Anketi de çocukların mizacını ölçmek için kullanılmıştır. Bu ölçeğin sadece dört alt kısmı alınmıştır.

Bunlar, engelleme/mahrumluk, engelleme denetimi, algısal hassasiyet ve sakinleşmedir.

3. Sonuçlar

3.1 Hiyerarşik Regresyon Analizleri Sonuçları

Mizacın bakım çeşitleri ve çocukların gelişimleri (benlik gelişimi ve kendini denetleme becerisi) arasındaki aracı değişken rolünü anlamak için üç set hiyerarşik regresyon yapılmıştır. Her analiz için ilk adımda dört mizaç çeşidi regresyona alınmıştır. İkinci aşamada, bakım çeşitleri alınırken, üçüncü aşamada mizaç ve bakım çeşitlerinin etkileşimi analize alınmıştır.

3.1.1 Belik gelişimi, Mizaç ve Bakım Çeşitleri

Çocuk yuvasında kalıyor olmanın aile yanında kalmaya göre, çocukların kendini tanımlama ve değerlendirmesini (self-description ve evaluation) (β = -.57, p < .001), ve özerklik gelişimini (β = -.33, p < .05) olumsuz yönde etkilediği bulunmuştur. Çocukların kendini tanımalarını (self-recognition) yine yuvada kalıyor olmak olumsuz etkilerken, (β = -.39, p < .01), ve algısal hassasiyetin olumlu etkilediği bulunmuştur, (β = .49, p < .001). Ayrıca, algısal hassasiyetin ve çocuk yuvasının etkileşimi çocukların kendini tanımalarını olumlu yönde etkilemektedir (β = .50, p < .05). Algısal hassasiyeti düşük olan çocuklar eğer yuvada kalıyorlarsa kendilerini tanımada ailesinin yanında kalan çocuklara göre daha fazla zorluk yaşıyorlar.

Ayrıca çocuk evleri ile yuvaları karşılaştırdığımızda, çocuk evlerinde kalan çocukların kendini tanıma ve değerlendirmeleri (β = .31, p < .01) ve kendini tanıyabilmeleri (β = .31, p < .01) çocuk yuvasında kalan çocuklara göre daha iyi olduğu bulunmuştur. Ayrıca algısal hassasiyeti yüksek olan çocukların kendini tanımaları da yüksek çıkmıştır (β = .79, p < .001). Algısal hassasiyetin çocuk yuvası ve kendini tanıma arasında etkileşimi bulunmuştur. Eğer çocukların algısal

hassasiyeti düşük ise, çocuk yuvalarında kalan çocuklar kendini tanımakta çocuk evlerinde kalan çocuklara göre daha çok zorluk yaşamaktadırlar. Fakat algısal hassasiyet yüksek olduğu zaman, çocuk yuvasında ya da çocuk evinde kalıyor olmanın etkisi kaybolmaktadır. Ayrıca mizaç olarak engelleme denetiminin özerkliği olumsuz yönde etkilediği görülmüştür, (β = -.33, p < .05).

Çocuklarda kendini tanımayı ölçtüğümüz üç farklı yöntemin toplamından oluşan sonuca baktığımızda, çocuk yuvalarında kalan çocukların gelişimi ailesinde kalanlara göre daha gerideolduğu bulunmuştur, (β = -.41, p < .05). Ayrıca çocuk evinde kalanların da aile yanında kalanlara göre, toplam kendini tanıma yöntemlerinde daha çok geride kaldıkları görülmüştür (β = -.29, p = .06).

3.1.2 Kendini Denetleme, Mizaç ve Bakım Çeşitleri

Hediyeyi açmak için bekleme süresine baktığımızda, engelleme/mahrumluk ile çocuk evinin etkileşiminin geçerli olduğu görülmüştür (β = -.37, p < .05). Engelleme/mahrumiyet ölçeğinden yüksek alan çocuklar, eğer çocuk evinde kalıyorlarsa, aile yanında kalan çocuklara göre daha az hediye için bekleyebilmişler. Fakat, engellenme/mahrumiyet düşük olduğu zaman bu fark ortadan kalkmıştır.

Çocuk yuvası ve çocuk evleri karşılaştırıldığında, engellenme/mahrumiyet yüksek olduğu zaman, çocuk evinde kalan çocukların, çocuk yuvasında kalanlara göre hediye için daha az bekledikleri bulunmuştur. Engellenme düşük olduğu zaman, iki bakım çeşidi arasında hediyeyi açmak için bekleme yönünden fark çıkmamıştır. Ayrıca ailesinin yanında kalan çocukların, yuvada ya da çocuk evinde kalanlara göre kendilerini fotoğrafta tanımakta daha iyi oldukları bulunmuştur.

