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PREDICTING PROBLEM AND PROSOCIAL BEHAVIOURS IN DIFFERENT CARE TYPES: MODERATING ROLE OF TEMPERAMENT

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ABSTRACT

PREDICTING PROBLEM AND PROSOCIAL BEHAVIOURS
IN DIFFERENT
CARE TYPES: MODERATING ROLE OF TEMPERAMENT

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This study was an attempt to investigate the problem behavior outcomes of children who are currently under the care of social services and raised in different care types. The problem behavior among children was investigated under three factors, namely, social competence, externalization and internalization problems. The temperamental characteristics of children that are anger frustration, inhibitory control, perceptual sensitivity, and soothability were also examined. A total of 185 children between the ages of 36 to 60 months old were selected from institutions, care villages, group homes, foster care and low SES biological family groups. Children who were under protection in one of the above mentioned care types were selected from different cities in Turkey, namely, Adana, Afyon, Ankara, Denizli, İstanbul, İzmir, Kocaeli, Konya, and Karaman. Turkish versions of Children's behavior questionnaire (CBQ), Strengths and Difficulties Questionnaire (SDQ), Social Competence and Behavior Evaluation Form (SCBE) were administered to the caregivers, foster mothers or the biological mothers of the children in order to assess the temperament and problem behavior outcomes. In order to test the hypothesis that children who are reared in home-based care and having low reactivity would show less behavioral problems than other group of children, Multiple hierarchical regression analysis was conducted controlling for the age, sex, total duration of time in care, age of placement, length of

stay in the current institution, and reason for protection. The results suggested that children in foster care had less internalization problems than children reared in group home, and more social competence than care village group of children. Furthermore, temperamental characteristics significantly moderated the child outcomes for internalization, externalization and social competence.

Keywords: Comparison of care types, Institutional care, Temperament, Differential susceptibility and Problem behaviors

ÖZ

FARKLI BAKIM TÜRLERİNİN PROBLEM DAVRANIŞLAR ÜZERİNDEKİ YORDAYICI ETKİSİ: MİZACIN DÜZENLEYİCİ ROLÜ

Memişoğlu, Aybegüm
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Bu araştırma ile, devlet koruması altında olan ve farklı bakım türlerinde yetiştirilen çocukların problem davranışlarını incelenmesi hedeflenmiştir. Çocuklarda görülen problem davranışlar sosyal yetkinlik, içselleştirme, ve dışsallaştırma problemleri olmak üzere üç farklı değişken altında incelenmiştir. Çocukların mizaç özellikleri ise kızgınlık/düşkırıklığı, azalan tepki/sakinleşme, engelleme denetimi ve algısal hassasiyet açısından değerlendirilmiştir. Yaşları 36 ve 60 ay arasında değişen ve yuva, sevgi evi, çocuk evi, koruyucu ailede bakım altında olan ve düşük sosyo-ekonomik düzeyde bulunan biyolojik aileleri yanında kalan toplam 185 çocuk katılımcı olarak seçilmişlerdir. Adı geçen bakım türlerinde yetiştirilmekte olan bu çocuklar Adana, Afyon, Ankara, Denizli, İstanbul, İzmir, Kocaeli, Konya, Karaman illerinden seçilmişlerdir. Çocukların mizaç ve problem davranış değişkenlerini ölçümlemek amacıyla, Çocuk Davranış Ölçeği (ÇDA), Güçler ve Güçlükler Anketi (GGA), Sosyal Yetkinlik ve Davranış Değerlendirme Formu (SYDD) ölçeklerinin Türkçe adaptasyonları, bakım personelleri, koruyucu anne ve biyolojik annelere uygulanmıştır. Ev tipi bakım altında ve tepkisellik düzeyi düşük olan çocukların, diğer bakım türlerinde yetişen çocuklara oranla daha az problem davranışlar göstereceği hipotezini test etmek için, yaş, cinsiyet, kurum bakımında kalış süresi, değiştirilen kurum sayısı, korunma altına alınma nedenleri gibi değişkenler kontrol edilerek hiyerarşik çoklu regresyon analizi uygulanmıştır. Araştırma sonuçlarına

göre, koruyucu aile bakımındaki çocuklar, çocuk evinde kalmakta olan çocuklardan daha az içselleştirme problemleri yaşamakta olup, sevgi evinde kalan çocuklara göre ise daha fazla sosyal yetkinliğe sahiptirler. Ayrıca mizacın aracı değişken olarak bakım çeşitleri ve çocukların sosyal yetkinlik, içselleştirme ve dışsallaştırma problemleri arasında yordayıcı rolü, anlamlı olarak bulgulanmıştır. Tüm bu bulgular, çalışmanın katkıları ve eksiklikleri literatür kapsamında tartışılmıştır.

Anahtar Kelimeler: Bakım türü karşılaştırması, Kurum bakımı, Mizaç, Farklılaşma hassasiyeti teorisi ve Problem davranışlar

For all the children

Like stars on earth

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INTRODUCTION

For children, family is an important institution in their lives which they are born into and raised in. However, not every child is lucky enough to be raised by his/her biological family. According to the UNICEF report, it is stated that in sub-Saharan Africa, Asia, Latin America and the Caribbean (UNICEF, 2004) more than 13 million of children are left as orphans. In another UNICEF report, statistics suggests that the number of children has been reported as growing up in alternative care options exceeded two million all over the world (UNICEF, 2009). It would not be an overstatement to estimate that these numbers may have shown an increment by 2015. In Turkey, the statistics of The Ministry of Family and Social Policies (ASPB) show that there are 12,459 children who are under protection and staying in institutions. Furthermore, 54,021 more children are under protection and staying with their biological families/relatives under the guidance and monetary aid of government. Moreover, 3,843 children are cared by foster families (ÇHGM, 2014).

Institutionalization is not a specific problem of developing and underdeveloped countries. In the light of the literature, reasons for institutionalization are practically the same for all over the world whether developed or underdeveloped. To begin with, economic insufficiency of the families living in poverty, death of the parents related to wars, natural disasters, diseases or other reasons are the main causes for institutionalization. There are other reasons rather than economic problems, as well. Violence against children, child abuse, neglectful parenting can also be the reasons for institutionalization. Additionally, when a child lacks healthy family environment to grow up in or when their parents have an amoral lifestyle, children can be taken under governmental care. Furthermore, if parents are involved in a criminal affair, governments take custody of children. Parents with disabled children may also prefer

to request their children to be taken care of by the government in order for their children have access to the social and health-related resources.

Depriving a child of growing up in a family environment is against the Children's Rights. However, when the family environment is not suitable for children to grow up in governmental protection turns out to be the next best option. Family deprivation, lack of close parent-child relationships, and many other factors put these children under the risk of developmental delays. Those children who are not raised by their biological parents show delays in their physical, neurobiological, cognitive and social-emotional development (van Ijzendoorn et al., 2011; Martins et al., 2013; Merz, McCall, Wright, & Luna, 2013; Roy, Rutter, & Pickles, 2004; Rutter et al., 2007). Despite these deficiencies, literature suggests that if the children are placed in a family based environment such as foster care or adoptive families, they usually catch up with their peers in terms of their development (Bakermans-Kranenburg et al., 2011; van IJzendoorn, Juffer, & Poelhuis, 2005; Kreppner, Rutter, Marvin, O'Connor, & Sonuga-Barke, 2011). Those positive outcomes are very promising and should be taken into consideration. Hence, they may have important implications to shape the subsequent child welfare policies.

While various types of care such as adoption, foster care, and institutional care appears to have different effects on children's development and adaptation, child specific characteristics like temperament can moderate these effects. Examples can be given in general from children leaving in adverse living environments due to the low socioeconomic status of their families. It has been found that child temperament significantly moderates the relationship between behavioral problems of children and rearing environment even beyond early childhood (Pluess & Belsky, 2010). Specifically for care types, there are only two studies that can be given to illustrate. One of the recent studies has revealed that children with high perceptual sensitivity were not affected from the type of care when compared to low perceptual sensitivity children in terms of their self-concept development (Ertekin, 2014). Furthermore, in Taşfiliz's study (2014) again, perceptual sensitivity moderated the relationship between emotion recognition abilities of children who are staying in group homes than low SES children.

According to the concept of diathesis stress model, children who had irritable temperament would end up experiencing increased levels of behavioral and emotional difficulties if they have low quality of parenting (Scott & O'Connor, 2012). The differential susceptibility theory adds a positive perspective to this model. The interaction between children's temperament and their environment does not always have to be associated with negative developmental outcomes. Same temperamental characteristic in interaction with positive environmental condition might be associated with the positive outcomes. As Belsky suggests, children who have high reactivity will also be more susceptible to the effects of supportive parenting (Belsky, 1997; Belsky, Bakermans-Kranenburg, & van IJzendoorn, 2007; Belsky & Pluess, 2009).

There are also studies suggesting that the developmental outcomes of children on different areas such as oppositional behavior (Scott & O'Connor, 2012), social skills (Belsky & Pluess, 2013), compliance and problem behaviors (Kochanska & Kim, 2013) are originated from the interaction of child's temperament and environment.

A frequently encountered issue with children under governmental protection is problem behaviors (Torres, Maia, Veríssimo, Fernandes, & Silva, 2012). However, to our knowledge, there is not any research considering differential susceptibility theory to compare care types and child outcomes.

Present study attempts to provide answers to the observed problem behaviors by comparing care types. With this aim, children who are under protection in group homes, care villages, foster care, and institutional care will be compared according to their behavioral outcomes, and moderating role of temperament will also be investigated. Therefore in the following sections first, history of child protection will be mentioned. Secondly information related to the care types in Turkey will be given. Afterwards, developmental characteristics of children in care will be mentioned and problem behavior outcomes will be emphasized. Lastly, differential susceptibility hypothesis will be reviewed.

1.1 History of Child Protection: The Past and the Present

The accessible resources about the historical background are very rare and it is difficult to trace back the early practices of the child welfare system in the history, even though, the ancient "Code of the Hammurabi" of Babylons' includes written evidence of the first known legal adoption in the history. To our knowledge, information related to the child protection services in Asian countries is limited and discredited. Still, as Jabeen mentions in her article (2013), in South Asian countries like Pakistan, and China, institutions for children were not very common, and the conditions were not healthy until the 1980s. After the United Nations Convention on the Rights of the Child (UNCRC) in 1989, interest in child protection showed an increase in Asian countries.

Adoption has been known as a practice across different parts of the world. The American history of adoption, orphanages, and foster care can be traced back to the 1800s. The New York Children's Aid Society was founded in 1854. After its foundation, approximately 164 boys and 43 girls were sent to the homes in the country. By the early 1850s, "orphan trains" were very popular. As the name suggests, they were carrying children coming from poor families in the city to the rural parts of the country with the aim of giving those children an opportunity to be raised in places where they could earn an honest living. This practice had an additional aim of integrating children into society. Despite its name of orphan trains, the majority of the children had at least one living parent. It has been reported that between the years of 1850s to 1930s, 2000 children and teenagers were sent to the care of adoptive families (Holt, 1992).

The replacements were done by agencies and religious foundations; however, there were no rules for adoption. With this gap in the legal issues, many hosting households preferred adoption in search for workers for their lands. To be able to improve the situation, some legal regulations and guidelines had been prepared by the 1900s.

In 1923, the Department of Social Work was opened in 16 different universities. As a result of this, trained professionals started to be employed rather than volunteers serving for charitable or religious foundations. After a short period of time, the care options involving replacement of children to the rural parts of the country has shifted towards the foster care programs in which the children are given to a foster family in the same city. Also, programs that are offering help to the parents to keep the family together started to be implemented. However, there was not a clear cut difference between foster care and adoption until the Progressive Era (Bellingham, 1984).

During the years of Great Depression, nearly emptied institutions were started to be used again, that resulted in children changing many institutions before they become a teenager. When the effects of the Great Depression recovered, the placements to foster care and adoption increased especially with the inclement of international adoptions.

Turning to Europe, in Nordic countries like Sweden, Norway, Denmark, Finland and Iceland, child well-being levels are high compared to the other parts of the world (UNICEF, 2007). In all those aforementioned countries, child welfare systems are child oriented and knowledge based. Although most available services are at the familial level and conducted by social workers, in these countries, there are a number of children still staying in institutions. According to the Finnish statistics, more than 8.000 children are staying in residential care (National Institute for Health and Welfare, 2013). More children receive care in foster care settings than in institutions in Nordic countries except for Iceland. Furthermore, in 2005, National Research and Development Centre for Welfare and Health introduced a new form of care which was a different system from the currently used care types in Finland: family group homes. Family homes have become widespread in Finland during the last decade.

In another European country, Scotland, certain measures for the protection of children are defined by the Children Act of Scotland established in 1995. The national statistics showed that there were more than 16.000 children staying in the

institutions in 2011 (The Scottish Government, 2012). As an alternative option to institutions, children's homes exist in Scotland with changing structural characteristics. For the past years, the trend of having large homes in which a high number of resident children live has shifted towards smaller houses with less number of children staying in them.

The social work departments had been developed due to the prior Social Work Act of 1968 in Scotland. The services set up as a family service oriented approach, but it has also shifted towards a child-oriented approach in time. After the 1970s, the bed sizes of the residential houses for children decreased substantially. Currently, with the effects of National Care Standards, Care Homes for Children and Young People of 2004, children homes and the other facilities offering care services has improved their conditions substantially (Connelly & Milligan, 2012).

In sum, there have been different care types in different countries varying in quality of care they provide. Still, institutional care is one of the most common care types, and many children are raised in the institutional facilities even today. In the next part, the care history in Turkey will be mentioned.

1.2 Historical Review and Current Situation in Turkey

The historical background for the case of children, who are in need of protection in Turkey, is similar to other countries. The first literally known institutions were opened in the 1800s with the aim of protecting children whose parents had died. During the Ottoman period, the number of orphans substantially increased due to wars. Therefore, two institutions named Darülaceze and Darüleytam started to give services to the children who lost their parents and relatives. The number of Darüleytams reached nearly 80; however, they were closed afterwards for economical reasons.

The main development of child welfare services in Turkey was the establishment of Child Protection Institutions in 1921. Although Turkish Civil Law included an article

concerning children, it was not until the year of 1957, a specific law about children was changed. Basically, the rule number 6972 included the definition of the children, who are in need of protection, the services that are offered to them and the economical arrangements to maintain those services. In 1965, there were 11 orphanages across different cities. Apart from institutions, by the time 1966, the first foster family program was implemented in Ankara. As a result of the pilot program, 116 children were placed in foster families (Gökçe, 1971).

Until the 1950s, a non-governmental institution, Welfare Organization, had been effective in organizing care services. With the increasing effects of the government on social issues, the non-governmental organization agency remained in the background (Acar, 2005). Then, in 1981, the organization was officially abolished. Two years later, with law number 2828, Turkish Social Service and Children Protection Institution (SHÇEK) was established under the charge of Ministry of Health and Social Help and Ministry of Education. Later on, the foundation was directly linked to the prime minister's office (Akyüz, 2012). The services like care, education, and job placement related to the children who are in need of protection had been carried out by SHÇEK during the years of 1983 to 2011. With decree law number 633 concerning the organization and duties of the Ministry of Family and Social Policies (ASPB), a new ministry was founded and SHÇEK was abolished (Aile ve Sosyal Politikalar Bakanlığı [ASPB], 2011). At present, General Directorate of the Child Protection under ASPB is in charge of the child care services.

Law number 2828 is still in force in conjunction with the Child Protection Law number 5395 which was accepted in 2005. Apart from the laws, there are specific regulations to determine the care types and in what way the children will be protected. Care villages, group homes, orphanages, foster family services and institutions for children are five care types that are in use and provide services with specific regulations. (ASPB, 2013).

1.2.1 Care Types in Turkey

Out-of-home care does not result in best developmental outcomes for those children regardless of their age (Healy & Lundstro, 2011; Ubbesen, Petersen, & Kristensen, 2013). In the light of the literature, it is possible to state that lower the caregiver child ratio, higher the possibility to catch up with their peers on different developmental outcomes (Ainsworth & Thoburn, 2014; Fox, Almas, Degnan, Nelson, & Zeanah, 2011; Muñoz-Hoyos et al., 2001). Along with the literature, the social policy related to the child protection services in Turkey, is the constitution of home-based care types since 2000's. The first option to consider is the care of biological family or relatives by giving monetary help under the supervision of the social services. Adopting children to a family as early as possible is the second option. If it is not possible, care with the foster families is considered. The last alternative is the institutional care. However, recently apart from foster care, children under the care of social services is raised in home-based alternatives such as care villages and group homes (Başer, 2013). Therefore, within the scope of this thesis, in the following sections foster care, institutional care, group homes and care villages will be described.

1.2.1.1 Institutional Care

Institutions, to put in other words, orphanages are places which serve children who need protection. The terms are used to define ward like environments where children stay all together under the same roof. Number of children staying per room varies, still at least 6-10 children shares the same room. In Turkey, basically there are two types of institutions including 0-12 and 13-18 age groups. For the first type, children are divided into the rooms according age groups. If there is not any other care type in the city, the groups are consisted of baby, kindergarten and older group, mainly. Cafeteria, infirmary, and play rooms are common places for all age groups. Institutions for the 13-18 ages are differentiated according to the sex. Boys' and girls' institutions are different establishments. Similarly, apart from the common rooms, varying number of children stay in the same room. The characteristics of the

institutions differ across to cities. Caregivers work in shifts and are responsible for the children in their group. It also varies among institutions; still, caregiver children ratio is high. With the advances in social policies in Turkey, some of the institutions changed the room settings for particular age groups; however, they still have their institutional features due to high number of children staying in the same room and share same daily routines.

1.2.1.2 Care Villages

Care villages are very common and give services in over 500 countries throughout the world (SOS Children Villages International, n.d.). In Turkey, they are constituted of single family detached houses which are located in campus settings. There are other units like administrative, social education and sports center, infirmary, and playground within the campus (Ankara Sevgi Evleri Çocuk Yuvası Müdürlüğü, n.d.). Similarly, the characteristics of the houses also vary among cities, and caregivers work in shifts. However, number of children living in each house, is much less than the institutions. Usually, there are 6-10 children staying in the same house and spending most of their time within the house.

1.2.1.3 Group Homes

Group homes are places where four to six children stay in a house with a caregiver. Caregivers do not change as far as possible in order to decrease the number of people that a child encounters throughout his/ her life in the care system (Yazıcı, 2012). Usually, there are three different caregivers working in turns. The houses are located in different neighborhoods, some of the homes are detached houses, and some of them are apartment flats. The environment is domestic as they would live with their biological families. They attend to neighborhood schools; they have neighbors, do shopping as home unit. With this type of care, it is aimed to accustom children to family like living situations. Children homes are an alternative to the current big institutions where children deprived of parental care. Furthermore, decreasing the number of caregivers a child encounters to and offering a more stable environment to children are among the other objectives of home-based care systems.

1.2.1.4 Foster Care

Foster family care is one of the most well-known care types and has been extensively used for caring children throughout the world. It is an important service due to the fact that it enables nurturing children within a family environment. Although, the first implementation dates back to the 1960's in Turkey, it was not widely used since 2000's. The number of the foster families has showed a considerable increase during the recent years, still, it is very low when compared to the other developed countries (Yazıcı, 2012).

Foster families are voluntary families who have the responsibility of three children at most in exchange for specified amount of money. Among families who have applied to the provincial directorates of Family and Social Policies, the eligible ones are chosen according to the regulations (Aile ve Sosyal Politikalar Bakanlığı [ASPB], 2013). The amount of money is calculated annually and health costs of the children are met by the government. Foster care system is relatively old when compared to the other care types. The use of foster family care first started in 1960's in Turkey. However, the foster family number did not show an increment until the 2000's. Still, the ratio of foster family care when compared to the other care types is very low (Başer, 2013).

In the following section, developmental outcomes of children who are in care will be explained.

1.3 Developmental Characteristics of Children in Institutional Care

In the past, the physical qualities of the institutions were very poor and far away from fulfilling children's basic care needs. They lacked main resources such as food and sanitary supplies, and thus, failed to provide the needs for a high number of children. Some may think that the described conditions were just ancient history. However, the devastating conditions of the Romanian institutions became public just in 1990's (European Commission, 2005). The research investigating those children showed that they have delays in their different developmental outcomes (The St.

Petersburg–USA Orphanage Research Team, 2005). Children who are raised in institutional settings have negative developmental outcomes in many areas such as hormonal development (van Ijzendoorn et al., 2011) and mental disorders (Ayaz et al., 2012). It is possible to categorize them as physical, neurobiological, cognitive and social-emotional development (van Ijzendoorn et al., 2011; Martins et al., 2013; Merz, McCall, Wright, & Luna, 2013; Roy, Rutter, & Pickles, 2004; Rutter et al., 2007). In this part of the thesis, developmental delays that characterize the orphanaged children in physical, cognitive and social developmental domains will be discussed regarding the findings of the literature.

1.3.1 Physical Development

The improvement in the physical conditions of the residential settings, may lead to declines in the physical delays of institutionalized children (Smyke et al., 2007; Whetten et al., 2009; van Ijzendoorn, Bakermans-Kranenburg, & Juffer, 2007). Still, there are other findings in the literature that they show severe delays in their trajectories of physical development (Groark, McCall, & Fish, 2011; Meltzer, Lader, Corbin, Goodman, & Ford, 2004).

The measurements of height, weight and head circumferences of institutionalized children indicate a delay (Dobrova-Krol, van IJzendoorn, Bakermans-Kranenburg, & Juffer, 2010; Hearst et al., 2014; van Ijzendoorn, Bakermans-Kranenburg & Juffer, 2007). Besides, their height-to-age and weight-to-height ratios are smaller than children who are raised with their own families (Cohen, Lojkasek, Zadeh, Pugliese, & Kiefer, 2008). Martins and his colleagues (2013) also came up with same findings when the developmental history of children before institutionalization is controlled. Furthermore, younger the age of institutionalization, bigger the observed delay is (Martins et al., 2013; van Ijzendoorn, Bakermans-Kranenburg & Juffer, 2007).

Head circumference growth rate is effective on the brain development of children. As Rutter and colleagues (2004) suggested, head size is an indicator of the brain growth. Furthermore, if the risk is combined due to the pre-institutional risk factors such as coming from low socio economic families, then, they will be more vulnerable

(Rutter, O'Connor, & The English and Romanian Adoptees (ERA) Study Team, 2004). There are also findings in the literature related to the socio-economic status of the family and the brain growth of children. It is possible to state that children of low SES families which is the group that most institutionalized children's family belong to, have lower gray matter in their brain (Hanson et al., 2013).

Brain development is not the only area that the effects of the pre-institutional environment can be observed on the physical outcomes of children. Most of the time, the quality of the previous care is not sufficient for those children in care. In a recent study, nutritional assessment of children staying in orphanages between the ages of 0-3 showed severe deficiencies such as anemia, albumin, zinc, vitamin D, iodine levels. It is possible that the risky prenatal environment aggravate the effects of the institutionalization (Hearst et al., 2014). Considering the adverse pre and postnatal environment, they can be characterized as being at risk for viral infections due to lack of vaccination (Valentini, Gargiullo, Ceccarelli, & Ranno, 2012).

Motor development and physical growth are related, and their development is parallel to each other (Groark, Mccall, Mccarthy, Eichner, & Gee, 2013). The link between physical development and motor development is not that strong if a child is well nourished and raised in a healthy living environment. However, for the disadvantaged and malnourished group, those two types of development are related as the literature suggests. Furthermore, those children fall behind the World Health Organization child growth standards (Who Multicentre Growth Reference Study Group, 2006). The measurements of the general developmental quotients of locomotor and hand-eye coordination abilities indicate that children living in the institutions fall behind children with two-parent families. Furthermore, when children under care in conventional institutions, and care villages compared, the development of locomotor and hand-eye coordination abilities in children significantly differed with respect to what type of institution they were reared (Giagazoglou, Koulioussi, Sidiropoulou, & Fahantidou, 2012).

Structural characteristics of institutions show variations, which in turn affects the physical growth of the children. The best outcome in terms of physical development is observed in the children living in small units where caregiver-child ratio is low. Considering the fact that general behavior development and physical growth is related, the findings are parallel with other developmental outcomes (Groark et al., 2013).

1.3.2 Cognitive Development

Children who have an engaging environment with enriched stimulus have better intellectual development. In their first years of life, children acquire information about their environment and learn how to process it within the caregiving environment. For that reason caregiving characteristics such as parent speech (Goldin-Meadow et al., 2014), and parenting qualities (Blair, Raver, & Berry, 2014) specifically sensitive and responsive caregiving (Hirsh-Pasek, & Burchinal, 2006) are important for children to accomplish their intellectual development.

The caregiving environment in the institutions, on the other hand, lacks the characteristics that are mentioned above (Smyke et al., 2007; The St. Petersburg–USA Orphanage Research Team, 2005; Yagmurlu, Berument, & Celimli, 2005) including cognitively stimulating play materials, and toys (Kaler & Freeman, 1994). Those deprivations affect the intellectual development of children staying in institutions in various aspects.

Studies investigating the cognitive development of children in orphanages, indicate lower intellectual levels than children raised with biological families. Both early examples (Crissey, 1937) and current research (Sparling, Dragomir, Ramey, & Florescu, 2005; Vorria et al., 2003) are in the same direction. A study conducted in a sample of Romanian orphanages, revealed substantial delays measured by the Bayley Scales of Infant Development (Kaler & Freeman, 1994). Similarly, in their meta-analysis of 75 different studies related to the intellectual development of institutionalized children, van IJzendoorn, Luijk and Juffer (2008) found that

orphanage group children had IQ scores considerably lower than foster family group. Meta-analytic findings comparing adopted children from orphanages also support that those children have cognitive delays (van Ijzendoorn, Juffer, & Poelhuis, 2005). Moreover, results suggest that if the children are adopted from the institutional settings, they show better performance in an IQ test than their siblings and peers who remained in the same place.

Delays in the cognitive development of institutionalized children are not limited with their IQ levels. In a study conducted with orphanage children, it has been found that prolonged institutionalization negatively affects sensory processing skills of children due to early deprivation (Wilbarger, Gunnar, Schneider, & Pollak, 2010). Moreover, those children have deficits in their theory of mind development and executive functioning skills (Colvert et al., 2008; McDermott et al., 2013; Yagmurlu, Berument, & Celimli, 2005). Lastly, in a study conducted by Turkish orphans, it has been stated that there is a gap between their cognitive/language development and Turkish norm data (Berument, Sönmez, & Eyüpoğlu, 2011).

1.3.3 Socio-emotional Development

The delays in the development of children caused by early deprivation can also be observed in other domains in addition to the physical and cognitive areas. The effects of institutional rearing in social, emotional and behavioral trajectories also exist in severe forms (Vorria, Rutter, Pickles, Wolkind, & Hobsbaum, 1998a; Vorria, Rutter, Pickles, Wolkind, & Hobsbaum, 1998b). First years of infants' life are important for developing a bond with their caregivers. As Bowlby (1957) emphasize in the attachment theory, stable, warm, and responsive environment is very important for the development of attachment. However, orphaned children lack the opportunity to attach to their biological parents. Their relationship with caregivers in the institutions also shows an unstable pattern due to high caregiver child ratio, poor quality of caregiving, and quick circulation of the children and caregivers (Fox, Nelson, & Zeenah, 2013). In their study with severely deprived children in Romanian orphanages, most children did not show any behaviors indicating any signs of

attachment with their caregivers. Similarly, in Chisholm's (1998), and many other findings (Dumais, Cyr, & Michel, 2014; Hortaçsu, Cesur, & Oral, 1993; Lionetti, Pastore, & Barone, 2015), indicated that orphanage group of children had significantly lower levels of secure attachment than early adopted and family raised groups. Other studies have evidences for the negative effects of pre-institutionalization in terms of disinhibited attachment even as early as 6 months of age (Rutter et al., 2007). Furthermore, more than half of the (54%) institutionalized children shows disorganized attachment patterns and age of institutional placement moderates their attachment (Lionetti, Pastore, & Barone, 2015).

Apart from attachment disturbances, another typically observed behavior in this group of children is indiscriminate friendliness which is characterized by having lack of social (reticence) reservation towards strangers (Bakermans-Kranenburg et al., 2011; Chisholm, 1998). Approaching to strangers without showing fear may be adaptable in the institutional settings, interestingly, those behaviors persist in time even in adoptive families (Van den Dries, Juffer, van Ijzendoorn, Bakermans-Kranenburg, & Alink, 2012). Similar to indiscriminate friendliness, in another study, comparing boys who stay in the residential and foster family settings, has been found that children in the residential settings lack selective relationships with peers and caregivers (Roy, Rutter, & Pickles, 2004).

Social behaviors is another area that children in care fall behind from their peers. The environmental conditions in the institutions are very limited for those children to engage in social interactions with adults especially at early ages. Consequently, reading social cues is compelling for those children in orphanages that lead them to show lower performance in identifying facial expressions of emotion, and matching expressions with correct emotions (Camras, Perlman, Wismer Fries & Pollak, 2006; Tasfiliz, 2014).

1.3.4 Behavior Problems

In the previous part, delays in physical, cognitive, and socio-emotional development of institutionalized children has been mentioned. Another important and frequently encountered issue in institutionalized children is behavior problems. Most commonly studied behavior problems are internalization problems such as anxiety and depression (Erol, Simsek, & Munir, 2010; Zeanah et al., 2009); and externalization problems such as aggression and rule breaking behaviors (Kochanska & Kim, 2013; Roy, Rutter, & Pickles, 2000; Rutter et al., 2007; Sonuga-Barke & Rubia, 2008), attention deficit and hyperactivity disorder (Roy, Rutter, & Pickles, 2000; Rutter et al., 2007; Sonuga-Barke & Rubia, 2008), and autistic type behaviors (Gindis, 2008). In a severely deprived sample of children in Romanian orphanages, institutionalization was found to be related with quasi-autistic features (Rutter, Kreppner, & Connor, 2001). Different terms have been used in the literature such as "quasi autism" in Rutter and his colleague's articles (Rutter, Kreppner, & Connor, 2001; Rutter et al., 2007), "institutionally induced autism" and "institutional autism" (Gindis, 2008), or "post-institutional autistic syndrome" (Hoksbergen, Ter Laak, Rijk, Van Dijkum, & Stoutjesdijk, 2005). In the current study, in terms of behavior problems, both internalizing and externalizing problems will be investigated.

When we look at the common sample, problem behaviors can also be observed in significant number of children through community samples (Briggs-Gowan, Carter, Irwin, Wachtel, & Cicchetti, 2004). Besides, it is reported that a high number of children also remain undiagnosed due to the low rates of seeking health care (Horwitz, Gary, Briggs-Gowan, & Carter, 2003). Studies investigating risk factors reveal that, risk factors such as abuse, and neglect are found to be related with problem behaviors (Van der Vegt, van der Ende, Ferdinand, Verhulst, & Tiemeier, 2009). Furthermore, increased problem behaviors were associated with low maternal responsiveness (Kochanska & Kim, 2013). Family risk factors also affected children's externalization and internalization problem behaviors (Côté et al., 2013). In the light of these findings, it is not surprising that children living in the low socioeconomic neighborhoods who are more subjected to the abuse and neglect are

reported to have even higher incidence of behavior problems than their middle class and upper class age mates (Qi & Kaiser, 2003).

Probability of having problem behaviors is exacerbated in children in care considering the fact that they have low SES and high risk family backgrounds and reared in deprived settings. Literature shows that prevalence rates of problem behaviors of children in care are even higher for institutionalized sample. For example, the prevalence of behavior problems among children attending to school in Karachi is between 10 to 20% (Srinath et al., 2005), teacher ratings for children living in traditional orphanage facilities of Karachi show a prevalence of 39% and children living in care villages had a prevalence of 33% (Lassi, Mahmud, Syed, & Janjua, 2011). Findings from different countries also reveal the same results. In a study conducted among 9-11 years old Greek institutionalized children, social and behavioral adjustment of the children had been measured. Roy, Rutter and Pickles (2000) assessed group differences between foster care and institution children in terms of problem behaviors, such as inattention, conduct problems and unsociability with Rutter Questionnaires (Elander & Rutter, 1996). In both substitute care group of children, the level of emotional and behavioral difficulties were higher than children who had not received any substitute care. Le Mare, Audet and Le (2014) studied adolescents who were adopted by Canadian families from Romanian institutions. According to the measures of Child Behavior Check List (as cited in Le Mare, Audet, & Le, 2014), even though the age of adoption is an important predictor, 31% of children had total behavior problems above the clinical range, which shows that the depriving effects of institutionalization still exists even for the cases of adoption.

The prevalence of problem behaviors among children living in the Turkish institutions is in the same direction with the literature (Şimsek, Erol, Öztop, & Özer Özcan, 2008; Erol, Simsek, & Munir, 2010). In Şimşek and colleagues study (2008), behavior problems were examined with teacher ratings, self-reports and CBCL (Achenbach, 1991) measures asked to the caregivers among 674 children living in institutions and aged between 6-18. The prevalence of total behavior problems nearly increased by 2,1 to 4,6 times if the children was staying in the institution. In another

study, Ayaz and colleagues (2012) found higher levels of ADHD (% 41.2), conduct problems (% 26.5), anxiety levels (% 29.4) and general psychiatric disorders (% 64.7) among 34 institutionalized children with their age ranging from 3 to 5 years old when compared to family raised group of children.

A considerable amount of literature has been published on behavior problems among institutionalized children. Most frequently seen behavior problem in institutionalized children is externalization problems. Among the cluster of externalization problems, inattention and hyperactivity is one of the most common characteristics of institutionalized children. As a result, most encountered clinical diagnosis in this group of children is attention deficit and hyperactivity disorder (Merz et al., 2013; Roy, Rutter, & Pickles, 2000; Rutter et al., 2007; Sonuga-Barke & Rubia, 2008). Institutionalized children had higher risk of having attention problems compared to family raised children (Merz & Mc Call, 2010). In a study conducted with a Turkish sample of institutionalized children in Kocaeli, it has been found that they suffer more severe symptoms of attention deficit and hyperactivity disorder (Ayaz et al., 2012). Similar results were revealed in Vorria, Rutter, Pickles, Wolkind, and Hobsbaum's study (1998) considering hyperactivity problems among institutionalized children with comparison to two parent families.

Another important aspect of externalization problems is aggression and conduct behaviors. In a Turkish sample of children in care, more children were diagnosed with oppositional deficient and pervasive developmental disorders than family raised group (Ayaz et al., 2012). Adolescents in institutional care had high levels of trait anger (Deniz, Kesen, & Üre, 2006), and high levels of behavioral disturbances (Meltzer et al., 2004). Furthermore, Vorria and colleagues (1998) stated that the comparison with children in care to children in two parent families revealed similar results with the literature in terms of conduct, and total behavior scores. There were also significant group differences in terms of showing aggressive behaviors, and disruptive behaviors. Chisholm's (1998) study also examined externalizing symptoms according to the CBCL measures within an institutionalized sample of 17 to 76 months of aged children and reported similar results with the above mentioned

studies. In Kjelsberg and Nygren's study (2004), the rate of problem behaviors among boys in the public institutional care were as high as boys in residing in a psychiatry clinic. The results of the cluster analysis also showed that among children in the institutional care, problem behavior risk group was the highest one (Hagaman, Trout, Chmelka, Thompson, & Reid, 2009). The effect of institutionalization on heightened rates of externalizing problems is so severe that it may persist even after replacement of family based care. To illustrate, children as early as 55 months and replaced in foster care group did not differ from care as usual (institutional) group of children in terms of externalizing problems (Zeanah, 2009). Meta-analysis involving the studies investigating behavioral outcomes of children adopted from institutions also showed high prevalence of externalizing problem behaviors compared to the never institutionalized children (Juffer & van Ijzendoorn, 2005). Similarly, children who stays in the institution longer before adoption had higher levels of externalizing problems according to the CBCL assessments (Gunnar & van Dulmen, 2007).

Turning to internalization problems, most common characteristics includes anxiety and depression symptoms. Although there are studies reporting that internalizing symptoms were lower in institution sample than family raised children sample (Şimşek et al., 2008), there are also findings revealing that institutionalized children have higher levels of anxiety and depression levels than family group of children (Ayaz, 2012). In a small sample of Portuguese children in institutions (N = 72; M = 53.39), 13 of them had emotional/behavior total problems (Oliviera, Fearon, Belsky, Fachada, & Soares, 2015). In another study, Mc Dermott et al. (2013) studied with a sample of 8 years old children who have participated in the Bucharest Intervention Project and remained in the institutions. Foster care and institution group of children were compared with the community sample in terms of socio-emotional behavior outcomes. The ratings of their primary teachers according to the Social Skills Rating System (SSRS) suggest that those who remained in the institutions had higher socio-emotional problems. Furthermore, in Zeanah's study (2008) children who stayed in the institutions had significantly more internalizing disorders compared to the children who were placed to the foster family group. Findings of the meta analysis also showed higher occurrence of internalization problems among children adopted

from institutions than never institutionalized group (Juffer & van Ijzendoorn, 2005). In a longitudinal study, Romanian children in Canada were assessed after 10 years of adoption. Still, their scores on internalizing problems were higher than the comparison group (Warford, 2002).

In sum, findings of large number of studies indicate that children with care experiences are more likely to have internalizing and externalization problems. Some of these studies also tried to identify mechanism underlying these negative outcomes.For instance, McLean, Riggs, Kettler and Delfabbro (2013) found links between problematic behavioral outcomes of out of home care children with attachment (McLean, Riggs, Kettler, & Delfabbro, 2013). Similarly, the relationship between institutionalization and aggressive behaviors was significantly mediated by the attachment representations (Torres et al., 2012). Surprisingly, as far as our knowledge, the effects of child temperament on problem behaviors have not been closely examined in a sample of institutionalized children. The aim of the present study is to compare effects of different care types while investigating the moderating role of temperament. Therefore, in the next part, child temperament in relation to differential susceptibility theory will be mentioned.

1.4 Differential Susceptibility and Child Temperament

From the differential susceptibility perspective, individuals may show different reactions even for the identical circumstances and environmental conditions. The same fact also applies to the children. Although examining differential child outcomes is relatively new, there are several studies examining differential susceptibility in terms of various outcomes such as parenting satisfaction (Anzman-Frasca, Stifter, Paul, & Birch, 2013), and vulnerability to substance abuse (Brody, Yu, & Beach, 2015). Studies investigating differential susceptibility theory either use temperament or genetic measurements. Some studies looked at particularly genes (Bakermans-Kranenburg, & van Ijzendoorn, 2007; Drury et al., 2010; Windhorst et al., 2015; van Ijzendoorn & Bakermans-Kranenburg, 2015) whereas other studies looked at temperament, particularly negative reactivity of children as susceptibility

factor(Anzman-Frasca, Stifter, Paul, & Birch, 2013; Belsky & Pluess, 2011; Scott & O'Connor, 2012), and lastly some studies examined both temperament and genes (Belsky, Bakermans-Kranenburg, & van Ijzendoorn, 2007; Richards et al., 2014). In the current study, temperamental characteristics of children were investigated as possible environmental susceptibility factors. In this part of the thesis, both genes and temperament studies than, behavior problems within differential susceptibility perspective will be mentioned. Lastly, information related to the studies examining differential susceptibility in children in care will be given.

As studies investigating genetic inheritance of children suggests, some children may have such a genetic structure that, it may put them in a more sensitive situation for the environmental effects (Plak, Kegel, & Bus, 2015). This sensitivity could be both in a positive or negative way. In order to examine moderations of genetic structure according to the differential susceptibility theory, gene polymorphisms such as serotonin and dopamine were studied. Results of the meta analysis focusing on dopamine related genes for differential susceptibility suggested that, genes such as 5-HTTLPR, and DRD4 polymorphisms were addressed for risk alleles on negative developmental outcomes (Bakermans-Kranenburg & van Ijzendoorn, 2011). DRD4 gene polymorphism was found to be associated with disorganized attachment patterns (Bakermans-Kranenburg & van Ijzendoorn, 2007), reactions to the intervention programs (Brody, Yu, & Beach, 2015) and children's prosocial behaviors (Knafo, Israel, & Ebstein, 2011) if combined with environment. Similarly, the gene 5HTTLPR significantly moderated various outcomes such as the efficacy of therapy (Cicchetti, Toth, & Handley, 2015), and indiscriminate behavior outcomes of children (Drury et. al., 2010). Still another gene, cholinergic receptor gene (CHRNA4), was found to be effective on developmental sensitivity to the maltreatment on children's personality (Grazioplene, DeYoung, Rogosch, & Cicchetti, 2013). In their meta-analysis van Ijzendoorn and Bakermans-Kranenburg (2015) analyzed the gene environment interaction in externalizing and internalizing behavior problems. The results suggested that carriers of susceptible genotypes had more benefit from the interventions for externalizing behaviors. However, the effects were not that much noticeable in terms of internalizing behaviors. Windhorst and

colleagues (2014) identified that for children having at least one DRD4 7 allelle, maternal insensitivity at 14 months was associated with externalizing behaviors at 18 and 36 months. Those children also benefited more from sensitive parenting than those not having DRD4 genotype.

The second subject of interest in differential susceptibility research is temperament. As the evidence suggest, child temperament plays an important role and underlies variations in their later behavioral outcomes (Belsky & Pluess, 2011). Temperament is an important factor on behavioral outcomes of children because it has an impact on reactivity to the environment (Crockenberg & Leerkes, 2005). It has been found to moderate the relationship between attachment security and parental sensitiveness (Cassidy, Woodhouse, Sherman, Stupica, & Lejuez, 2011; Klein Velderman, Bakermans-Kranenburg, Juffer, & van IJzendoorn, 2006) and internalizing & externalizing problems (Blair, 2002). Highly reactive children were found to be more susceptible to the environmental changes than their less reactive peers in all three studies. As findings suggest, negative reactivity (anger frustration) is an important temperamental characteristic, which moderates the child outcomes. Furthermore, it has been reported that children having difficult temperament and showing high reactivity are more sensitive to the type of care in terms of externalizing behaviors (Belsky, Bakermans-Kranenburg, & van Ijzendoorn, 2007).

Another important temperamental characteristic on moderating child outcomes is perceptual sensitivity. It has been found that children who showed high sensitivity during infancy had increased levels of emotional and behavioral difficulties if they lacked qualitative parenting experience (Scott & O'Connor, 2012). Recent findings also suggest that perceptual sensitivity significantly moderates child outcomes such as self development (Ertekin, 2014), and emotion understanding of institutionalized children (Taşfiliz, 2014).

Furthermore, other temperamental characteristics such as soothability & falling reactivity, and inhibitory control also found to have differential effects on the child outcomes based on the interaction with environmental conditions. For instance,

inhibitory control had a significant effect on peer interactions (Acar, Moritz Rudasil, Molfese, Torquati, & Prokasky, 2015) also, low inhibitory control and high reactivity significantly moderated the relationship between children's hostile attributions and aggressive behaviors (Runions & Keating, 2010). In another study investigating early non parental care and behavior problems, high inhibitory control was found to be related with less internalizing and externalizing problems (Beijers, Riksen-Walraven, Putnam, de Jong, & de Weerth, 2012). Similarly, in Buss, Kiel, Morales, and Robinson's (2014) and Moran, Lengua and Zalewski's (2013) studies low inhibitory control was found as a risk factor for externalizing symptoms of preschool aged children. Turning to soothabilithy/ falling reactivity, it was found that the relationship between infant negativity and maternal sensitivity was moderated by soothability (Ghera, Hane, Malesa, & Fox, 2006) as well as with the relation between negative maternal emotionality and children's coping strategy (Eyüpoğlu, swzz2006).

Thus, it can be concluded that child temperamental characteristic are important moderators of the environmental effects. Therefore, while investigating the effects of institutional care on child outcomes, it would be naïve to believe that there would be no differences in children's reactions to these poor environmental conditions. However, very few studies in the literature, actually considered either the child's genetic make up or temperament as susceptibility factors. For instance, in their study Bakermans-Kranenburg, Dobrova-Krol and van Ijzendoorn (2011) investigated the effects of institutionalization on preschool children's attachment qualities. Associations between adverse environment and child temperament supported the differential susceptibility based on genetic factors. Similarly, findings of the Drury and colleauges' (2010) study's supported the gene environment interaction in terms of depressive symptoms. Gunnar and colleagues' (2012) study also examined gene environment interaction on attention problems and the interaction pattern conformed to the differential susceptibility mode.

In the light of the literature, present study aims to investigate the moderating role of reactivity (anger frustration) and perceptual sensitivity in the relationship between

child's care type and the outcome variables of externalization and internalization problems and social competence of children from a differential susceptibity perspective. In other words, as the quality of the environment is low such as in institutional settings, the child outcomes will be worse for children with high reactivity, and high perceptual sensitivity, but these children will benefit more if they experience high quality of care environment such as home based care types (Care villages, group homes, foster care and biological family care).

Furthermore, soothability and inhibitory control are other two temperamental characteristics that are found to be related to some child outcomes. Therefore, in the present study their moderator roles between care types and child outcomes will also be investigated as explaratory without specific hypotheses.

In the next part, literature related to the effects of different care types on children's developmental outcomes will be reviewed.

1.5 A Comparison of Different Care Types

Child welfare systems in different countries have different methods to care for the children who need to be protected as it has been mentioned in the previous parts. Separation from the biological family may result in substantial delays and deficiencies on many different outcomes. These children grow up at risk conditions with deprived families, and there is some evidence that when these children stay with their families, they show worse psychological, physical, and social outcomes than children who are placed in either residential or foster care settings (Davidson-Arad, 2005). On the other hand, an important body of research also points out to the delays of children who are cared by social services as has been mentioned before.

This dilemma underlines the importance of choosing the most effective and advantageous care services for children. In Whetten and colleagues' (2009) study examining the community living and institutional living of children, the 8 to 21 % of total variance in child outcomes is explained by the type of care. It is important to

compare the different ways of protection to assist planning social policies with regard to child welfare system.

Institutional settings where children live in crowded groups are reported as having the worst desired outcomes in terms of somatic development, body weight and height, academic performance and peer relations when compared to biological and foster family raised children (Ptacek, Kuzelova, Celedova, & Cevela, 2012; Roy & Rutter, 2006; Scholte, 1997).

Entrance to a new family may bring other problems for the child such as adaptation to the new living standards and forming attachment with the new caregivers. In Gil Llario and colleagues' (2013) research investigating the foster care children in terms of socio-emotional problems, found that aggressive behaviors, behavioral and attitude problems were prevalent among them. However, foster families' attitude and characteristics is also important at this point. Research shows that children's internalizing and externalizing outcomes changes according to the foster parents' sensitivity and their attachment security (Oosterman & Schegel, 2008).

It is possible to observe negative outcomes in the foster care children similar to their institutionalized peers, still, Basic Statistics of Children Protection Measures suggests that foster care has more positive outcomes than other care types especially in terms of attachment (as cited in Gil Llario, Ceccato, Mañes, & Arnal, 2013). When implemented as an intervention program, foster family care suggested to lead to developmental gains on different cognitive and emotional measures comparing to the worsened development of children who stayed in the institutional care (Nelson et al., 2007). Other studies in the literature also reports parallel findings about the positive child outcomes of foster care in terms of cognitive development (Johnson, Browne, & Hamilton-Giachritsis, 2006), IQ levels (van IJzendoorn, Luijk, & Juffer, 2008), emotional adjustment (Coulling, 2000), attention and emotion expression (Ghera et al., 2009). Similarly, in a study conducted with Guatemalan children who were adopted, those who stayed in the foster homes before adoption had better growth and

cognitive scores than children resided in the orphanage (Miller, Chan, Comfort, & Tirella, 2005).

Care villages and Group homes have been implemented as alternatives to the institutional settings. Both types differ from the institutional care since they are smaller units where few children staying together with more stable caregivers. These properties of care make them more similar to the family like living environments and offer more promising results for the development of the children (Muñoz-Hoyos et al., 2001).

There are examples of research which focus on comparing care types with the aim of identifying optimal care for institutionalized children. However, care type comparisons are limited with two or three types of care at most. To illustrate, in a study conducted in Karachi, Pakistan conventional institutions and care village group children were compared (Lassi et al., 2011). Another study compared a sample of group home children and foster care children (Harden, 2002). There are also studies comparing the development of children living in government-sponsored foster family groups and intervention foster family groups (Tibu, Humphreys, Fox, Nelson, & Zeanah, 2014).

Furthermore, there are also findings in the literature that group settings can have better outcomes for the orphans than foster family. In his study examining the orphans in Malawi, Zimmerman reported that group home children had better physical conditions and autonomy than foster home children (Zimmerman, 2005). These results bring us to the point that appropriate type of care varies by economic and cultural conditions which are specific to the sample and child characteristics.

In recent years, the social policy concerning child welfare in Turkey has shifted from institutional settings towards more home based care like group homes, care villages and foster care similar to many other countries. However, in the light of the literature, it is possible to say that there isn't any study conducted on Turkish sample of institutional care children to compare the effects of several care types. Furthermore, to the best of our knowledge, there is not any study examining

developmental outcomes of children who are under governmental protection in terms of problem behaviors with comparison to care type. Lastly, the alternative care type may show differences according to child characteristics. Literature concerning differential susceptibility hypothesis suggests that temperament is an important factor about child outcomes.

For this reason, present study attempts to investigate the problem behaviors and social competence of children who are raised in different care types like institutions, care villages, group homes, foster care to low SES family settings. Child temperament will be used as moderator variable whereas age, sex, total duration of time in care, total number of placements, length of stay in the current institution and reason for protection will be controlled for.

The majority of the research conducted in the field suggests more positive child outcomes when children are cared in smaller and family like environments. For this reason, it is hypothesized that;

Hypothesis 1. Children reared in institutions will have highest internalization, and externalization problems and lowest social competence compared to all other care types.

Hypothesis 2. The care village group of children will have less problematic outcomes in the dimensions of internalizing, and externalizing problem behaviors, and have higher social competence than institution reared children.

Hypothesis 3. Children reared in group home have less problematic outcomes in the dimensions of internalizing, and externalizing problem behaviors, and have higher social competence than institution, and care village group of children.

Hypothesis 4. Children staying in foster care will have less internalization, and externalization problems and have higher social competence than their peers staying in care villages, group homes, and institutions.

Hypothesis 5. Lastly, children in the low SES biological family group will have less problematic outcomes in terms of internalization and externalization and more social competence than institution, care villages, child homes and foster family group of children.

Moreover, considering the findings of the literature, the interaction of child temperament with care type may have differential effects on the child outcomes. Therefore, in this study it is hypothesized that;

Hypothesis 6. From differential susceptibility perspective children having high anger frustration or perceptual sensitivity and staying in the institutional settings will show the highest problems in dimensions of internalizing, and externalizing behaviors, and social competence compared to other groups. But they will have better outcomes if they are residing with their biological or foster families.

Hypothesis 7.

For children with high scores on the inhibitory control and soothability, will have higher social competence, and lower externalization and internalization problems, but children with low inhibitory control and soothability scores will have higher externalization and internalization problems and lower social competence. However, there are no studies investigating the moderating roles of inhibitory control and soothability between care quality and child outcomes, these will be tested as explanatory.

CHAPTER 2

METHOD

2.1 Participants

A total of 192 children who are aged between 36 to 60 months were included in the study (M_{age}= 48.4 months, *SD*= 6.95). Children were grouped under five care types which are group homes, care villages, foster care, institutional care, and low SES biological family care. However, two children from institution group, two children from low SES group and one child from the group homes had incomplete data in their assessments. Therefore, the analysis included the data gathered from 187 children, and 75 of them were girls and 112 of them were boys, in total. Children in group homes (*N* = 44), care villages (*N* = 44), institutional care (*N* = 45), and foster care (*N* = 17) were under governmental protection within the responsibility of Ministry of Family and Social Policies. They were put under governmental protection for several reasons like parental loss, divorce, physical, sexual or emotional abuse, maternal or paternal physical or mental health. Furthermore, some children were placed in out-of home care due to economic reasons and they were generally in contact with their family members. Children in the fifth group were selected from the low socioeconomic and high risk families living in Ankara and İzmir (See Table 1).

Among 133 children who are growing up in institutional care (institutions, care villages and group homes) total duration of time spent in the care ranged between 0.50 months to 55.50 months (*M*= 18.16, *SD*= 15.74). Children who spend less than 15 days in the institutional care were not included in the study. Furthermore, according to their number of risk factors a total risk point was calculated. The range for the total risk factors was between 1 and 6 (*M*= 2.42, *SD*= 1.15).

Questionnaires were filled with the primary caregiver of the children. In the institutions, care villages and group homes the primary caregivers were selected as the respondents. In foster families the respondent was foster mothers and in biological families mothers answered the questions.

In the following parts of this chapter, detailed information about the characteristics of five care groups will be mentioned.

Table 2.4 Demographic Characteristics of Children

Care type	Mean Age (months)	SD	Gender	
			Male	Female
Institution	46.73	6.86	36	9
Care Village	50.91	6.52	22	22
Group Home	47.18	6.77	24	20
Foster Care	45.71	7.46	9	8
Low SES	50.14	6.49	21	16

2.1.1 Institutions

45 children staying in the institutions administered by the Ministry of Family and Social Policies in Ankara, Denizli, and İstanbul participated to the study.

Physical standards of the institutions were very similar due to the governmental regulations. They all had separate group rooms based on their ages. The rooms were furnished and divided in parts such as bedroom, living room, and bathroom usually. In two of the institutions (Denizli, Ankara) there was a television in the living room. Furthermore, living room accessories were designed for children like small tables, chairs, and cushions. There was adequate number of toys and books in the groups, however, those materials were usually out of reach from children, kept in another room or in the cupboard. Other than group rooms, all institutions had infirmary, social service, administration, kitchen and play ground in the garden. In all

institutions, except from Denizli, meals were served in group rooms. In Denizli all children in the institution shared the same kitchen during meal time.

The groups ranged in size from 10 to 15. The child number in each group showed changes due to the transfer of children to other care types. In general, there were four caregivers who were responsible from each group. However, they were working in night and day time in shifts. Activities like feeding, bathing, putting children to sleep were in the responsibility of them. Caregivers were selected based on the regulations of the government. They were at least vocational high school graduates and some of them had two-year college degree. In-service-training concerning the development of the children, first aid, and other related topics are obligatory to the staff and conducted monthly or bimonthly.

Apart from the caregivers, there are also group supervisors responsible from each group. Supervisors are usually teachers with bachelor's degree in education but in some institutions they may be from other occupational groups. They work with the group they belong to, and responsible from the distribution of the pocket money, acceptance of goods or clothing that children need, enrolling children to kindergarten or other spare time activities.

Social service unit is constituted of psychologist, social worker, child development specialist and sometimes teachers. The number of personnel shows variations across institutions. There are nurses and health officers working in infirmary. In one institution there was a doctor coming once in a week. However, all other institutions did not have a doctor and children were undergoing medical examination in state hospitals.

Auxiliary staff consists of drivers, telephone operator, craftsmen, cook, and cleaning staff. Cleaning staff is responsible from the building whereas the group rooms are under the responsibility of caregivers in usual.

Social service and group supervisor personnel also work in shifts at weekends and in some institutions they may have weekday night watch also. During the watches, they are responsible from all of the children in the institution.

2.1.2 Care Villages

44 children in the study were among children who are staying in care villages in five different cities (see Table 2.1). Care villages are another common type of care for children under protection in Turkey. Apart from the information given in the introduction part of this paper, a few things could be further mentioned about the care villages.

Firstly, care villages are very similar to the institutions except from the physical characteristics. Because each group lives in a separate building, the meals are prepared in the homes, the laundry is done within the buildings and each residents of home (both caregivers and children) are responsible from the cleaning. Furthermore, children tend to have more personal belongings in care villages such as toys, blanket. Group sizes are usually 6-10, which is relatively small when compared to the institutions.

On the other hand, shifts of the caregivers are almost identical to the institutions. However, there is less number of caregivers working in the villages, and all care villages have different shift hours.

In order to examine the characteristics of home settings in care villages, care givers were also asked to answer several questions from Home Environment Questionnaire (Miser & Hupp, 2012). 77.5 % caregivers reported that they read to the children every day. All homes had educative toys teaching numbers, shapes and colors, puzzles, toy blocks, pencils they can draw pictures, and toys for developing fine motor activities. Furthermore, 66.7 % of the homes had disk/cassette/mp3 player which enables children to listen child songs. However, 44.4 % of the children did not have personal CD/mp3. Children were reported as going out at least once a week by 77.7 % of the caregivers.

2.1.3 Group Homes

The third group was constituted of children who are cared in group homes (N = 44). Children living in group homes in only two cities (Ankara and İstanbul) were included to the study. Because the age is limited with 60 months, there were very few children staying in group homes in other cities younger than 60 months.

Homes are constituted of flats or detached houses located in different neighborhoods of the city. Unlike institutions and care villages, in both cities, Group homes' Coordination Center is located in another area. Administrative unit and social service staff works in the coordination center. Children and group supervisors also came to the coordination center for interviews with social service. Social service personnel may also visit the homes. However, to avoid from social stigmatization and security reasons, the addresses and phone numbers of the homes are confidential.

Generally, there are three main caregivers responsible from each house. The necessities for acceptation are same with other institutional care types. Their shift lasts for 24 hours and they have day off for 48 hours. Although working hours differs from city to city, one important point is that they spent more time with children alone than other care types because there is not any institution nearby. They have same responsibilities with the ones in other care types. However, shopping, going out with children to hospitals or coordination center or parks is also their responsibility. Each home have separate budget for shopping. They plan their budgets with the group supervisor monthly.

Group supervisors are usually teachers or nurses. They usually are responsible from 3 or 4 homes. Their responsibilities are same with other care types. They are in contact with caregivers and visit the homes every day.

Daily life of children in group homes is similar to ones in the care villages. Shuttle comes to pick up children from kindergarten and brings home. Family members see their children in the Coordination Center. On the other hand, other routines show

differences from care villages. To illustrate, caregivers and children go shopping together if the children are old enough.

The number of children in homes ranges in 4 to 6. Rooms are shared by two children in most homes. They have personal belongings, toys, clothes similar to the family raised children. Homes represent typical family homes and have kitchen, living room and bathroom. If there are more than 3 rooms in the flat, other room may be designed as study room, or as a personnel room in some houses.

Based on the answers to the HOME (Miser & Hupp, 2012), 75.4 % of the caregivers reported reading to children more than 3 times a week. 44.2 % of the homes had 10 or more storybooks. In 65.1 % of the homes, children had more than 3 educative toys teaching numbers, shapes and colors. 88.4 % the children had puzzles, whereas 95.3 % had toys blocks and play doughs. 62.7 % of them had toys for developing fine motor activities and 88.4 % had crayons. Furthermore, 65.1 % of the homes had disk/cassette/mp3 player which enables children to listen child songs. However, 55.8 % of the children did not have personal CD/mp3. 76.7 % of children were reported as going out more than once a week by one of the caregivers.

2.1.4 Foster Care

Children staying in the foster families were reached via the letters which were sent from the Directorate of Child Protection Services. Due to the confidentiality of the families, no address or communication numbers were given. With families who returned to our letters an appointment were arranged for the study. For this reason the foster care group of children are very limited in number. Characteristics of foster families and information about the procedures have been mentioned in the introduction part. 3 children in foster care had 3 siblings (17.6 %), 3 children had 1 siblings (17.6 %) and 11 of them were the only children at home (64.7 %). Reading time activities are done in 8 families everyday (47.1 %), at least two or 3 times in 2 families (11.8%), once a week in 4 families (23.5 %), a few times in a month in 2 families (11.8%), and a few times in a year in one family (5.9 %). Furthermore, 15 of

the foster families reported going out more than a few times in a week (88.2%), and only one of them reported going out 2 or 3 times in a month (5.9%). More information about the home environment has been given in Table 2.2.

Table 2.5 Results of the HOME Scale in Foster Care (*N*=17)

	Percentage	
# of personal story books	***more than 10***	***less than 10***
	8(47.1%)	9(52.9%)
# of educative toys	***more than 3***	***less than 3***
	12(70.6%)	5(29.4 %)
	Yes	***No***
Puzzles	15(88.2%)	2(11.8%)
Toys for fine motor development	15(88.2%)	2(11.8%)
Mp3/Cassette/CD player	14(82.4%)	3(17.6%)
Blocks, playdough	17(100%)	
Crayons	17(100%)	

2.1.5 Low SES Families

Children staying with low SES biological families were selected among families who are residing in Ankara (*N*= 32), and İzmir (*N*= 5). They were selected from low socioeconomic neighborhoods such as Sincan, Mamak and Altındağ in Ankara and Gültepe in İzmir. Families were reached via an acquaintance, community centers and family health centers in the first place. However, due to the limitations in participants, other families were recruited by snowballing method. Detailed information regarding the demographic characteristics of families is given in Table 2.3. The answers to the home environment scale revealed that 18 of the families never read or read a few times in a year to their children (47.4 %). One family reported reading a few times in a month (2.6 %) and 4 families reported reading once in a week (10.5 %). 15 families reported that they read to their child more than three times a week (39.5 %).

Table 2.6 Demographic Characteristics of the Participants from Low SES Backgrounds (N = 21)

	Mothers	**Fathers**	**Children**	**Family**
Age (Mean; SD)	29.72 years; 5.11	32.70 years; 4.52	50.33 months; 6.47	
Education Levels				
Illiterate	0	0		
Primary School	14 (37.8 %)	19 (51.4 %)		
Secondary School	13 (35.1 %)	4 (10.8 %)		
High School	6 (16.2 %)	12 (32.4 %)		
University (undergraduate)	2 (5.4%)	1 (2.7%)		
Income Levels				
0-500TL				34 (91.9 %)
500-1000TL				0
1000-1500TL				2 (5.4 %)
1500-2000TL				0
2000-2500TL				1 (2.7 %)
Job				
House wife	36 (97.3 %)			
Waiter/ waitress	1 (2.7 %)	2 (5.4 %)		
Worker		29 (78.7 %)		
Technician		4 (10.8 %)		
Clerical jobs		2 (5.4 %)		
# of children (Mean; SD)				2.10; .93
Marriage Status				
Married and Together	35 (94.6 %)	35 (94.6 %)		
Married and Separate	1 (2.7 %)	1 (2.7 %)		
Divorced	1 (2.7 %)	1 (2.7 %)		

* There were two missing in mothers education level, and one missing value in father's education level

Table 2.7 Results of the HOME Environment in Low SES (*N*=37)

	Percentage	
# of personal story books	***more than 10***	***less than 10***
	4(10.5%)	33(89.5%)
# of educative toys	***more than 3***	***less than 3***
	13(34.2%)	25(65.8 %)
	Yes	***no***
Puzzles	24(63.2%)	13(36.8%)
Toys for fine motor development	16(42.1%)	22(57.9%)
Mp3/Cassette/CD player	11(28.9%)	27(71.1%)
Blocks, playdough	8(21.1%)	29(78.9%)
Crayons	32(86.8%)	5(13.2%)

2.2 Measurements

In the present study three questionnaires were administered: The Children's Behavior Questionnaire (Rothbart, Ahadi, Hershey, & Fisher, 2001), Turkish Version of Strengths and Difficulties Questionnaire (Güvenir, Özbek, Baykara, Arkar, Şentürk & İncekaş, 2008) and Turkish Version of the Social Competence and Behavior Evaluation Form (Çorapçı, Aksan, Arslan-Yalçın, & Yağmurlu, 2010). Additionally, demographic information form to low SES families, and experience history form for institution, care village and group home children were filled out.

2.2.1 Demographic Information Form

Demographic information form which was applied to the mothers of low SES group of children, consists of questions related to the age, marital status, occupation, current employment, monthly income and information about number of children parents have. With the demographic information form, both mother's and father's demographic information is get (see Appendix A).

2.2.2 Experience History

Children staying in institutions, care villages, and group homes had different types care history and reasons for protection. This type of information were gathered from the social service of the institutions. Experience history information form consisted of six categories which are arrival, care history, case history, biological family, voluntary family, preschool education information. In the first section, causes of placement and the duration of caregiving were investigated. Secondly, questions about previous care type and the length of time were included. Then biological family related issues and the frequency of their meeting with them were examined. Lastly, presence of voluntary family, meeting frequency and preschool attendance were enquired (see Appendix B).

2.2.3 Temperamental Characteristics

Children's temperamental characteristics were measured by The Children's Behavior Questionnaire (Rothbart, Ahadi, Hershey & Fisher, 2001). It is a Likert type scale ranging from 1 (extremely untrue about your child) to 7 (extremely true of your child). The Standard form has 195 questions in 15 different subscales. The subscales are Activity Level, Anger/Frustration, Approach/Positive Anticipation, Attentional Control, Discomfort, Falling Reactivity/Soothability, Fear, High Intensity Pleasure, Impulsivity, Inhibitory Control, Low Intensity Pleasure, Perceptual Sensitivity, Sadness, Smiling and Laughter, and Shyness. Scale scores are created by averaging applicable item scores. Mean reliability estimate is .78 across the scales. It can be used for children between the ages of 3 to 7 by administering the scale to parent or to main caregiver.

Among other 15 subscales, only perceptual sensitivity, inhibitory control, soothability and anger frustration subscales were used in the current study. The Turkish version of the scale was formed by translation and back translation method. Cronbach Alpha coefficiencies for the scales are reported as .77, .74, .80 and .76 respectively (Rothbart, Ahadi, Hershey & Fisher, 2001). In the Turkish version the

range was between 1 (extremely untrue of your child) to 5 (extremely true of your child). ***Perceptual Sensitivity*** subscale consisted of 12 items and aimed to measure attentional systems of external low intensity stimulus (e.g. Notices if someone has an unusual voice tone and usually makes a comment about it). The reliability of the scale for the current study was .80. ***Inhibitory control*** subscale consisted of 13 items and included statements like "Can wait before entering into new activities if s/he is asked to." with a reliability of .74. The third factor ***Falling reactivity/Soothability*** also consisted of 13 items and aimed to measure how children deal with emotionally stressful situations (e.g. Is quickly forgets a little cut or bruise after a few minutes). The reliability for the current study was .74. Lastly**,** ***Anger frustration*** subscale had 13 items and included statements such as "Feels frustrated and gets angry if s/he is not let do something" with a Cronbach's alpha value of .78. Detailed information about the CBQ is given in the appendices part (see Appendix C).

2.2.4 Social Competence

Social competency of children was measured with the ***Social competence*** subscale of Turkish Version of the Social Competence and Behavior Evaluation Scale (SYDD 30) (see Appendix D). It was originally developed by LaFreniere and Dumas in 1996 (LaFreniere & Dumas, 1996) were examined by Çorapçı and colleagues within a Turkish sample (Çorapçı et al., 2010). There are 10 items in the subscale comprised of eight positive item clusters (joyful, secure, tolerant, socially integrated, calm, prosocial, cooperative, and autonomous), and aims to measure cooperative acts and problem solving strategies when child is playing with agemates (e.g. Helps to daily life activities such as picking up the classroom, distributing lunch to friends). The reliability subscale was reported as .88 in Çorapçı and colleagues study (2010) and found as .84 in the current study. The scales ranged in 1 to 6 Likert type scale (1= never, 2 or 3= sometimes, 4 or 5= frequently, 6= always). In the current study 5 point Likert scale was used (1= never, 2= rarely, 3= sometimes, 4= frequently, 5= always).

2.2.5 Internalizing Behaviors

Internalizing behaviors of children was also measured with ***Internalizing Behavior*** subscale of Turkish Version of the Social Competence and Behavior Evaluation Scale (SYDD 30) which was adapted by Çorapçı and colleagues (2010). There are 10 items in the original version of the study, however, due to fact that the reliability analysis suggested a .03 point increment in the Cronbach alpha value if item number 1 (His/her facial expressions does not reveal his/her emotions) deleted, and a total of 9 items were included in the study. There were four negative items which are depressed, anxious, isolated, and dependent and measures depressive and upset internalizing behavior patterns of children (e.g. Looks anxient in group studies). The reliability of the subscale was reported as .84 in the Çorapçi and colleagues' study, and found as .75 in the current study.

2.2.6 Externalizing Behaviors

Externalizing behaviors of children was measured with subscales of two different scales. The first subscale included in the study is the ***Externalizing Behavior*** factor of SCBE-30. It consisted of four negative item clusters (angry, aggressive, egoistical and oppositional) and measures oppositional attitudes towards people and nonadaptive and violent behavior patterns in their relationship with agemates (e.g. Hits, bites and kicks other children). The reliability coefficient for the subscale was found as .87 (Çorapçı et al., 2010). There were 10 items in total, and their reliability in the current study was found as .85.

Apart from the SCBE-30, two subscales from the Turkish Version of the Strengths and Difficulties Questionnaire (SDQ) were included (see Appendix E). The scale originally developed by Goodman (1997) and consists of 5 different subscales with a total of 25 items. Each item had scores ranging from 0 to 2 with answers as "not true", "somewhat true" or "certainly true". It was later adapted to Turkish by Güvenir and colleagues (2008). There were 5 items in the ***Hyperactivity Subscale*** with .80 Cronbach's alpha value. It included questions such as "Restless, overactive, cannot

stay still for long". The reliability of the subscale in the current study was found as .68.

The second subscale used for measuring externalizing behaviors from SDQ was the ***Conduct Subscale***. It includes questions such as "Often fights with other children or bullies them" and has 5 items in the original version (Cronbach α = .65). However, the reliability of the subscale in the current study was .59. The reliability analysis suggested a .04 point increase after deleting the item 9 (Steals from home, school, or elsewhere). The item may not be applicable to the children in the institutions because most of them were not attending to kindergarten, they did not have many chance to go out and did not have many personal belongings. However, the item was still kept because scale reliability was high if all three subscales were analyzed together as described below.

All three subscales had questions aimed to measure externalizing behavior problems of children. Conduct and hyperactivity subscales may be different item clusters, nevertheless, there are also items in the externalizing subscale that are in the same direction with conduct or hyperactivity (e.g. For the least little thing s/he yells, s/he shouts; Hits to his/her teacher when s/he is angry and damages the stuff around; irritated when his/her activity is interrupted). For this reason all three subscales were used in combination to create a new externalizing behaviors scale. There were 20 items and the factor reliability was .86.

2.3 Procedure

The current research is a part of a three year longitudinal project "113K22 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. Prior to data collection, ethical approval has been taken from the Middle East Technical University Human Ethics Committee. Furthermore, the research has been approved by the Ministry of Family and Social Policies. The participation of low SES biological families and foster families were on

voluntary basis and informed consent was get. Also, verbal consent was taken from children. In all groups, children who had participated to study were given small gifts for their contribution which were suitable for their age such as stuffed animals, and ringer toys.

Letters giving information about the project were sent to the foster families living in Ankara, İstanbul and İzmir via Ministry of Family and Social Policies. Families who were willing to participate were contacted by a member of the project team and given further information about the study. Following the initial contact, arrangements were planned. Same process applied for the low SES families except for the first contact was done by the project team. With families who agreed to participate, a home visit was planned.

During the home visit, the temperament scale, externalizing behaviors, social competence and internalizing behaviors scales were administered. Data was collected from the caregivers, foster mothers and biological mothers of the children who are currently cared in group homes, care villages, foster care or institutions in İstanbul, Ankara, Konya, Eskişehir, Kırıkkale, Çorum and low SES high risk families in Ankara. For group homes and care villages, the scales were completed by the main caregiver of whom is responsible from the home child is staying. In the institutional settings, the personnel who spent the longest time with the child were selected as the main caregiver. Foster mothers were the source of information if child is staying with foster family. For the low SES group, mothers were the source of information. The questions were read aloud to the caregivers/ mothers and application procedure approximately took 15 minutes.

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CHAPTER 3

RESULTS

3.1 Data Screening

Prior to analyses, the data set for all five groups were screened for missing values. Data was collected from 192 participants in total. A total of five cases were deleted due to more than 5 % missing values on some scales. When missing value analysis was conducted for each domain of the temperament scale, it was revealed that one case from child home group had more than 5 % missing only for perceptual sensitivity subscale. Therefore, the composite score for that specific subscale was coded as missing whereas other subscales were kept in the analyses. For remaining 187 cases, only the cases for children who were staying in the institution over a month were retained in order to see the effects of care type and 186 cases remained in the study.

Secondly, data was screened for false entry by comparing maximum and minimum values for each variable. No out of range values was found. Missing value analysis with expectation maximization (EM) method was performed and EM estimates were substituted before constructing composite scores. As mentioned in the methods section, composite scores for all factors were generated with respect to their mean. Data was screened for violations of normality and univariate outliers. One case appeared as an outlier with having *z* value greater than 3.3 and was dropped from the study ($z = 4.44$) as recommended by Tabachnick and Fidell (2007). Furthermore, skewness and kurtosis values were checked by transforming the values to *z* scores with a cutoff 3.29 ($p < .001$). All kurtosis values were in between +1 and -1. For skewness, most of the scores fell within an acceptable range except for internalization (3.78). Therefore logarithmic transformation with a constant value was conducted as suggested (Tabachnick & Fidell, 2007). After transforming,

skewness value of internalization changed from 3.78 to 1.14. Linearity and homoscedasticity were also assessed with scatter plots. Multivariate outliers were screened with Mahalanobis distance and there was not any value having distance greater than $\chi^2(7) = 24.322$, $p < .001$ (Tabachnick & Fidell, 2007). Lastly, correlation matrix was checked for multicollinearity and singularity; assumptions were met with highest correlation .64. After the results of the data screening 185 cases left for further analyses.

3.2 Descriptive Analysis

Standard deviations, means and minimum maximum values for the temperamental characteristics (Anger frustration, perceptual sensitivity, inhibitory control, soothability), problem behaviors (Externalization, internalization and social competence) and age, total duration of time spent in the institutions, total number of risks, and total number of institutions children experienced are given in Table 3.1.

Table 3.1 Descriptive Statistics for Study Measures (*N*= 185)

		Min	Max	Mean	SD
Institution (*n* = 45)	Age (months)	36.00	59.00	46.75	6.93
	Total Risk	1.00	5.00	2.15	1.18
	Total Time	1.00	49.00	22.63	18.19
	Number of Institutions	1.00	3.00	1.11	.38
	Temperament				
	Anger Frustration	1.31	4.31	2.75	.67
	Falling Reactivity/Soothability	2.69	5.00	3.79	.57
	Inhibitory Control	1.77	4.85	3.58	.58
	Perceptual Sensitivity	1.42	4.50	3.51	.73
	Problem Behaviors				
	Social Competence	1.80	4.80	3.54	.84
	Internalization	1.00	2.78	1.75	.47
	Externalization	.55	2.85	1.49	.50
Care village (*n* = 43)	Age (months)	38.00	60.00	51.02	6.66
	Total Risk	1.00	6.00	2.41	.98
	Total Time	1.50	55.50	15.46	15.33
	Number of Institutions	1.00	4.00	1.32	.78
	Temperament				
	Anger Frustration	1.46	4.08	2.73	.56
	Falling Reactivity/Soothability	2.46	4.92	3.55	.57
	Inhibitory Control	2.15	4.69	3.51	.62
	Perceptual Sensitivity	1.92	4.58	3.43	.69
	Problem Behaviors				
	Social Competence	1.62	5.00	3.23	.87
	Internalization	1.00	3.56	1.96	.65
	Externalization	.50	2.75	1.50	.56
Group Home (*n* = 44)	Age (months)	36.50	61.00	47.47	6.79
	Total Risk	1.00	6.00	2.66	1.22
	Total Time	2.00	44.00	16.25	12.17
	Number of Institutions	1.00	4.00	2.09	.71
	Temperament				
	Anger Frustration	1.54	4.69	2.86	.70
	Falling Reactivity/Soothability	2.00	4.77	3.47	.57
	Inhibitory Control	2.23	4.54	3.32	.51
	Perceptual Sensitivity	2.08	4.67	3.52	.57
	Problem Behaviors				
	Social Competence	2.20	5.00	3.43	.70
	Internalization	1.00	4.11	2.05	.62
	Externalization	.80	3.25	1.67	.58

Table 3.1 (continued)

		Min	Max	Mean	SD
Foster Care (n = 17)	Age (months)	36.00	59.00	45.71	7.46
	Temperament				
	Anger Frustration	2.08	4.08	2.87	.57
	Falling Reactivity/Soothability	2.77	4.38	3.77	.53
	Inhibitory Control	2.00	4.23	3.32	.67
	Perceptual Sensitivity	2.25	4.75	3.96	.65
	Problem Behaviors				
	Social Competence	2.4	4.9	3.81	.68
	Internalization	1.00	2.78	1.59	.46
	Externalization	1.00	2.35	1.32	.35
Low SES (n = 36)	Age (months)	36.00	59.00	50.33	6.46
	Temperament				
	Anger Frustration	2.15	4.85	3.24	.64
	Falling Reactivity/Soothability	2.00	4.77	3.63	.61
	Inhibitory Control	2.08	4.31	3.34	.58
	Perceptual Sensitivity	3.17	5.00	4.09	.48
	Problem Behaviors				
	Social Competence	2.30	5.00	3.62	.65
	Internalization	1.00	3.11	1.90	.55
	Externalization	.80	2.70	1.69	.44

3.3 Correlation Analyses

Separate correlation analyses were employed, using Pearson correlation coefficient (r), to determine whether there is a relationship between problem behaviors (internalizing, externalizing and social competence) and temperamental characteristics (perceptual sensitivity, soothability, inhibitory control, and anger frustration). Furthermore, for the institution, care village and group home children, correlations between total duration of time spent in care, total risk factors and total number of institutions children were also assessed (see Table 3.2).

3.3.1 Correlations Between Temperament and Problem Behaviors

Correlation analyses were conducted between temperamental characteristics and problem behaviors indicated that internalization was positively correlated with anger frustration (r = .21, p < .001), and negatively correlated with soothability (r = -.32, p < .001), inhibitory control (r = -.27, p < .001), and perceptual sensitivity (r = -.26, p < .001). There was a strong positive correlation between externalization and anger frustration (r = .64, p < .001), and negative correlation between soothability (r = -.48, p < .001), and inhibitory control (r = -.56, p < .001), as can be expected. As for the social competence, negative correlation between anger frustration (r = -.25, p < .001), and positive correlation between soothability (r = .41, p < .001), inhibitory control (r = .58, p < .001), and perceptual sensitivity (r = .54, p < .001) were found.

Furthermore, bivariate correlations between three domains of problem behavior indicated that internalization was negatively correlated with social competence (r = -.37, p < .001), and positively correlated with externalization (r = .26, p < .001). Similarly, externalization was negatively correlated with social competence (r = -.45, p < .001). Temperamental characteristics also correlated with each other such as perceptual sensitivity having positively correlated with soothability (r = .19, p < .001) and inhibitory control (r = .37, p < .001). Inhibitory control had a negative correlation between anger frustration (r = -.46, p < .001) and positive correlation between soothability (r = .51, p < .001). Lastly, soothability had a negative correlation with anger frustration (r = -.54, p < .001).

3.3.2 Correlations Between Risk Factors and Problem Behaviors

Total time spent had a positive association with externalization (r = .23, p < .001), and total number of institutions stayed associated with internalization (r = .23, p < .001) (see Table 3.3).

Table 3.2 Pearson's Correlations among All Variables (*N* =185)

	1	2	3	4	5	6	7	8	9	10	11	12
1. Total Risk	1											
2. Total Time	-.29**	1										
3. Number of Institutions	.12	.15	1									
4. Anger Frustration	-.01	.29**	.07	1								
5. Soothability	-.13	-.03	-.17*	-.54**	1							
6. Inhibitory Control	-.10	-.04	-.16	-.46**	.51**	1						
7. Perceptual Sensitivity	.06	.03	-.03	.11	.19**	.37**	1					
8. Social Competence	-.04	.04	.01	-.25**	.41**	.58**	.54**	1				
9. Externalization	.11	.23**	.13	.64**	-.48**	-.56**	-.08	-.45**	1			
10. Internalization	.13	-.16	.23**	.21**	-.32**	-.27**	-.26**	-.37**	.26**	1		
11. Age	-.08	-.06	-.02	.02	-.01	.09	.15*	.05	.01	-.04	1	
12. Gender	-.12	.10	-.18*	.02	.01	-.09	-.14	-.15*	.16*	-.01	.04	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 3.3 Pearson's Correlations Between Risk Factors, Temperament and Problem Behaviors (*N* =132)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Being orphan	1																
2. Psy. Dis. (M)	-.07	1															
3. Dom. Violence	.09	-.02	1														
4. Imprisoned (M)	-.03	-.10	-.08	1													
5. Divorce	-.07	-.21*	.07	-.09	1												
6. Phy. abuse	-.06	.08	-.04	-.08	-.18*	1											
7. Emo. Abuse	-.05	-.04	.01	-.07	-.15	.49**	1										
8. Psy. Dis. (F)	-.04	.12	.27**	-.05	-.02	.08	.02	1									
9. Imprisoned (F)	-.05	-.03	-.06	.20*	-.14	-.06	-.03	-.08	1								
10. Neglect	-.08	.21*	-.05	-.11	-.03	.10	.23**	.10	-.05	1							
11. Phy. Env.	-.03	.11	-.08	-.04	.02	.03	-.07	.12	-.07	.09	1						
12. Sex. abuse (M)	-.03	-.09	.19*	-.04	.04	-.07	-.06	-.04	-.06	-.09	-.04	1					
13. Illegitimate	-.06	-.03	-.04	.03	-.12	-.11	-.14	-.10	-.14	-.17	-.08	.31**	1				
14. Underage (M)	-.01	-.04	-.03	-.02	-.04	-.04	-.03	-.02	-.03	-.05	-.02	-.02	.21*	1			
15. Externalization	.17*	-.01	.09	.10	.08	.11	.07	-.05	.08	.12	-.08	.01	.02	.06	1		
16. Social Comp.	-.11	-.02	-.07	-.08	-.17	.04	.13	.12	-.10	.03	-.15	.03	.05	-.12	-.45**	1	
17. Internalization	.03	.01	.02	.05	.13	-.07	-.04	.02	.01	.07	.01	-.11	.11	.12	.24**	-.39**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

3.3.3 Correlations Between Specific Risk Factors and Outcome Variables

The results for the analyses of specific risk factors and other outcome variables are presented in Table 3.3. Risk factors and 3 dimensions of problem behaviors were not correlated except for externalization had a positive correlation with being left as an orphan ($r = .17$, $p < .005$).

3.4 Results for One-way Between Subjects ANOVAs for Internalization, Externalization, and Social Competence in terms of Care Types

To investigate whether children's behavioral problems differ based on the care types a series of ANOVAs were conducted.

A one-way between subjects ANOVA was performed on **internalization problem** variable. Independent variable was care type (institution, care village, child home, foster care, and low SES). There was a significant difference between the groups in terms of internalization problem scores, $F(4, 180) = 2.84$, $p < 0.05$. Post hoc comparisons using the Tukey test indicated that the mean score of internalization problem for child home group ($M = 2.05$, $SD = .62$) was significantly different than foster care group ($M = 1.59$, $SD = .46$). These results suggest that children in child home show higher internalization problems than children in foster care. Results did not reveal significant difference between other care types.

Another one-way between subjects ANOVA was performed on **externalization problem** variable. Independent variable was again care type (institution, care village, child home, foster care, and low SES). There was a marginally significant difference between the groups in terms of externalization problem scores, $F(4, 180) = 2.29$, $p = 0.61$. However, post hoc comparisons using the Tukey test did not indicate any significant difference between groups.

Lastly, a one-way between subjects ANOVA was performed on **social competence** variable. Independent variable was again care type (institution, care village, child

home, foster care, and low SES). There was a marginally significant difference between the groups in terms of social competence scores, $F(4, 180) = 2.30$, $p = 0.61$. Post hoc comparisons using the Tukey test indicated that the mean score of social competence for foster care group ($M = 3.81$, $SD = .68$) was significantly different than care village group ($M = 3.23$, $SD = .87$). These results suggest that children in foster care show higher social competence than children in care village. Results did not reveal significant difference between other care types.

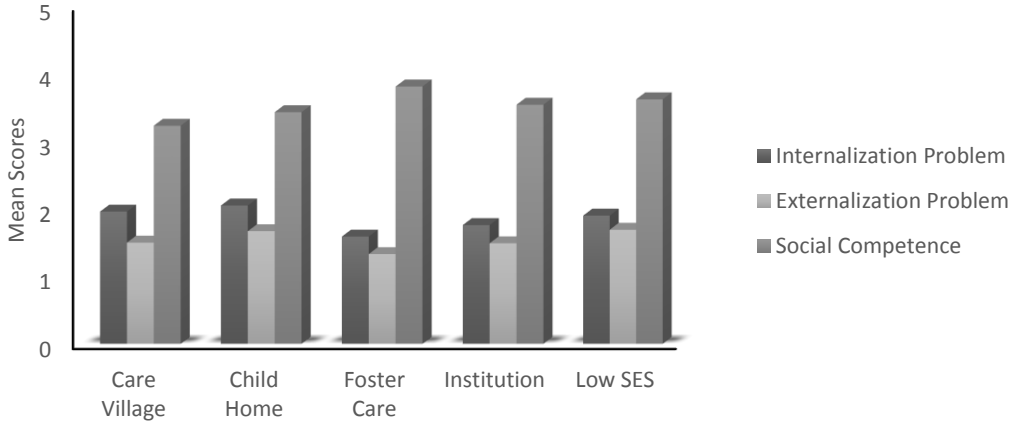

Figure 3.1 Results of One-way Between Subjects ANOVA for All Three Outcomes

3.5 Hierarchical Regression Analyses

It was sought to test whether children's temperamental characteristics (perceptual sensitivity, soothability, inhibitory control, anger frustration) moderated the relationship between care types (institution, care village, group home, foster care and low SES biological family care) and behavior outcomes of children (internalization, externalization and social competence).

For this aim, a series of hierarchical multiple regression analyses were conducted. Before entering to the regression analysis, all five care types were dummy coded (for dummy institution; institution = 1, all else = 0, dummy care village; care village = 1, all else = 0, dummy care village; group home = 1, all else = 0, dummy foster care; foster care = 1, all else = 0, dummy low SES; low SES = 1, all else = 0).

For each outcome variable 8 sets of regression analyses were carried out. In each analysis, one of the four temperamental characteristics was entered as a moderator. Furthermore, same analyses were repeated for both low SES and institution as a comparison group. For all the analyses age and gender were entered in the **first step**. **Second step** included mean centered temperament domains (Perceptual sensitivity, anger frustration, falling reactivity/soothability, and inhibitory control). Dummy coded care types were entered in the **third step** leaving out low SES for the low SES comparison analyses and institution for the institution comparison analyses. Interaction variables were included to the analyses in the **last step** to be able to see the moderating role of temperamental characteristics on outcome variables (social competence, internalizing, and externalizing).

3.5.1 Hierarchical Regression Analyses for Predicting Social Competence

3.5.1.1 Comparison of Care Types (Institution, Care Village, Group Homes, and Foster Care) with Low SES: Temperament as Moderator

The **first step** of the hierarchical regression analysis showed that age and gender did not account for significant amount of variation in social competence, R^2 = .03 (adjusted R^2 = .02), F (2, 181) = 2.485, p = .08. Gender (1 = girl, 2 = boy) was significant (β = -.16, p = .03). In the **second step** temperament variables were entered and they significantly contributed to the amount of variance explained R^2 = .49 (adjusted R^2 = .47), ΔR^2 = .46, $Finc$ (4, 177) = 40.21, p = .00). Perceptual sensitivity (β = .39, p = .00), soothability (β = .14, p = .05), and inhibitory control (β = .34, p = .00) had unique effects on social competence. **Third step**, including care type variables, on the other hand did not contribute significantly to the explained variance R^2 = .51 (adjusted R^2 = .49), ΔR^2 = .02, $Finc$ (4, 173) = 2.09, p = .08). Perceptual sensitivity (β = .34, p = .00), and inhibitory control (β = .39, p = .00), were still significant. **In the last step**, four interaction terms (temperamentXcaretypes) were added to the equation and the final step of the model was conducted separately for four different moderators (see Table 3.4).

Table 3.4 Results of the Hierarchical Regression Analysis For Predicting Social Competence: Care Type vs Low SES Comparison with Four Temperamental Characteristics as Moderators

Predictors		R	R^2	ΔR^2	F	F_{inc}	B	SE	β
	Step 1	.16	.03	.03	2.49	2.49			
Age							.01	.01	.06
Gender							-.25	.12	-.17*
	Step 2	.70	.49	.46	28.36***	40.21***			
Age							-.04	.01	-.04
Gender							-.11	.09	-.07
Perc. Sens.							.45	.07	.39***
Sooth.							.18	.09	.14*
Anger Frust.							-.06	.08	-.05
Inhib. Cont.							.45	.09	.34***
	Step 3	.72	.55	.03	18.27***	2.09			
Age							.00	.01	.00
Gender							-.13	.09	-.08
Perc. Sens.							.39	.08	.34***
Sooth.							.15	.09	.11
Anger Frust.							-.07	.09	-.06
Inhib. Cont.							.51	.10	.39***
Institution							-.01	.14	.00
Care village							-.25	.14	-.14
Group Home							.02	.14	.01
Foster Care							.19	.17	.07
Perceptual Sensitivity as Moderator									
	Step 4	.74	.55	.03	14.58***	3.12*			
Age							.00	.01	.01
Gender							-.18	.09	-.11*
Perc. Sens.							.39	.20	.34 [a]
Sooth.							.14	.09	.10
Anger Frust.							-.09	.08	-.07
Inhib. Cont.							.50	.10	.38***
Institution							.03	.16	.02
Care village							-.24	.16	-.13
Group Home							-.01	.15	.00
Foster Care							.38	.20	.14 [a]
Perc. Sens. * Institution							.17	.23	.08
Perc. Sens. * Care village							.09	.24	.04
Perc. Sens. * Group Home							-.12	.24	-.06
Perc. Sens. * Foster Care							-.62	.29	-.17*
Inhibitory Control as Moderator									
	Step 4	.73	.53	.02	13.57***	1.40			
Age							.00	.01	.01
Gender							-.17	.09	-.11[a]
Perc. Sens.							.36	.08	.31***
Sooth.							.14	.09	.11
Anger Frust.							-.08	.09	-.06
Inhib. Cont.							.44	.18	.33*
Institution							-.03	.14	-.02
Care village							-.29	.14	-.16*
Group Home							-.01	.14	-.01
Foster Care							.16	.17	.06
Inhib. Cont. * Institution							.26	.22	.10
Inhib. Cont. * Care village							.22	.22	.08
Inhib. Cont. * Group Home							-.08	.23	-.03
Inhib. Cont. * Foster Care							-.23	.27	-.06

Table 3.4 (continued)

Predictors	R	R^2	ΔR^2	F	F_{inc}	B	SE	β
Anger Frustration as Moderator								
Step 4	.74	.54	.03	14.15***	2.38[a]			
Age						.00	.01	.00
Gender						-.14	.09	-.09
Perc. Sens.						.39	.08	.34***
Sooth.						.12	.09	.09
Anger Frust.						.20	.16	.17
Inhib. Cont.						.54	.10	.41***
Institution						.10	.14	.05
Care village						-.20	.15	-.11
Group Home						.11	.14	.06
Foster Care						.29	.17	.11
Anger Frust. * Institution						-.18	.19	-.08
Anger Frust. * Care village						-.49	.21	-.17*
Anger Frust. * Group Home						-.46	.19	-.20*
Anger Frust. * Foster Care						.00	.29	.00
Soothability/Falling Reactivity as Moderator								
Step 4	.73	.53	.02	13.79***	1.78			
Age						.00	.01	.00
Gender						-.14	.09	-.09
Perc. Sens.						.38	.08	.33***
Sooth.						-.17	.16	-.13
Anger Frust.						-.05	.09	-.04
Inhib. Cont.						.51	.10	.38***
Institution						-.01	.14	-.01
Care village						-.24	.14	-.13
Group Home						.03	.14	.02
Foster Care						.20	.17	.07
Sooth. * Institution						.38	.21	.14[a]
Sooth. * Care village						.54	.21	.19*
Sooth. * Group Home						.41	.21	.15[a]
Sooth. * Foster Care						.27	.31	.06

*p<.05, **p<.01, ***p<.001, [a] marginally significant.

When perceptual sensitivity was a moderator, the interaction terms significantly contributed to the explained variance R^2 = .55 (adjusted R^2 = .51), ΔR^2 = .03, *Finc* (4, 169) = 3.11, p = .02). Gender yielded significant results after care types and temperament were controlled (β = -.11, p = .04). Inhibitory control (β = .38, p = .00), and perceptual sensitivity were significant (β = .34, p = .051). Foster care appeared as marginally significant when other outcomes were controlled (β = .14, p = .055) which meant that foster care children had a trend for having higher social competence than low SES children. Similarly, foster care and perceptual sensitivity interaction yielded significant results as reported in Table 3.4 (β = -.17, p = .04). Overall, the model was significant when perceptual sensitivity was moderator, R^2 = .55, $F(14, 169) = 14.58$, $p < .001$).

The significant interactions were further probed with use of software (Sibley, 2008). Results of the simple slope analysis for interaction terms suggested that, the slope for children with low perceptual sensitivity was significant (b = .80, t = 2.31, p = .02), however, there was not any significant association for the high perceptual sensitivity group (b = -.03, t = -.19, p = .85) (see Figure 3.2). For children with low perceptual sensitivity, social competence was higher for children who were living in foster care than with low SES biological families. But, children with high perceptual sensitivity, living in foster care or with biological families did not make a significant difference to social competence.

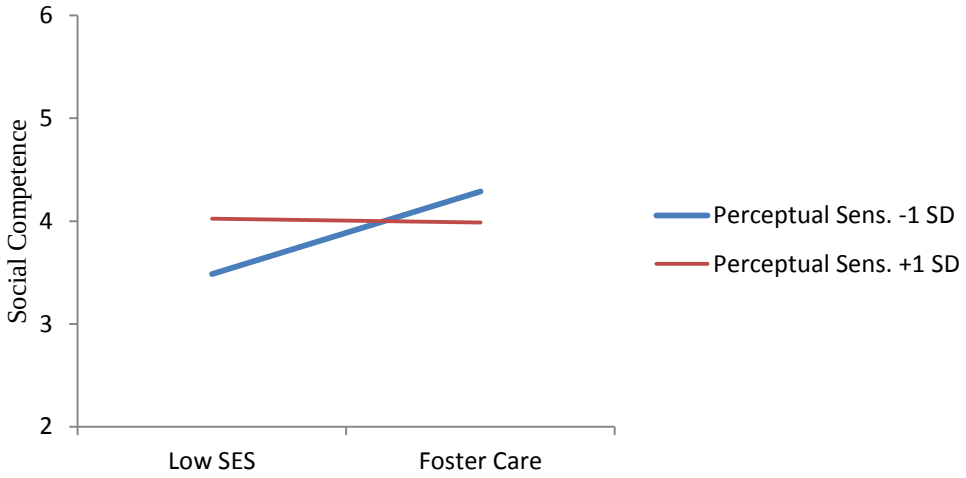

Figure 3.2 Graph for the Interaction Between Perceptual Sensitivity and Foster Care Compared to Low SES in Predicting Child's Social Competence

When **anger frustration** was a moderator**,** interaction terms' contribution to the explained variance was marginally significant, R^2 = .54 (adjusted R^2 = .50), ΔR^2 = .03, *Finc* (4, 169) = 2.38, p = .054). Inhibitory control (β = .41, p = .00), and perceptual sensitivity (β = .34, p = .00) were still significant. Furthermore, anger frustration and care village interaction (β = -.17, p = .02), and anger frustration group home interaction (β = -.20, p = .02) yielded significant results. Overall, the model was significant when anger frustration is moderator R^2 = .54, F(14, 169) = 14.15, p < .001).

The results of the interaction between anger frustration and care villages showed that if children's anger frustration is low, there was not any significant difference between care villages and low SES families (b = .12, t = .56, p = .57). However, for children with high anger frustration living in care village had less social competence compared to low SES group (b = -.52, t = -2.70, p = .01) as graphed in the Figure 3.3.

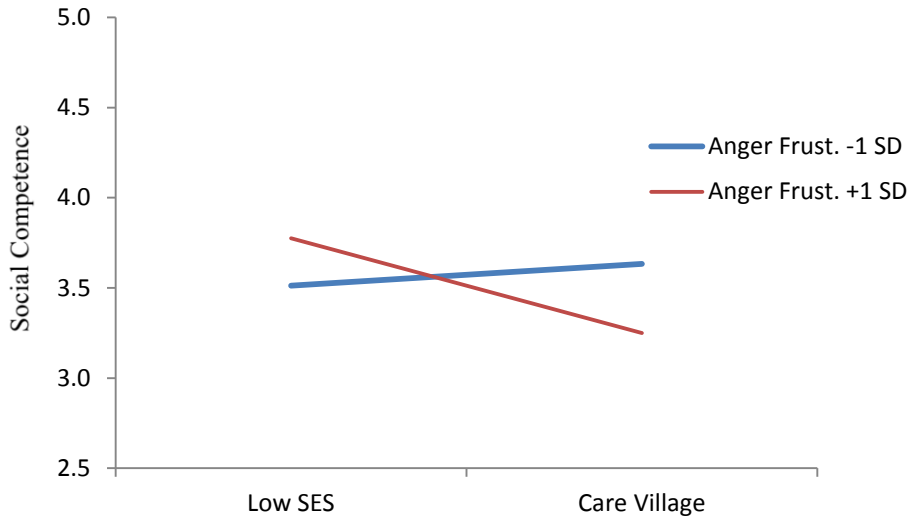

Figure 3.3 Graph for the Interaction Between Anger Frustration and Care Village Compared to Low SES in Predicting Child's Social Competence

Another significant interaction for anger frustration was group home anger frustration interaction. However, as simple slope analysis showed, the results were not significant.

When **inhibitory control** was a moderator**,** interaction terms did not provide further explanation to the model, R^2 = .73 (adjusted R^2 = .49), ΔR^2 = .02, *Finc* (4, 169) = 1.40, p = .24). Gender yielded marginally significant results after care types and temperament were controlled (β = -.10, p = .06). Inhibitory control (β = .33, p = .01), and perceptual sensitivity were still significant (β = .31, p = .00). Care village indicated significant results when other outcomes were controlled (β = -.15, p = .05) which meant that children in the care villages had a trend for having lower social competence than low SES children if all other outcomes are controlled. Overall, the model was significant when inhibitory control was moderator R^2 = .53, F(14, 169) = 13.57, p < .001).

When **soothability** was a moderator, interactions did not contribute further to the explained variance of the model**,** R^2 = .53 (adjusted R^2 = .49), ΔR^2 = .02, *Finc* (4, 169) = 1.79, p = .13). The effects of inhibitory control (β = .38, p = .00), and perceptual sensitivity were still significant (β = .33, p = .00). Furthermore soothability care village interaction (β = .19, p = .01) yielded significant, and soothability institution (β = .14, p = .075), soothability group home interaction (β = .15, p = .057) yielded marginally significant results. The overall model was also significant for soothability as a moderator, R^2 = .53, $F(14, 169) = 13.80$, $p < .001$).

Lastly, interaction between soothability and care villages was also significant. As the results suggest, for children who were characterized as having low soothability and falling reactivity traits, low SES group had more social competence than care village group (b = -.56, t = -3.03, p = .003). The groups did not differ if children had high soothability (b = .09, t = .44, p = .66) (see Figure 3.4). Other two interactions which result in marginally significant results did not give any significant results after slope analysis.

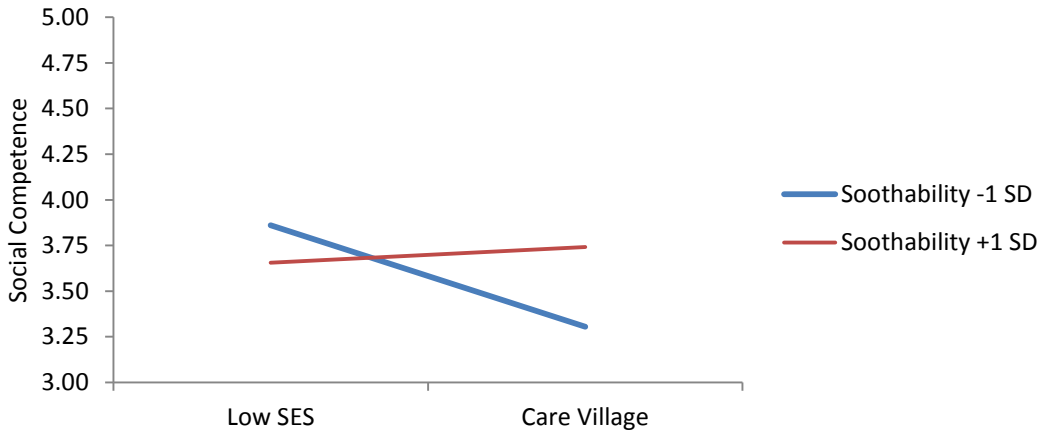

Figure 3.4 Graph for the Interaction Between Soothability and Care Village Compared to Low SES in Predicting Child's Social Competence

3.5.1.2 Comparison of Care Types (Care Village, Group Homes, Foster Care, and Low SES) with Institutions: Temperament as Moderator

When same analyses were run for institution as the comparison group, the **first two steps** of the hierarchical regression analysis were identical with the low SES comparison group, as expected. Similarly, **third step** did not contribute to the explained variance, R^2 = .51 (adjusted R^2 = .49), ΔR^2 = .02, *Finc* (4, 173) = 2.09, p = .08. Perceptual sensitivity (β = .34, p = .00), and inhibitory control (β = .39, p = .00) were still significant.

Furthermore, care village had a marginally significant effect (β = -.13, p = .053). **In the last step**, four interaction terms (temperamentXcaretypes) were added to the equation and the final step of the model was conducted separately for four different moderators (see Table 3.5).

Table 3.5 Results of the Hierarchical Regression Analysis For Predicting Social Competence: All Care Types vs Institution Comparison with Four Temperamental Characteristics as Moderators

Predictors		R	R^2	ΔR^2	F	F_{inc}	B	SE	B
	Step 1	.16	.03	.03	2.48	2.48			
Age							.01	.01	.06
Gender							-.25	.12	-.17*
	Step 2	.70	.49	.46	28.36***	40.21***			
Age							-.04	.01	-.04
Gender							-.11	.09	-.07
Perc. Sens.							.45	.07	.39***
Sooth.							.18	.09	.14*
Anger Frust.							-.06	.08	-.05
Inhib. Cont.							.45	.09	.34***
	Step 3	.72	.51	.02	18.27***	2.09			
Age							.00	.01	.00
Gender							-.13	.09	-.08
Perc. Sens.							.39	.08	.34***
Sooth.							.15	.09	.11
Anger Frust.							-.07	.09	-.06
Inhib. Cont.							.51	.10	.39***
Care village							-.25	.13	-.14[a]
Group Home							.02	.13	.01
Foster Care							.19	.17	.07
Low SES							.01	.14	.00
Perceptual Sensitivity as Moderator									
	Step 4	.74	.55	.03	14.58***	3.12*			
Age							.00	.01	.01
Gender							-.18	.09	-.11*
Perc. Sens.							.57	.12	.49***
Sooth.							.14	.09	.10
Anger Frust.							-.09	.08	-.07
Inhib. Cont.							.50	.10	.38***
Care village							-.27	.13	-.15*
Group Home							-.04	.13	-.02
Foster Care							.35	.17	.13*
Low SES							-.03	.16	-.02
Perc. Sens. * Care village							-.08	.17	-.03
Perc. Sens. * Group Home							-.35	.19	-.13[a]
Perc. Sens. * Foster Care							-.79	.24	-.21**
Perc. Sens. * Low SES							-.18	.23	-.06
Inhibitory Control as Moderator									
	Step 4	.73	.53	.02	13.57***	1.40			
Age							.00	.01	.01
Gender							-.17	.09	-.11[a]
Perc. Sens.							.36	.08	.31***
Sooth.							.14	.09	.11
Anger Frust.							-.07	.09	-.06
Inhib. Cont.							.70	.16	.53***
Care village							-.25	.13	-.14[a]
Group Home							.02	.13	.01
Foster Care							.20	.17	.07
Low SES							.03	.14	.02
Inhib. Cont. * Care village							-.04	.20	-.02
Inhib. Cont. * Group Home							-.34	.22	-.11
Inhib. Cont. * Foster Care							-.49	.25	-.13[a]
Inhib. Cont. * Low SES							-.26	.22	-.09

Table 3.5 (continued)

Predictors	R	R^2	ΔR^2	F	F_{inc}	B	SE	β
Anger Frustration as Moderator								
Step 4	.74	.54	.03	14.15***	2.38[a]			
Age						.00	.01	.00
Gender						-.14	.09	-.09
Perc. Sens.						.39	.08	.34***
Sooth.						.12	.09	.09
Anger Frust.						.02	.14	.01
Inhib. Cont.						.54	.10	.41***
Care Village						-.30	.13	-.16*
Group Home						.01	.13	.00
Foster Care						.20	.17	.07
Low SES						-.10	.14	-.05
Anger Frust. * Care village						-.31	.19	-.11
Anger Frust. * Group Home						-.28	.17	-.12
Anger Frust. * Foster Care						.18	.28	.04
Anger Frust. * Low SES						.18	. 20	.07
Soothability/Falling Reactivity as Moderator								
Step 4	.73	.53	.02	13.79***	1.78			
Age						.00	.01	.00
Gender						-.14	.09	-.09
Perc. Sens.						.38	.08	.33***
Sooth.						-.17	.16	-.13
Anger Frust.						-.05	.09	-.04
Inhib. Cont.						.51	.10	.38***
Care Village						-.23	.13	-.12
Group Home						.04	.13	.02
Foster Care						.21	.17	.08
Low SES						.01	.14	.01
Sooth. * Care village						.16	.21	.06
Sooth. * Group Home						.03	.21	.01
Sooth. * Foster Care						-.11	.30	-.02
Sooth. * Low SES						-.38	.21	-.13[a]

*p<.05, **p<.01, ***p<.001, [a]marginally significant.

When **perceptual sensitivity** was a moderator, the interaction terms significantly contributed to the explained variance, R^2 = .55 (adjusted R^2 = .51), ΔR^2 = .03, *Finc* (4, 169) = 3.11, p = .02). The results did not change for gender (β = -.11, p = .04). Inhibitory control (β = .38, p = .00), and perceptual sensitivity was still significant (β = .49, p = .00). Foster care appeared as significant when other outcomes were controlled (β = .13, p = .049) which meant that foster care children had higher social competence than low SES children. Similarly, foster care and perceptual sensitivity yielded significant results (β = -.21, p = .001). Also, perceptual sensitivity and group home interaction was marginally significant (β = -.13, p = .064). Overall, the model was significant when perceptual sensitivity was moderator, R^2 = .55, F (14, 169) = 14.58, p < .001).

Results of simple slope analysis for interaction terms suggested that, the slope for children with low perceptual sensitivity was significant (b = .89, t = 8.11, p = .00), however, there was not any significant association for the high perceptual sensitivity group (b = -.19, t = -.73, p = .46) (see Figure 3.5). It means that children with low perceptual sensitivity had lower social competence in institution than in foster care. However, for children with high perceptual sensitivity the replacement did not make a difference on social competence outcomes of children. Second interaction between perceptual sensitivity and group home did not have significant slopes (-1 SD, b = .20, t = .42, p = .67; +1 SD, b = -.28, t = -.51, p = .61).

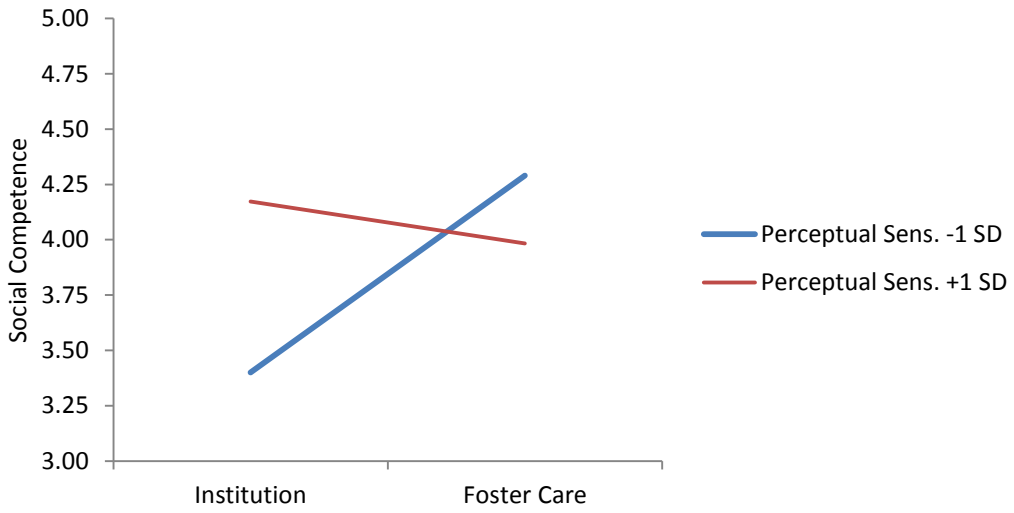

Figure 3.5 Graph for the Interaction Between Perceptual Sensitivity and Foster Care Compared to Institution in Predicting Child's Social Competence

Anger frustration as a moderator, similar results were yielded for contribution of interaction terms [R^2 = .54 (adjusted R^2 = .50), ΔR^2 = .03, *Finc* (4, 169) = 2.38, p = .054)]. However, there was not any significant interaction between anger frustration and temperamental characteristics when institution was the comparison group. The model was significant when anger frustration was moderator overall, R^2 = .54, F(14, 169) = 14.15, p < .001).

The results were almost identical for **inhibitory control** as a moderator with previous analyses [R^2 = .53 (adjusted R^2 = .49), ΔR^2 = .02, *Finc* (4, 169) = 1.39, p =

.237)]. Gender had marginally significant results after care types and temperament were controlled (β = -.11, p = .06). Inhibitory control (β = .53, p = .00), and perceptual sensitivity were still significant (β = .31, p = .00). The interaction between inhibitory control and foster care was marginally significant (β = -.13, p = .056). Overall, the model was significant when inhibitory control was moderator R^2 = .53, $F(14, 169) = 13.57$, $p < .001$).

Furthermore, the interaction between foster care and inhibitory control was marginally significant (β = -.13, p = .056), and slope analysis showed that for low inhibitory control the difference between foster care and institution group was significant (b = .49, t = 4.86, p < .01), whereas high inhibitory control did not differ significantly (b = -.09, t = -.92, p = .36). Similarly, for children with low inhibitory control, foster care children had more social competence than institution group. But, if the children had high inhibitory control, the replacement did not matter (see Figure 3.6).

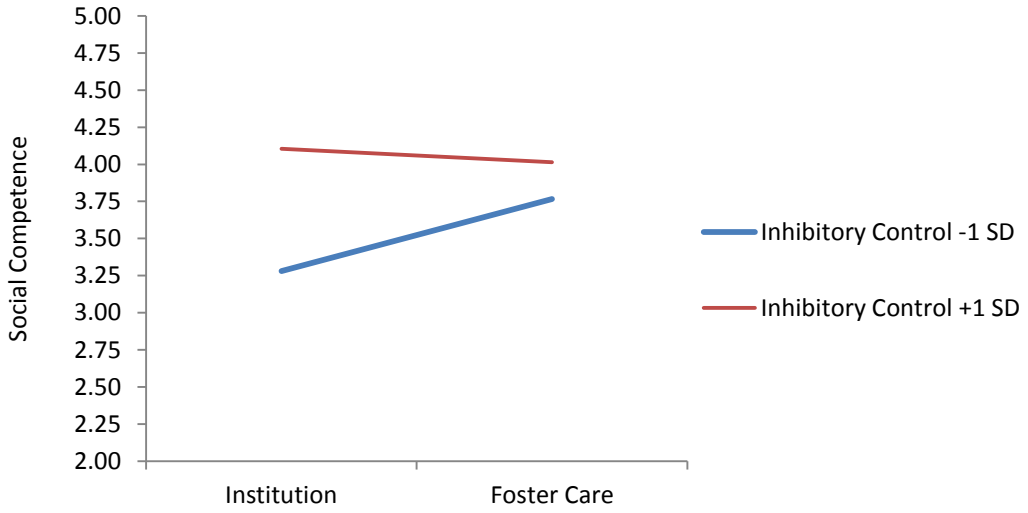

Figure 3.6 Graph for the Interaction Between Inhibitory Control and Foster Care Compared to Institution in Predicting Child's Social Competence

When **soothability** was moderator, the contribution of interaction terms was not significant [R^2 = .53 (adjusted R^2 = .49), ΔR^2 = .02, *Finc* (4, 169) = 1.79, p = .135)].On the other hand, the effects of inhibitory control (β = .38, p = .00), and

perceptual sensitivity were still significant (β = .33, p = .00). Furthermore, soothability low SES interaction (β = -.13, p = .075) yielded marginally significant results. However, interaction between soothability and low SES did not have significant slopes (-1 SD, b = .23, t = 1.65, p = .10; +1 SD, b = -.21, t = -1.51, p = .13). The overall model was also significant for soothability as a moderator, R^2 = .53, $F(14, 169) = 13.79$, $p < .001$).

3.5.1.3 Comparison of Care Types (Care Village, and Group Homes) with Institution after Controlling Children's Care History

As it was mentioned in the previous section, information related to care history of children staying in the institutions, care villages and group homes were gathered. Because care history of children in foster care could not be collected due to the ongoing recruitment process, further analyses were only carried out with 3 groups. There are some studies indicating that age and duration of care are related to child outcomes even after they are adopted (Gunnar & van Dulmen, 2007; Le Mare & Audet, 2014; McCall, 2013; Zeanah, 2009). In order to see the effects of care types after controlling the care history, reasons for placement and duration of care, separate regression analyses were conducted.

The **first step** of the hierarchical regression analysis showed that age and gender did not account for significant amount of variation in social competence, R^2 = .03 (adjusted R^2 = .02), F (2, 181) = 2.485, p = .08. Gender (1 = girl, 2 = boy) was significant (β = -.16, p = .03). In the **second step** temperament variables were entered and they significantly contributed to the amount of variance explained R^2 = .49 (adjusted R^2 = .47), ΔR^2 = .46, $Finc$ (4, 177) = 40.21, p = .00). Perceptual sensitivity (β = .39, p = .00), soothability (β = .14, p = .05), and inhibitory control (β = .34, p = .00) had unique effects on social competence. **Third step**, including care type variables, on the other hand did not contribute significantly to the explained variance R^2 = .51 (adjusted R^2 = .49), ΔR^2 = .02, $Finc$ (4, 173) = 2.09, p = .08). Perceptual sensitivity (β = .34, p = .00), and inhibitory control (β = .39, p = .00), were still significant. **In the last step**, four interaction terms

(temperamentXcaretypes) were added to the equation and the final step of the model was conducted separately for four different moderators (see Table 3.4).

For this aim, in the first hierarchical regression including the outcome of social competence, age and gender variables were entered in the first step (R^2 = .09, Adjusted R^2 = -.01, F (2, 123) = .48, p = .62), duration in care, risk factors, and number of institutions a child resided in the second step (R^2 = .01, Adjusted R^2 = -.03, ΔR^2 = .01, F_{inc}(3, 120) = .27, p = .84), none of which had a significant contribution. Mean centered temperamental characteristics (Perceptual sensitivity, inhibitory control, soothability, and anger frustration) were entered to the equation in the third step (R^2 = .56, Adjusted R^2 = .53, ΔR^2 = .55, F_{inc}(4, 116) = 36.69, p = .00). Perceptual sensitivity (β = .41, p = .00), and inhibitory control (β = .32, p = .00) had significant unique effects on social competence, as similar with the previous analyses. In the next step, care types (Care village and group home) were added, leaving institution out as a comparison group (R^2 = .58, Adjusted R^2 = .54, ΔR^2 = .01, F_{inc}(2, 114) = 1.69, p = .19). Perceptual sensitivity (β = .40, p = .00), and inhibitory control were still significant (β = .33, p = .00). **In the last step**, four interaction terms (temperamentXcaretypes) were added to the equation and the final step of the model was conducted separately for four different moderators (see Table 3.6).

Table 3.6 Results of the Hierarchical Regression Analysis For Predicting Social Competence: Care Type vs Institution Comparison with Care History

Predictors	R	R^2	ΔR^2	F	F_{inc}	B	SE	β
Step 1	.09	.01	.01	.48	.48			
Age						.01	.01	.04
Gender						-.13	.15	-.08
Step 2	.12	.01	.01	.35	.28			
Age						.01	.01	.04
Gender						-.16	.16	-.09
Total Risk						-.04	.07	-.05
Duration in Care						.00	.01	.05
# of Institutions						-.02	.10	-.02
Step 3	.75	.57	.55	16.74***	36.69***			
Age						-.01	.01	-.05
Gender						-.13	.11	-.08
Total Risk						-.02	.05	-.03
Duration in Care						.00	.00	.08
# of Institutions						.08	.07	.07
Perc. Sens.						.51	.09	.41***
Sooth.						.19	.12	.14
Anger Frust.						-.18	.11	-.15
Inhib. Cont.						.44	.12	.32***
Step 4	.76	.58	.01	14.16***	1.69			
Age						-.00	.01	-.01
Gender						-.16	.11	-.10
Total Risk						-.02	.05	-.03
Duration in Care						.00	.00	.08
# of Institutions						.05	.08	.04
Perc. Sens.						.49	.09	.40***
Sooth.						.16	.12	.13
Anger Frust.						-.20	.11	-.16[a]
Inhib. Cont.						.46	.12	.33***
Care village						-.20	.14	-.11
Group Home						.03	.15	.02
Perceptual Sensitivity as Moderator								
Step 5	.77	.59	.01	12.35***	1.59			
Age						-.00	.01	-.01
Gender						-.19	.11	-.01
Total Risk						-.01	.05	-.02
Duration in Care						.00	.00	.07
# of Institutions						.03	.08	.03
Perc. Sens.						.61	.13	.50***
Sooth.						.19	.12	.13
Anger Frust.						-.18	.11	-.15
Inhib. Cont.						.44	.12	.32***
Care village						-.22	.14	-.13
Group Home						-.03	.15	-.02
Perceptual Sens. * Care Village						-.11	.18	-.05
Perceptual Sens. * Group Home						-.35	.20	-.15[a]

Table 3.6 (continued)

Predictors	R	R^2	ΔR^2	F	F_{inc}	B	SE	β
Inhibitory Control as Moderator								
Step 5	.77	.59	.01	12.27***	1.36			
Age						.00	.01	-.01
Gender						-.19	.11	-.11
Total Risk						-.03	.05	-.04
Duration in Care						.01	.00	.10
# of Institutions						.03	.08	.03
Perc. Sens.						.46	.10	.38***
Sooth.						.16	.12	.11
Anger Frust.						-.21	.11	-.17
Inhib. Cont.						.57	.17	.41**
Care village						-.20	.14	-.11
Group Home						.03	.15	.02
Inhibitory Cont. * Care Village						-.02	.20	-.01
Inhibitory Cont. * Group Home						-.34	.22	-.13
Anger Frustration as Moderator								
Step 5	.77	.59	.02	12.60***	2.27			
Age						.00	.01	-.00
Gender						-.14	.11	-.08
Total Risk						-.02	.05	-.02
Duration in Care						.01	.00	.10
# of Institutions						.05	.08	.05
Perc. Sens.						.49	.10	.40***
Sooth.						.15	.12	.11
Anger Frust.						.00	.15	.00
Inhib. Cont.						.46	.12	.33**
Care village						-.25	.14	-.14
Group Home						.00	.15	.00
Anger Frust. * Care Village						-.28	.17	-.12[a]
Anger Frust. * Group Home						.18	.28	.04
Soothability/Falling Reactivity as Moderator								
Step 5	.76	.58	.01	12.10***	.90			
Age						-.00	.01	-.02
Gender						-.17	.11	-.10
Total Risk						-.03	.05	-.04
Duration in Care						.01	.00	.09
# of Institutions						.04	.08	.04
Perc. Sens.						.49	.09	.40***
Sooth.						.02	.18	.02
Anger Frust.						-.22	.11	-.17[a]
Inhib. Cont.						.45	.12	.33***
Care village						-.20	.14	-.12
Group Home						.01	.15	.01
Sooth. * Care village						.12	.22	.05
Sooth. * Group Home						.29	.22	.12

*p<.05, **p<.01, ***p<.001, [a] marginally significant.

When **perceptual sensitivity** was moderator, last step did not explain additional variance (R^2 = .59, Adjusted R^2 = .54, ΔR^2 = .01, F_{inc}(2, 112) = 1.59, p = .21). However, perceptual sensitivity (β = .50, p = .00), and inhibitory control (β = .32, p = .00) were still significant even after controlling all other variables. Furthermore the interaction between perceptual sensitivity and group homes was marginally significant (β = -.15, p = .07). However, interaction between perceptual sensitivity and group home did not have significant slopes (-1 SD, b = .21 t = 1.07, p = .29; +1 SD, b = -.26, t = -1.25, p = .21). Overall, the model was significant when perceptual sensitivity was moderator R^2 = .59, F(13, 112) = 12.35, p < .001.

When **anger frustration** was moderator, the contribution of interaction terms was not significant, either [R^2 = .59 (adjusted R^2 = .55), ΔR^2 = .02, *Finc* (2, 112) = 2.27, p = .11]. Again, inhibitory control (β = .33, p = .00), and perceptual sensitivity (β = .40, p = .00) were significant. Furthermore, anger frustration and care village interaction (β = -.12, p = .06) also yielded marginally significant results. The overall model was also significant for anger frustration as moderator, R^2 = .59, F (13, 112) = 12.60, p < .001.

The slope analysis showed that for children with low anger frustration living in care village or institution did not make a difference in terms of social competence (b = -.01, t = -.03, p = .97). However, children with high anger frustration had better social competence in institutions than care villages (b = -.50, t = -2.27, p = .03) (see Figure 3.7).

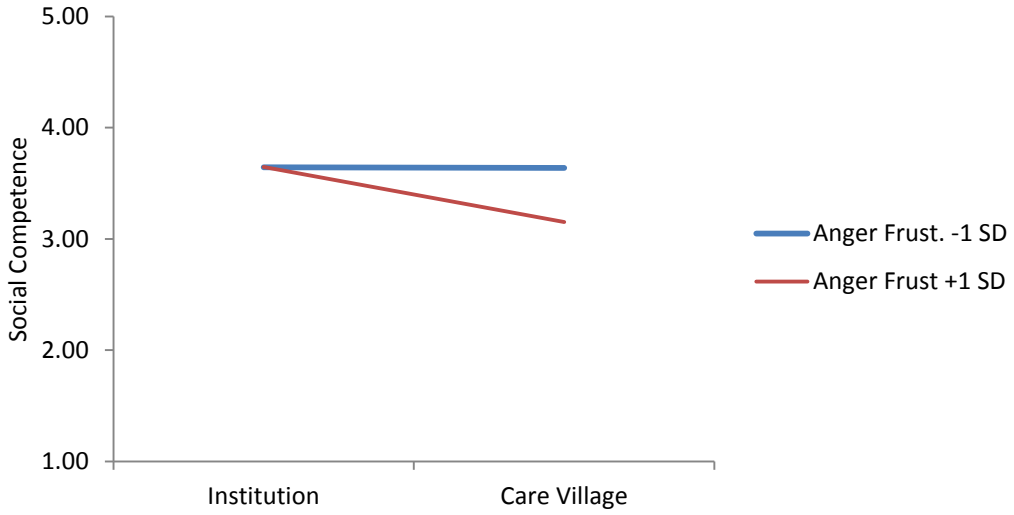

Figure 3.7 Graph for the Interaction Between Anger Frustration and Care Village Compared to Institution in Predicting Child's Social Competence

Inhibitory control as a moderator, did not explain further variance when interaction terms were included R^2 = .59 (adjusted R^2 = .54), ΔR^2 = .01, *Finc* (2, 112) = 1.36, p = .26). Only the unique effect of inhibitory control (β = .41, p = .001), and perceptual sensitivity were still significant (β = .38, p = .00). Also, anger frustration was marginally significant (β = -.17, p = .056). Overall, the model was significant when inhibitory control was moderator R^2 = .59, F(13, 112) = 12.27, p < .001).

When **soothability/ falling reactivity w**as a moderator, the step did not yield any significant contribution to the model either [R^2 = .58 (adjusted R^2 = .54), ΔR^2 = .01, *Finc* (2, 112) = .89, p = .41)]. The effects of inhibitory control (β = .33, p = .00), and perceptual sensitivity (β = .40, p = .00) were still significant. Additionally, anger frustration (β = -.17, p = .053) yielded marginally significant results for soothability. The overall model was also significant for soothability was moderator, R^2 = .58, F(13, 112) = 12.10, p < .001.

3.5.2 Hierarchical Regression Analyses for Predicting Externalization

3.5.2.1 Comparison of Care Types (Institution, Care Village, Group Homes, and Foster Care) with Low SES: Temperament as Moderator

The **first step** of the hierarchical regression analysis showed that age and gender did not account for significant amount of variation in externalization, R^2 = .03 (adjusted R^2 = .02), F (2, 181) = 2.47, p = .09. Gender (1 = girl, 2 = boy) was significant (β = .16, p = .03). **Second step** contributed significant amount of variance R^2 = .52 (adjusted R^2 = .50), ΔR^2 = .49, *Finc* (4, 177) = 44.87, p < .01). Gender was still significant (β = .12, p = .02). Furthermore, anger frustration (β = .44, p < .01), and inhibitory control (β = -.31, p < .01) had unique effects on externalization. **Third step**, including care type variables, also contributed significant variance, R^2 = .55 (adjusted R^2 = .52), ΔR^2 = .03, *Finc* (4, 173) = 2.97, p = .02). Gender (β = .13, p = .02), anger frustration (β = .45, p < .01), and inhibitory control (β = -.35, p < .01), were still significant. The results indicated that children with high anger frustration and low inhibitory control had higher externalization problems. Also, foster care approached to significance (β = -.12, p = .06). **In the last step**, four interaction terms (temperamentXcaretypes) were added to the equation and the final step of the model was conducted separately for four different moderators (see Table 3.7).

Table 3.7 Results of the Hierarchical Regression Analysis For Predicting Externalization: Care Type vs Low SES Comparison with Four Temperamental Characteristics as Moderators

Predictors		R	R^2	ΔR^2	F	F_{inc}	B	SE	β
	Step 1	.16	.03	.03	2.47	2.47			
Age							.00	.01	.01
Gender							.17	.08	.16*
	Step 2	.72	.52	.49	31.54***	44.87***			
Age							.00	.00	.03
Gender							.13	.06	.12*
Perc. Sens.							.01	.05	.01
Sooth.							-.08	.06	-.09
Anger Frust.							.35	.05	.44***
Inhib. Cont.							-.27	.06	-.31***
	Step 3	.74	.55	.03	20.95***	2.97*			
Age							.00	.01	.01
Gender							.14	.06	.13*
Perc. Sens.							.05	.05	.07
Sooth.							-.04	.06	-.05
Anger Frust.							.36	.05	.45***
Inhib. Cont.							-.31	.06	-.35***
Institution							.06	.09	.05
Care village							.09	.09	.05
Group Home							.16	.09	.13[a]
Foster Care							-.21	.11	-.12[a]
Perceptual Sensitivity as Moderator									
	Step 4	.75	.56	.02	15.57***	1.51			
Age							.00	.01	.01
Gender							.14	.06	.13*
Perc. Sens.							-.07	.13	-.09
Sooth.							-.02	.06	-.03
Anger Frust.							.37	.06	.48***
Inhib. Cont.							-.31	.06	-.36***
Institution							.02	.10	.02
Care village							.03	.10	.03
Group Home							.10	.10	.08
Foster Care							-.34	.13	-.12*
Perc. Sens. * Institution							.19	.15	.13
Perc. Sens. * Care village							.05	.15	.03
Perc. Sens. * Group Home							.08	.16	.04
Perc. Sens. * Foster Care							.38	.19	.15*
Inhibitory Control as Moderator									
	Step 4	.76	.58	.03	16.53***	3.02*			
Age							-.00	.00	-.01
Gender							.18	.06	.16*
Perc. Sens.							.08	.05	.11
Sooth.							-.03	.06	-.03
Anger Frust.							.37	.05	.47***
Inhib. Cont.							-.18	.11	-.20
Institution							.06	.09	.05
Care village							.14	.09	.11
Group Home							.18	.09	.14*
Foster Care							-.19	.11	-.11[a]
Inhib. Cont. * Institution							-.14	.14	-.08
Inhib. Cont. * Care village							-.39	.14	-.22*
Inhib. Cont. * Group Home							-.04	.15	-.02
Inhib. Cont. * Foster Care							.07	.17	.03

Table 3.7 (continued)

Predictors	R	R^2	ΔR^2	F	F_{inc}	B	SE	β
Anger Frustration as Moderator								
Step 4	.75	.57	.02	15.86***	1.96			
Age						.00	.00	.02
Gender						.14	.06	.13*
Perc. Sens.						.05	.05	.07
Sooth.						-.02	.06	-.03
Anger Frust.						.16	.10	.21
Inhib. Cont.						-.33	.06	-.38***
Institution						-.00	.09	-.00
Care village						.04	.10	.03
Group Home						.09	.09	.07
Foster Care						-.28	.11	-.16*
Anger Frust. * Institution						.21	.12	.14
Anger Frust. * Care village						.27	.14	.15*
Anger Frust. * Group Home						.31	.12	.20*
Anger Frust. * Foster Care						.06	.19	.02
Soothability/Falling Reactivity as Moderator								
Step 4	.74	.55	.00	14.87***	.39			
Age						.00	.00	.01
Gender						.14	.06	.13*
Perc. Sens.						.05	.05	.07
Sooth.						-.03	.10	-.04
Anger Frust.						.35	.06	.45***
Inhib. Cont.						-.31	.06	-.35***
Institution						.05	.10	.04
Care village						.09	.09	.08
Group Home						.15	.09	.12
Foster Care						-.23	.11	-.13*
Sooth. * Institution						.04	.14	.03
Sooth. * Care village						-.05	.14	-.03
Sooth. * Group Home						-.07	.14	-.04
Sooth. * Foster Care						.13	.20	.04

*p<.05, **p<.01, ***p<.001, [a]marginally significant.

When perceptual sensitivity was a moderator, the interaction terms did not contribute to the explained variance R^2 = .56 (adjusted R^2 = .53), ΔR^2 = .02, *Finc* (4, 169) = 1.51, p = .20). Gender yielded significant results after care types and temperament were controlled (β = .13, p = .01). Anger frustration (β = .48, p < .01), and inhibitory control (β = -.36, p <.01) was still significant. Foster care also appeared as significant (β = -.19, p = .01) which meant that foster care children had less externalization problems than low SES children if all other variables are controlled. Similarly, foster care and perceptual sensitivity interaction yielded significant results as reported in Table 3.7 (β = .15, p = .05). Overall, the model was

significant when perceptual sensitivity was moderator, R^2 = .56, F(14, 169) = 15.57, p < .001).

Results of the simple slope analysis with software (Sibley, 2008) for foster care and perceptual sensitivity interaction suggested that, the slope for children with low perceptual sensitivity was significant (b =-.60, t = -2.64, p = .01), however, there was not any significant association for the high perceptual sensitivity group (b = -.08, t = -.64, p = .52) (see Figure 3.8). For children with low perceptual sensitivity, externalization problems were higher for children who are living with their low SES biological families than in foster care. But, children with high perceptual sensitivity, living in foster care or with biological families did not make a significant difference for externalization.

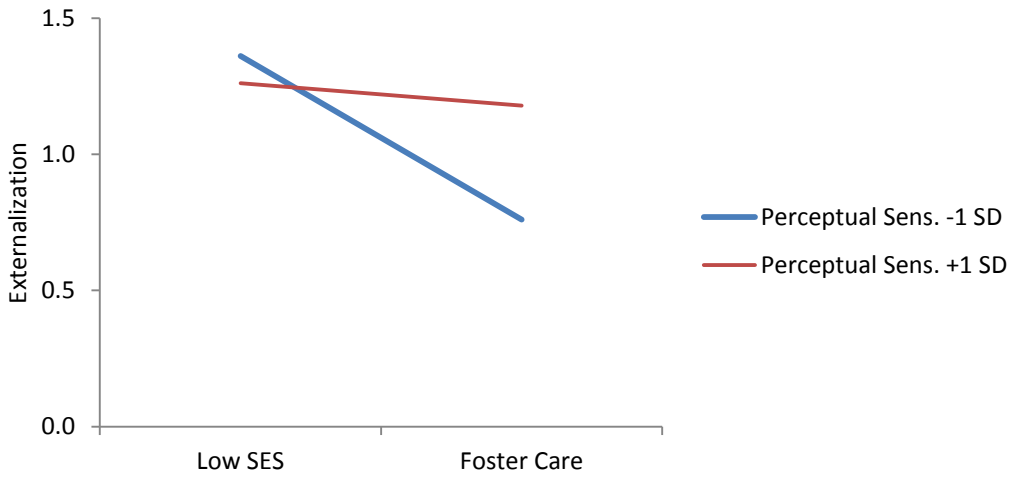

Figure 3.8 Graph for the Interaction Between Perceptual Sensitivity and Foster Care Compared to Low SES in Predicting Child's Externalization Problems

When **inhibitory control** was a moderator**,** interaction terms significantly contributed to the explained variance, R^2 = .58 (adjusted R^2 = .54), ΔR^2 = .03, *Finc* (4, 169) = 3.02, p = .02). Gender yielded significant results after care types and temperament were controlled (β = .16, p = .002). Anger frustration (β = .47, p < .001), and group home (β = .14, p = .04) were significant. Furthermore, foster care indicated marginally significant results (β = -.11, p = .08). The interaction between inhibitory control and care village yielded significant result (β = -.22, p = .01).

Overall, the model was significant when inhibitory control was moderator [R^2 = .58, F(14, 169) = 16.53, p < .001].

For the inhibitory control and care village interaction, simple slope analysis suggested that the slope for children with low inhibitory control was significant (b =-.37, t = 2.89, p = .004), however, there was not any significant association for the high inhibitory control group (b = -.09, t = -.77, p = .44) (see Figure 3.9). For children with low inhibitory control, externalization problems were higher for children in care villages than children who are living with their low SES biological families. But, children with high inhibitory control, living in care village or with biological families did not make a significant difference for externalization.

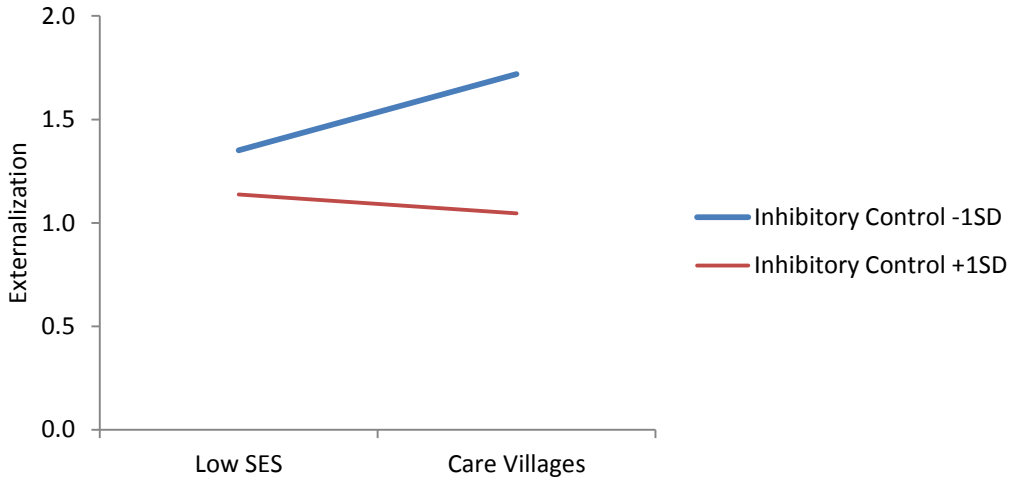

Figure 3.9 Graph for the Interaction Between Inhibitory Control and Care Villages Compared to Low SES in Predicting Child's Externalization Problems

When **anger frustration** was a moderator**,** interaction terms' did not contribute to the explained variance, R^2 = .57 (adjusted R^2 = .53), ΔR^2 = .02, *Finc* (4, 169) = 1.96, p = .10). Gender (β = .13, p = .01), inhibitory control (β = -.38, p < .01) were still significant. Additionally, foster care yielded significant results (β = -.16, p = .01). Anger frustration and group home interaction (β = .20, p = .01) was significant. Furthermore anger frustration care village interaction (β = .15, p = .05) yielded

marginally significant results. Overall, the model was significant when anger frustration is moderator R^2 = .57, F(14, 169) = 15.86, p < .001.

The results of the interaction between anger frustration and group home showed that if children's anger frustration is low, there was not any significant difference between group home and low SES families (b = -.12, t = -.85, p = .39). However, for children with high anger frustration living in group home had more externalization problems compared to low SES group (b = .30, t = 2.90, p = .004) as graphed in the Figure 3.10.

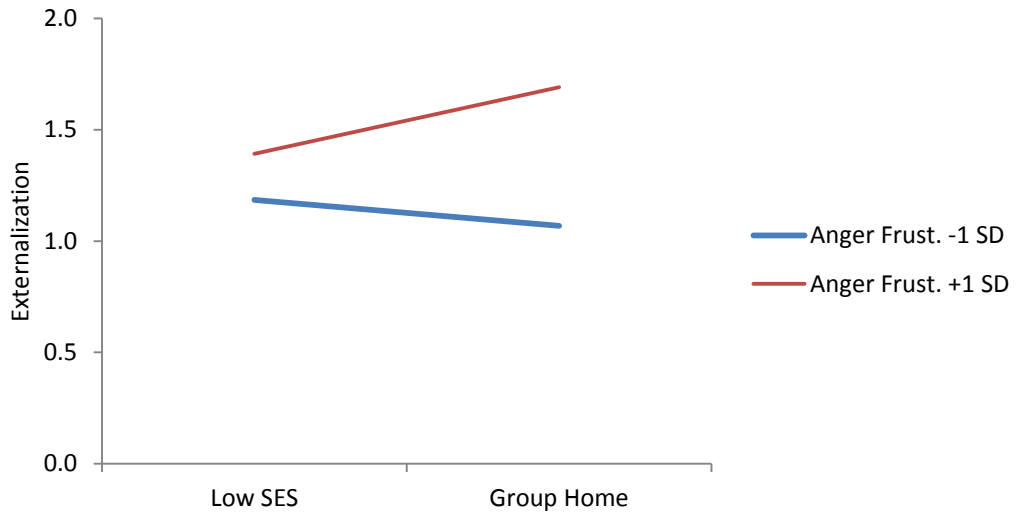

Figure 3.10 Graph for the Interaction Between Anger Frustration and Group Home Compared to Low SES in Predicting Child's Externalization

Furthermore, anger frustration care village interaction was also significant. However, the simple slope analysis suggested that there was no significant difference between (-1 SD b = -.14, t = -1.02, p = .31; +1 SD, b = .22, t = 1.76, p = .08).

For **soothability** as a moderator in the last step, interactions did not contribute further to the explained variance of the model**,** R^2 = .55 (adjusted R^2 = .52, ΔR^2 = .00, *Finc* (4, 169) = .39, p = .81). Similarly, the effects of gender (β = .14, p = .01), anger frustration (β = .45, p < .01), and inhibitory control significant (β = -.35, p < .01). The overall model was also significant for soothability as a moderator, R^2 = .55, F(14, 169) = 14.87, p < .001).

3.5.2.2 Comparison of Care Types (Care Village, Group Homes, Foster Care, and Low SES) with Institutions: Temperament as Moderator

The **first step** of the hierarchical regression analysis showed that age and gender did not account for significant amount of variation in externalization, R^2 = .03 (adjusted R^2 = .02), F (2, 181) = 2.474, p = .09. Gender (1 = girl, 2 = boy) was significant (β = .16, p = .03). **Second step** contributed significant amount of variance R^2 = .52 (adjusted R^2 = .50), ΔR^2 = .49, *Finc* (4, 177) = 44.87, p < .001). Gender was still significant (β = .12, p = .02). Furthermore, anger frustration (β = .44, p < .001), and inhibitory control (β = -.31, p < .001) had unique effects on externalization. **Third step**, including care type variables, also contributed significantly to the explained variance R^2 = .55 (adjusted R^2 = .52), ΔR^2 = .03, *Finc* (4, 173) = 2.97, p = .02). Gender (β = .13, p = .02), anger frustration (β = .45, p < .001), and inhibitory control (β = -.35, p < .001), were still significant. Results indicated that children with higher anger frustration and lower inhibitory control had higher externalization problems. **In the last step**, four interaction terms (temperamentXcaretypes) were added to the equation and the final step of the model was conducted separately for four different moderators (see Table 3.8).

Table 3.8 Results of the Hierarchical Regression Analysis For Predicting Externalization: All Care Types vs Institution Comparison with Four Temperamental Characteristics as Moderators

Predictors		R	R^2	ΔR^2	F	F_{inc}	B	SE	β
	Step 1	.16	.03	.03	2.47	2.47			
Age							.00	.01	.01
Gender							.17	.08	.16*
	Step 2	.72	.52	.49	31.54***	44.87***			
Age							.00	.00	.03
Gender							.13	.06	.12*
Perc. Sens.							.01	.05	.01
Sooth.							-.08	.06	-.09
Anger Frust.							.35	.05	.44***
Inhib. Cont.							-.27	.06	-.31***
	Step 3	.74	.55	.03	20.95***	2.97*			
Age							.00	.00	.01
Gender							.14	.06	.13*
Perc. Sens.							.05	.05	.07
Sooth.							-.04	.06	-.05
Anger Frust.							.36	.05	.45***
Inhib. Cont.							-.31	.06	-.35***
Care village							.03	.08	.03
Group Home							.09	.08	.08
Foster Care							-.27	.11	-.15*
Low SES							-.06	.09	-.05
Perceptual Sensitivity as Moderator									
	Step 4	.75	.56	.02	15.57***	1.51			
Age							.00	.00	.01
Gender							.14	.06	.14*
Perc. Sens.							.12	.08	.15
Sooth.							-.02	.06	-.03
Anger Frust.							.38	.06	.48***
Inhib. Cont.							-.31	.06	-.36***
Care village							.14	.08	.01
Group Home							.08	.08	.07
Foster Care							-.36	.12	-.20**
Low SES							-.02	.10	-.02
Perc. Sens. * Care village							-.14	.11	-.09
Perc. Sens. * Group Home							-.11	.12	-.06
Perc. Sens. * Foster Care							.19	.16	.08
Perc. Sens. * Low SES							-.19	.15	-.10
Inhibitory Control as Moderator									
	Step 4	.76	.58	.03	16.53***	3.02*			
Age							-.00	.00	-.01
Gender							.18	.06	.17**
Perc. Sens.							.08	.05	.11
Sooth.							-.03	.06	-.03
Anger Frust.							.37	.05	.47***
Inhib. Cont.							-.32	.10	-.36**
Care village							.08	.08	.09
Group Home							.11	.08	.09
Foster Care							-.26	.11	-.14*
Low SES							-.06	.09	-.05
Inhib. Cont. * Care village							-.25	.13	-.14[a]
Inhib. Cont. * Group Home							.09	.14	.05
Inhib. Cont. * Foster Care							.21	.16	.08
Inhib. Cont. * Low SES							.14	.14	.07

Table 3.8 (continued)

Predictors	R	R^2	ΔR^2	F	F_{inc}	B	SE	β
Anger Frustration as Moderator								
Step 4	.75	.57	.02	15.86***	1.96			
Age						.00	.00	.02
Gender						.14	.06	.14*
Perc. Sens.						.06	.05	.07
Sooth.						-.02	.06	-.03
Anger Frust.						.37	.09	.47***
Inhib. Cont.						-.33	.06	-.38***
Care Village						.05	.08	.04
Group Home						.09	.08	.08
Foster Care						-.28	.11	-.15*
Low SES						.00	.09	.00
Anger Frust. * Care village						.06	.13	.03
Anger Frust. * Group Home						.10	.11	.07
Anger Frust. * Foster Care						-.15	.18	-.05
Anger Frust. * Low SES						-.21	.13	-.13
Soothability/Falling Reactivity as Moderator								
Step 4	.74	.55	.00	14.87***	.40			
Age						.00	.00	.01
Gender						.14	.06	.14*
Perc. Sens.						.06	.05	.07
Sooth.						.01	.11	.01
Anger Frust.						.36	.06	.45***
Inhib. Cont.						-.31	.06	-.35***
Care Village						.04	.08	.03
Group Home						.09	.08	.08
Foster Care						-.28	.11	-.16*
Low SES						-.05	.09	-.04
Sooth. * Care village						-.10	.14	-.05
Sooth. * Group Home						-.11	.14	-.06
Sooth. * Foster Care						.09	.20	.03
Sooth. * Low SES						-.04	.14	-.02

*p<.05, **p<.01, ***p<.001, [a]marginally significant.

When **perceptual sensitivity** was a moderator, the interaction terms did not explain significant variance change, R^2 = .56 (adjusted R^2 = .53), ΔR^2 = .02, *Finc* (4, 169) = 1.51, p = .09). Gender (β = .13, p = .02), anger frustration (β = .48, p < .001), and inhibitory control were still significant (β = .49, p < .001).Also, foster care appeared as still significant when other variables were controlled (β = -.20, p = .00) which meant that foster care children had lower externalization problems than low SES children. Overall, the model was significant when perceptual sensitivity was moderator, R^2 = .56, F(14, 169) = 15.57, p < .001).

The results were almost identical for **inhibitory control** as a moderator with previous analyses [R^2 = .58 (adjusted R^2 = .54), ΔR^2 = .03, *Finc* (4, 169) = 3.02, p =

.02)]. Gender (β = .17, p = .00), anger frustration (β = .47, p < .001), inhibitory control (β = -.36, p = .00), and foster care (β = -.14, p = .02) had significant results after care types and temperament were controlled. Inhibitory control and care village interaction had marginally significant results (β = -.14, p = .05). However, it did not have significant slopes (-1 SD, b = .22, t = 1.54, p = .13; +1 SD, b = .07, t = -.46, p = .65). Overall, the model was significant when inhibitory control was moderator, R^2 = .58, F(14, 169) = 16.53, p < .001.

For **anger frustration** as a moderator, similar results were yielded for contribution of interaction terms [R^2 = .57 (adjusted R^2 = .53), ΔR^2 = .02, $Finc$ (4, 169) = 1.96, p = .10)]. Similarly, gender (β = .14, p = .01), anger frustration (β = .47, p < .001), inhibitory control (β = -.38, p < .001), and foster care (β = -.15, p = .01) were significant but there was not any significant interaction. The model was significant when anger frustration is moderator overall, R^2 = .57, F(14, 169) = 15.86, p < .001).

When **soothability** was moderator, the contribution of interaction terms was not significant [R^2 = .55 (adjusted R^2 = .52), ΔR^2 = .00, $Finc$ (4, 169) = .40, p = .81)]. On the other hand, the effects of gender (β = .14, p = .01), anger frustration (β = .45, p < .001), inhibitory control (β = -.35, p < .001), and foster care were still significant (β = -.16, p = .01). None of the interactions had significant results. The overall model was also significant for soothability as a moderator, R^2 = .55, F(14, 169) = 14.87, p < .001).

3.5.2.3 Comparison of Care Types (Care Village, and Group Homes) with Institution After Controlling Children's Care History

In the first hierarchical regression for the outcome of externalization, age and gender variables were entered in the first step, R^2 = .01, Adjusted R^2 = -.01, F(2, 123) = .68, p = .51; duration in care, risk factors, and number of institutions were entered in the second step, R^2 = .11, Adjusted R^2 = .07, ΔR^2 = .10, F_{inc}(3, 120) = 4.23, p = .01. As the results suggest, duration in care, risk factors and number of institutions significantly contributed to the explained variance. Furthermore, total risk number

(β = .21, p = .03), and total care in time (β = .27, p = .01) had unique effects on externalization. Mean centered temperamental characteristics (Perceptual sensitivity, inhibitory control, soothability, and anger frustration) were entered to the equation in the third step (R^2 = .58, Adjusted R^2 = .55, ΔR^2 = .47, $F_{inc}(4, 116) = 32.55$, $p < .001$). This time, gender (β = .14, p = .03) anger frustration (β = .49, $p < .001$), and inhibitory control (β = -.39, $p < .001$) had significant unique effects on externalization, similar to the previous analyses. In the next step, care types (Care village and group home) were added, leaving institution out as a comparison group (R^2 = .58, Adjusted R^2 = .54, ΔR^2 = .00, $F_{inc}(2, 114) = .49$, p = .61). Results were almost identical with the previous step, as gender (β = .15, p = .02) anger frustration (β = .49, $p < .001$), and inhibitory control (β = -.38, $p < .001$) **In the last step**, four interaction terms (temperamentXcaretypes) were added to the equation and the final step of the model was conducted separately for four different moderators (see Table 3.9).

Table 3.9 Results of the Hierarchical Regression Analysis For Predicting Externalization: Care Type vs Institution Comparison with Care History

Predictors	R	R^2	ΔR^2	F	F_{inc}	B	SE	β
Step 1	.10	.01	.01	.68	.68			
Age						-.00	.01	-.04
Gender						.11	.10	.10
Step 2	.33	.11	.10	2.83*	4.23**			
Age						.00	.01	-.01
Gender						.12	.10	.10
Total Risk						.10	.05	.21*
Duration in Care						.01	.00	.27**
# of Institutions						.06	.07	.08
Step 3	.76	.58	.47	17.69***	32.55***			
Age						.00	.00	.03
Gender						.16	.07	.14*
Total Risk						.06	.03	.11
Duration in Care						.00	.00	.08
# of Institutions						.03	.05	.03
Perc. Sens.						.05	.05	.06
Sooth.						.02	.08	.02
Anger Frust.						.42	.07	.49***
Inhib. Cont.						-.37	.08	-.39***
Step 4	.76	.58	.00	14.44***	.49			
Age						.00	.01	.02
Gender						.17	.07	.15*
Total Risk						.05	.03	.11
Duration in Care						.00	.00	.10
# of Institutions						.00	.06	.00
Perc. Sens.						.05	.06	.06
Sooth.						.02	.08	.02
Anger Frust.						.42	.07	.49***
Inhib. Cont.						-.36	.08	-.38***
Care village						.06	.09	.05
Group Home						.10	.10	.08
Perceptual Sensitivity as Moderators								
Step 5	.77	.59	.01	12.29***	.79			
Age						.00	.01	.02
Gender						.17	.08	.15*
Total Risk						.06	.03	.11
Duration in Care						.00	.00	.09
# of Institutions						.00	.06	.00
Perc. Sens.						.13	.09	.15
Sooth.						.03	.08	.03
Anger Frust.						.43	.08	.51***
Inhib. Cont.						-.36	.08	-.38***
Care village						.04	.09	.04
Group Home						.08	.11	.07
Perceptual Sens. * Care Village						-.13	.12	-.10
Perceptual Sens. * Group Home						-.13	.14	-.08

Table 3.9 (continued)

Predictors	R	R^2	ΔR^2	F	F_{inc}	B	SE	β
Inhibitory Control as Moderators								
Step 5	.78	.61	.02	13.23***	3.34*			
Age						.00	.01	.01
Gender						.20	.07	.17**
Total Risk						.05	.03	.11
Duration in Care						.00	.00	.08
# of Institutions						.00	.06	.01
Perc. Sens.						.08	.06	.09
Sooth.						.04	.08	.04
Anger Frust.						.44	.07	.52***
Inhib. Cont.						-.32	.11	-.34**
Care village						.10	.09	.08
Group Home						.13	.10	.11
Inhibitory Cont. * Care Village						-.24	.14	-.15
Inhibitory Cont. * Group Home						.14	.15	.07
Anger Frustration as Moderators								
Step 5	.76	.58	.00	12.05***	.12			
Age						.00	.01	.02
Gender						.17	.08	.14*
Total Risk						.05	.03	.10
Duration in Care						.00	.00	.10
# of Institutions						.00	.06	.00
Perc. Sens.						.05	.06	.06
Sooth.						.02	.09	.02
Anger Frust.						.39	.10	.45***
Inhib. Cont.						-.36	.08	-.38***
Care village						.07	.10	.06
Group Home						.10	.11	.09
Anger Frust. * Care Village						.04	.14	.03
Anger Frust. * Group Home						.06	.12	.04
Soothability/Falling Reactivity as Moderators								
Step 5	.76	.58	.00	12.07***	.19			
Age						.00	.01	.02
Gender						.17	.08	.15*
Total Risk						.05	.03	.11
Duration in Care						.00	.00	.09
# of Institutions						.00	.06	.00
Perc. Sens.						.05	.06	.06
Sooth.						.07	.12	.07
Anger Frust.						.42	.08	.50***
Inhib. Cont.						-.36	.08	-.38***
Care village						.07	.09	.06
Group Home						.11	.11	.09
Sooth. * Care village						-.09	.15	-.05
Sooth. * Group Home						-.04	.15	-.03

*p<.05, **p<.01, ***p<.001, [a]marginally significant.

When **perceptual sensitivity** was moderator, last step did not contribute to the explained variance (R^2 = .59, Adjusted R^2 = .54, ΔR^2 = .01, $F_{inc}(2, 112)$ = .79, p = .46). Gender (β = .15 p = .03), anger frustration (β = .51, p < .001), and inhibitory

control (β = -.38, p < .001) were still significant. There was not any significant interaction. Overall, the model was significant when perceptual sensitivity was moderator, R^2 = .59, F (2, 112) = 14.44, p < .001.

On the other hand, **inhibitory control** as a moderator, explained further variance when interaction terms were included R^2 = .61 (adjusted R^2 = .56), ΔR^2 = .02, *Finc* (2, 112) = 3.34, p = .04). Unique effects of gender (β = .17, p = .01), anger frustration (β = .52, p < .001), and inhibitory control (β = .41, p = .001), and perceptual sensitivity were still significant (β = -.34, p = .01) were significant. Also, inhibitory control care village interaction was marginally significant (β = -.15, p = .08), however, the results of the simple slope analysis did not give any significant results (-1 SD, b = .24, t = 1.75, p = .08; +1 SD, b = -.04, t = -.40, p = .69). Overall, the model was significant when inhibitory control was moderator R^2 = .61, F(2, 112) = 13.23, p < .001).

When **anger frustration** was a moderator, the contribution of interaction terms was not significant [R^2 = .58 (adjusted R^2 = .54), ΔR^2 = .00, *Finc* (2, 112) = .12, p = .88]. Again, gender (β = .14 p = .03), anger frustration (β = .45, p < .001), and inhibitory control (β = -.38, p < .001) were significant and there was not any significant interaction. The overall model was also significant for anger frustration as moderator, R^2 = .58, F(2, 112) = 12.05, p < .001.

When **soothability/ falling reactivity** was a moderator, the step did not yield any significant contribution to the variance, either [R^2 = .58 (adjusted R^2 = .54), ΔR^2 = .00, *Finc* (2, 112) = .19, p = .83)]. The effects of gender (β = .15, p = .02), anger frustration (β = .50, p < .001), and inhibitory control (β = -.38, p < .001) were still significant and there was not any significant interaction. The overall model was also significant for anger frustration as moderator, R^2 = .58, F(2, 112) = 12.07, p < .001.

3.5.3 Hierarchical Regression Analyses for Predicting Internalization

3.5.3.1 Comparison of Care Types (Institution, Care Village, Group Homes, and Foster Care) with Low SES: Temperament as Moderator

The **first step** of the hierarchical regression analysis showed that age and gender did not account for significant amount of variation in internalization, R^2 = .00 (adjusted R^2 = -.01), F (2, 181) = .17, p = .85. **Second step** contributed significant amount of variance R^2 = .16 (adjusted R^2 = .13), ΔR^2 = .16, $Finc$ (4, 177) = 8.11, p < .001). Perceptual sensitivity (β = -.22, p = .01), and soothability (β = -.20, p = .03), had significant unique effects on internalization. **Third step**, including care type variables, on the other hand did not contribute significantly to the explained variance R^2 = .19 (adjusted R^2 = .14), ΔR^2 = .03, $Finc$ (4, 173) = 1.76, p = .14). Perceptual sensitivity (β = -.22, p = .02), was still significant. Furthermore, inhibitory control (β = -.17, p = .07), and foster care (β = -.15, p = .06), had marginally significant effects on internalization. **In the last step**, four interaction terms (temperamentXcaretypes) were added to the equation and the final step of the model was conducted separately for four different moderators (see Table 3.10).

Table 3.10 Results of the Hierarchical Regression Analysis For Predicting Internalization: Care Type vs Low SES Comparison with Four Temperamental Characteristics as Moderators

Predictors		R	R^2	ΔR^2	F	F_{inc}	B	SE	β
	Step 1	.04	.00	.00	.16	.16			
Age							-.00	.00	-.04
Gender							-.00	.01	-.00
	Step 2	.40	.16	.16	5.47***	8.11***			
Age							-.00	.00	-.01
Gender							-.01	.01	-.04
Perc. Sens.							-.03	.01	-.22**
Sooth.							-.03	.01	-.20*
Anger Frust.							.01	.01	.11
Inhib. Cont.							-.01	.01	-.05
	Step 3	.44	.19	.03	4.04***	1.76			
Age							.00	.00	-.04
Gender							-.00	.01	-.02
Perc. Sens.							-.03	.01	-.22*
Sooth.							-.02	.01	-.17[a]
Anger Frust.							.01	.01	.10
Inhib. Cont.							-.01	.01	-.05
Institution							-.03	.02	-.13
Care village							-.01	.02	-.03
Group Home							.01	.02	.03
Foster Care							-.05	.02	-.15[a]
Perceptual Sensitivity as Moderator									
	Step 4	.46	.21	.15	3.22***	1.15			
Age							-.00	.00	-.05
Gender							.00	.01	.00
Perc. Sens.							-.02	.03	-.17
Sooth.							-.02	.01	-.17[a]
Anger Frust.							.02	.01	.12
Inhib. Cont.							-.00	.01	-.01
Institution							-.02	.02	-.12
Care village							-.01	.02	-.05
Group Home							.01	.02	.05
Foster Care							-.04	.03	-.15
Perc. Sens. * Institution							.01	.03	.04
Perc. Sens. * Care village							-.04	.03	-.16
Perc. Sens. * Group Home							.01	.04	.02
Perc. Sens. * Foster Care							-.00	.04	-.00
Inhibitory Control as Moderator									
	Step 4	.46	.21	.02	3.22***	1.13			
Age							-.00	.00	-.04
Gender							.00	.01	.01
Perc. Sens.							-.02	.01	-.18*
Sooth.							-.02	.01	-.16
Anger Frust.							.02	.01	.12
Inhib. Cont.							.03	.03	.18
Institution							-.03	.02	-.14
Care village							-.00	.02	-.01
Group Home							.01	.02	.03
Foster Care							-.05	.02	-.16[a]
Inhib. Cont. * Institution							-.02	.03	-.07
Inhib. Cont. * Care village							-.06	.03	-.22*
Inhib. Cont. * Group Home							-.04	.03	-.11
Inhib. Cont. * Foster Care							-.04	.04	-.08

Table 3.10 (continued)

Predictors	R	R^2	ΔR^2	F	F_{inc}	B	SE	β
Anger Frustration as Moderator								
Step 4	.44	.19	.00	2.89**	.21			
Age						-.00	.00	-.04
Gender						-.00	.01	-.02
Perc. Sens.						-.03	.01	-.22*
Sooth.						-.03	.01	-.17[a]
Anger Frust.						.03	.02	.20
Inhib. Cont.						-.01	.01	-.04
Institution						-.02	.02	-.12
Care village						-.00	.02	-.01
Group Home						.01	.02	.05
Foster Care						-.04	.03	-.14
Anger Frust. * Institution						-.02	.03	-.09
Anger Frust. * Care village						-.01	.03	-.02
Anger Frust. * Group Home						-.01	.03	-.05
Anger Frust. * Foster Care						-.01	.04	-.02
Soothability/Falling Reactivity as Moderator								
Step 4	.48	.23	.04	3.64***	2.34[a]			
Age						.00	.00	-.03
Gender						-.00	.01	-.01
Perc. Sens.						-.03	.01	-.21*
Sooth.						.03	.02	.18
Anger Frust.						.01	.01	.10
Inhib. Cont.						-.01	.01	-.03
Institution						-.03	.02	-.13
Care village						-.01	.02	-.05
Group Home						.01	.02	.03
Foster Care						-.04	.02	-.14
Sooth. * Institution						-.06	.03	-.19[a]
Sooth. * Care village						-.09	.03	-.29**
Sooth. * Group Home						-.05	.03	-.18[a]
Sooth. * Foster Care						-.08	.04	-.15[a]

*p<.05, **p<.01, ***p<.001, [a]marginally significant.

When **perceptual sensitivity** was a moderator, the interaction terms did not contribute to the explained variance, R^2 = .21 (adjusted R^2 = .15), ΔR^2 = .02, *Finc* (4, 169) = 1.15, p = .34). Only soothability had marginally significant results (β = -.17, p = .07) which implied that there is a trend for children with low soothability to have higher internalization problems. Overall, the model was significant when perceptual sensitivity was moderator, R^2 = .21, F(14, 169) = 3.22, p < .001).

When **inhibitory control** was a moderator**,** interaction terms did not provide further explanation to the model either, R^2 = .21 (adjusted R^2 = .15), ΔR^2 = .02, *Finc* (4, 169) = 1.13, p = .35). Perceptual sensitivity (β = -.18, p < .05) had unique effects on internalization**.** Being in foster care (β = -.16, p = .05) yielded marginally significant

results. Additionally, inhibitory control and care village interaction was significant (β = -.11, p < .05). Overall, the model was significant when inhibitory control was moderator R^2 = .21, F(14, 169) = 3.22, p < .001).

According to the simple slope analysis, results of the interaction between inhibitory control and care villages showed that, for children with low inhibitory control, there was a trend for living in care village had more internalization problems compared to low SES group (b = .04 t = 1.72, p = .08). Also, for children with high inhibitory control, living in care village had less internalization problems compared to low SES group (b = -.04, t = -2.36, p = .02) as graphed in the Figure 3.11.

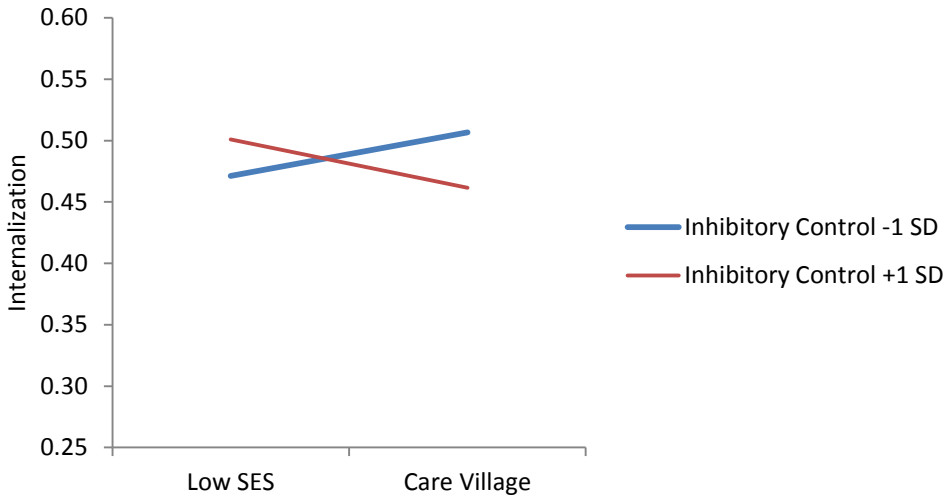

Figure 3.11 Graph for the Interaction Between Inhibitory Control and Care Village Compared to Low SES in Predicting Child's Internalization

When **anger frustration** was a moderator**,** interaction terms' contribution to the explained variance was not significant, R^2 = .19 (adjusted R^2 = .13), ΔR^2 = .00, *Finc* (4, 169) = .21, p = .93). Perceptual sensitivity (β = -.22, p = .02) had significant, soothability (β = -.17, p = .07) had marginally significant unique effects on internalization. There was not any significant interaction. Overall, the model was significant when anger frustration is moderator R^2 = .54, F (14, 169) = 2.89, p < .01).

As being different from other analysis, when **soothability** was a moderator, interaction terms contributed marginally significant amount of variance, R^2 = .23 (adjusted R^2 = .17), ΔR^2 = .04, *Finc* (4, 169) = 2.34, p = .06). The unique effect of perceptual sensitivity was significant (β = -.21, p = .02). Furthermore soothability care village interaction (β = -.29, p = .00) yielded significant, and soothability institution (β = -.19, p = .07), soothability group home (β = -.18, p = .07), and soothability foster care (β = -.15, p = .07), interactions yielded marginally significant results. The overall model was also significant for soothability as a moderator, R^2 = .23, F(14, 169) = 3.64, p < .001).

The results of the simple slope analysis for soothability care village interaction indicated that for children having low soothability, more internalization problems were common in care village group than low SES group (b = .04, t = 2.45, p = .02). On the other hand, if children had high soothability they had more internalization problems in low SES than care village (b = -.06, t = -3.09, p = .00) (see Figure 3.12).

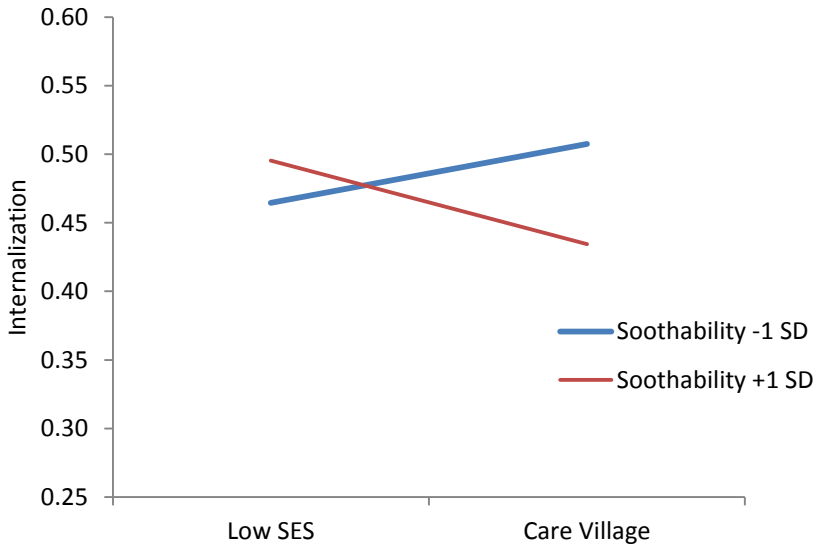

Figure 3.12 Graph for the Interaction Between Soothability and Care Village Compared to Low SES in Predicting Child's Internalization

Simple slope analysis for the interaction between soothability and institution indicated that children with high soothability level had more internalization problems in low SES than children in institutions (b = -.06, t = -3.47, p = .001), however they

did not differentiate if they had low soothability (b = .01, t = .36, p = .72) as graphed in Figure 3.13.

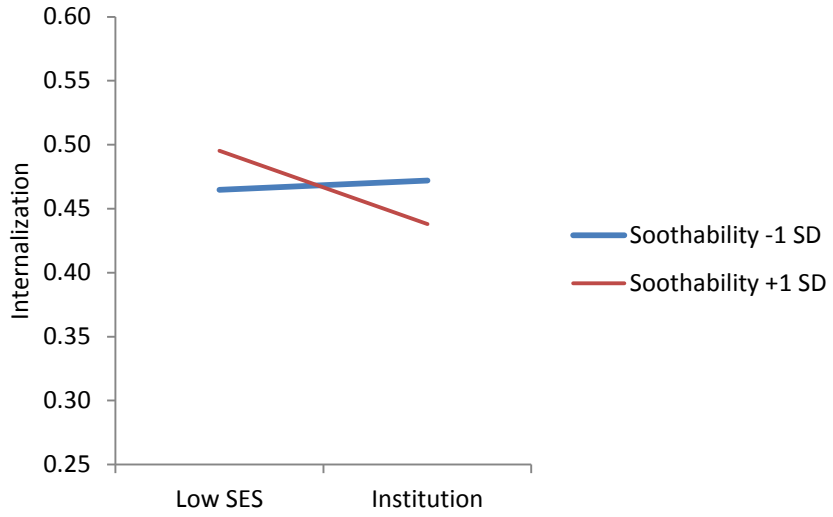

Figure 3.13 Graph for the Interaction Between Soothability and Institution Compared to Low SES in Predicting Child's Internalization

Another significant interaction was between soothability and group home. As the results suggest, the groups did not differ if children had high in soothability (b = -.03, t = -1.23, p = .22). On the other hand, for children who were low on soothability, children had lower internalization problems if they were staying with their low SES families than group home children (b = .04, t = 2.37, p = .02) (see Figure 3.14).

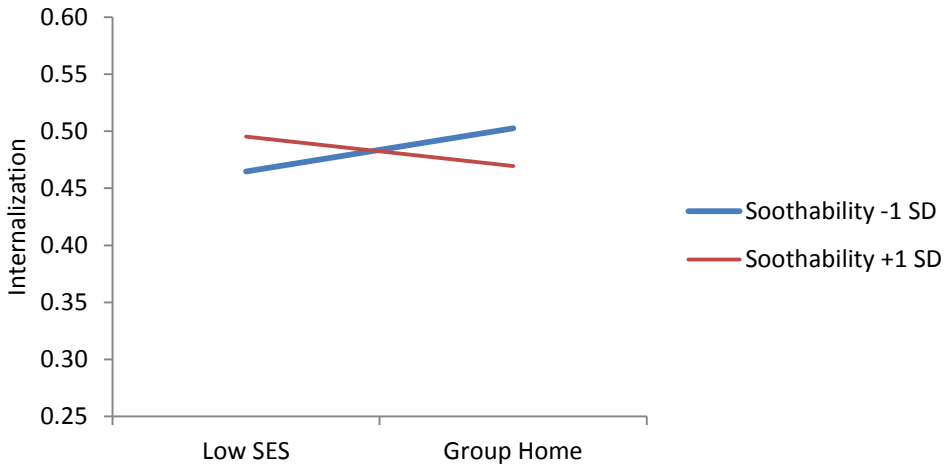

Figure 3.14 Graph for the Interaction Between Soothability and Group Home Compared to Low SES in Predicting Child's Internalization

Lastly, interaction between soothability and foster care was also significant. As the results suggest, for children who were characterized as having high soothability and falling reactivity traits, low SES group had more internalization problems than foster care group (b = -.09, t = -2.10, p = .04). The groups did not differ if children had low soothability (b = .01, t = .16, p = .87) (see Figure 3.15).

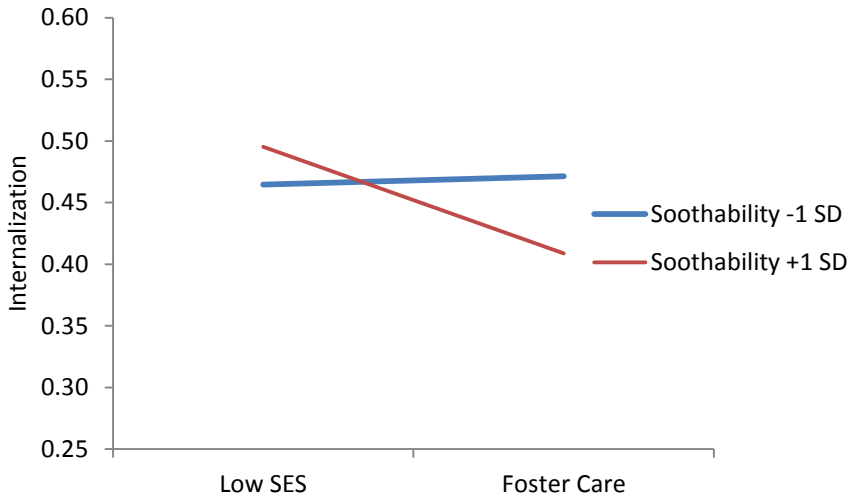

Figure 3.15 Graph for the Interaction between Soothability and Foster Care Compared to Low SES in Predicting Child's Internalization

3.5.3.2 Comparison of Care Types (Care Village, Group Homes, Foster Care, and Low SES) with Institutions: Temperament as a Moderator

The same analyses were run institution as the comparison group, and the **first two steps** of the hierarchical regression analysis were equal with the low SES comparison group, as assumed. Likewise, **third step** did not contribute any significant variance either, R^2 = .19 (adjusted R^2 = .14), ΔR^2 = .03, *Finc* (4, 173) = 1.76, p = .14. It was found that children who have low levels of perceptual sensitivity had more internalization problems (β = -.22, p = .02). Furthermore, soothability (β = -.17, p = .07) and group home (β = .16, p = .07) had marginally significant effects on internalization. **In the last step**, four interaction terms (temperamentXcaretypes) were added to the equation and the final step of the model was conducted separately for four different moderators (see Table 3.11).

Table 3.11 Results of the Hierarchical Regression Analysis For Predicting Internalization: All Care Types vs Institution Comparison with Four Temperamental Characteristics as Moderators

Predictors		R	R^2	ΔR^2	F	F_{inc}	B	SE	β
	Step 1	.04	.00	.00	.16	.16			
Age							-.00	.00	-.04
Gender							-.00	.01	-.00
	Step 2	.40	.16	.16	5.47***	8.11***			
Age							-.00	.00	-.01
Gender							-.01	.01	-.04
Perc. Sens.							-.03	.01	-.22**
Sooth.							-.03	.01	-.20*
Anger Frust.							.01	.01	.11
Inhib. Cont.							-.01	.01	-.05
	Step 3	.44	.19	.03	4.04***	1.76			
Age							.00	.01	-.04
Gender							-.00	.01	-.02
Perc. Sens.							-.03	.01	-.22*
Sooth.							-.02	.01	-.17[a]
Anger Frust.							.01	.01	.10
Inhib. Cont.							-.01	.01	-.05
Care village							.02	.02	.10
Group Home							.03	.02	.16[a]
Foster Care							-.02	.02	-.06
Low SES							.03	.02	.12
Perceptual Sensitivity as Moderator									
	Step 4	.46	.21	.02	3.22***	1.15*			
Age							-.00	.00	-.01
Gender							.00	.01	.00
Perc. Sens.							-.01	.02	-.10
Sooth.							-.02	.01	-.17[a]
Anger Frust.							.02	.01	.12
Inhib. Cont.							-.00	.01	-.01
Care village							.01	.02	.06
Group Home							.03	.02	.17[a]
Foster Care							-.02	.03	-.07
Low SES							.02	.02	.11
Perc. Sens. * Care village							-.05	.02	-.20*
Perc. Sens. * Group Home							-.00	.03	-.01
Perc. Sens. * Foster Care							-.01	.04	-.03
Perc. Sens. * Low SES							-.01	.03	-.03
Inhibitory Control as Moderator									
	Step 4	.46	.21	.02	3.22***	1.13			
Age							-.00	.01	-.04
Gender							.01	.01	.01
Perc. Sens.							-.02	.01	-.18*
Sooth.							-.02	.01	-.16
Anger Frust.							.02	.01	.12
Inhib. Cont.							.01	.02	.03
Care village							.03	.02	.13
Group Home							.04	.02	.17 [a]
Foster Care							-.02	.02	-.06
Low SES							.03	.02	.13
Inhib. Cont. * Care village							-.04	.03	-.15
Inhib. Cont. * Group Home							-.02	.03	-.05
Inhib. Cont. * Foster Care							-.02	.04	-.04
Inhib. Cont. * Low SES							.02	.03	.06

Table 3.11 (continued)

Predictors	R	R^2	ΔR^2	F	F_{inc}	B	SE	β
Anger Frustration as Moderator								
Step 4	.44	.19	.00	2.89**	.21			
Age						-.00	.00	-.04
Gender						-.00	.01	-.02