4. Tartışma

4.1 Sonuçların Tartışılması

Regresyon analizleri sonucunda, hipotez 1, 2 ve 4 kısmen doğrulanmıştır. Ailelerinin yanında kalan çocuklar, çocuk yuvalarında kalanlara göre kendini tanımlama, kendini tanıma ve özerklik açısından daha iyi oldukları bulunmuştur. Çocuk evinde kalan çocukların ise, yuvada kalan çocuklara göre kendini tanımlama ve kendini tanıma açısından daha iyi oldukları bulunmuştur. Bu bulgular alanyazınla aynı doğrultudadır. (Andeeava, 2009; Wang, Ling, Su, Cheng, Jin, & Sun, 2014). Hipotez 3, sevgi evlerine 2 yaşındaki çocuk yerleştirilmemesinden dolayı test edilememiştir. Ayrıca hipotez 5 ve 6 da kısmen doğrulanmıştır. Engellenme/mahrumiyet ölçeğinden yüksek alan çocuklar, aile yanında kalıyorlarsa, yuvada kalanlara göre kendini denetleme açısından daha iyiler. Fakat, engelleme/mahrumiyet düşük olduğu zaman, bu fark ortadan kalkıyor. Bu bulguda beklenildiği gibi bulunmuştur ve literatür ile aynı doğrultudadır (Pluess ve Belsky, 2010). Yine çocuklarda engellemişlik seviyesi yüksek olduğu zaman, çocuk yuvasında kalan çocukların kendini denetleme becerileri çocuk evinde kalan çocuklara göre daha iyi çıkmıştır. Engellenmişlik seviyesi düşük olduğu zaman bu fark ortadan kalkmaktadır. Bu bulgu beklentinin aksi yönündedir.. Çalışmaya başlarken, engellenmişlik seviyesi fazla olduğu zaman, yuvada olan çocukların çocuk evinde olanlara göre daha geride olması beklenmekteydi. Bu sonuç belki de şöyle açıklanabilir. Çocuk evlerinde çocuk sayısı az olduğu için, çocuklar buralarda daha serbest kalmaktadırlar. Fakat, çocuk yuvalarında bakıcı anneler daha sert bir tutum sergilemektedirler. Buda, çocuk evlerinde kalan çocukların şımarmasına ve yönergeleri tam dinlememelerine sebep olmuş olabilir. Fakat, literatürde sert ebeveyn davranışı çocuklarda yüksek engellenmişlikle ilişkilidir (Zhou, Eisenberg, Wang, & Reiser, 2004; Xu, Farver, M., & Zhang, 2009). Bu yüzden de bu açıklama yeterli olamamaktadır. Bir diğer neden ise, çocuk grubundaki katılımcı sayısının yuvadakilere göre çok az olması olabilir. Katılımcı sayısı biraz daha yüksek olsa, bu sonuç belki değişebilir.

Algısal hassasiyet ile ilgili herhangi bir yönde beklenti yoktu. Fakat bu çalışma göstermiştir ki, çocukların algısal hassasiyetleri düşük olduğu zaman, çocuk evinde kalan çocuklar, yuvada kalanlara göre, ve aile yanında kalan çocuklar yuvada kalanlara göre kendilerini tanıma açısından daha az zorluk çekmektedirler. Fakat, algısal hassasiyet seviyesi yüksek olduğu zaman, bu fark ortadan kalkmaktadır. Burada, algısal hassasiyet risk altında olan çocuklar için koruyucu faktör olmaktadır.

4.2 Çalışmanın Katkıları

Daha önce literatürde çocuk evleri ve çocuk yuvaları gelişimsel etkileri açısından karşılaştırılmadığı için bu çalışma bir ilk olmaktadır. Ayrıca, çocuk yuvaları ile ilgili bazı çalışmalar olsa da, Türkiye'de yuvalarda kalan çocukların benlik gelişimleri daha önce çalışılmamıştır. Bu açıdan da bu çalışma bir ilk sayılmaktadır. Bunların yanında, mizacın etkileşimi kurumlarda daha önce çalışılmamıştır, ve bu çalışmada ilk kez mizaç olarak algısal hassasiyetin aracı değişken rolüne bakılmıştır.

4.3 Çalışmanın Güçlü ve Eksik Yönleri

Çalışmanın en güçlü yanı devlet bakımında kalan çocukların, ailesin yanında kalan çocuklarla karşılaştırılmasıdır. Ayrıca, eşiz bir örnekleme sahiptir. Çocuk evlerinde devlet politikası gereği 2 yaşında çocuk bulmak çok zor iken, bu çalışmada kardeşleriyle birlikte kalan 12 çocuk katılmıştır. Bu aslında çalışmanın bir taraftan da eksik yanıdır. Bu kadar az katılımcısı olan bir grup analize alınmıştır. O yüzden bulunan bulgular, kesinlikten ziyade eğilim yönünde yorumlanması daha doğru olacaktır. Çalışmanın bir diğer sınırlılığı da, genel olarak örneklem sayısının küçük olması ve gruplar arası sayının eşit olmamasıdır.

4.4 Öneriler

Sonraki çalışmalar için öneri olarak, bu iki bakım türü sadece benlik gelişimi ve kendini kontrol etme becerisi açısından karşılaştırılmıştır. İlerdeki çalışmalarda, bu

bakım türleri farklı gelişimsel ölçütler açısından da karşılaştırılabilir. Ayrıca aracı değişken olarak bu çalışmaya engellenme/mahrumiyet ve algısal hassasiyet alınmıştır. Gelecekteki çalışmalarda, diğer mizaç özelliklerinin de kurumlarda aracı rolüne bakılabilir.

Appendix F: Tez Fotokopisi İzin Formu

ENSTİTÜ

Fen Bilimleri Enstitüsü	☐
Sosyal Bilimler Enstitüsü	X
Uygulamalı Matematik Enstitüsü	☐
Enformatik Enstitüsü	☐
Deniz Bilimleri Enstitüsü	☐

YAZARIN

Soyadı : Ertekin
Adı : Zeynep
Bölümü : Psikoloji

TEZİN ADI (İngilizce) : The Effects of Care Types and Temperament on Self Concept and Self Regulation Skills of Children Under The Care of Social Services

TEZİN TÜRÜ : Yüksek Lisans [X] Doktora [ ]

1. Tezimin tamamından kaynak gösterilmek şartıyla fotokopi alınabilir.	☐
2. Tezimin içindekiler sayfası, özet, indeks sayfalarından ve/veya bir bölümünden kaynak gösterilmek şartıyla fotokopi alınabilir.	☐
3. Tezimden bir (1) yıl süreyle fotokopi alınamaz.	X

TEZİN KÜTÜPHANEYE TESLİM TARİHİ: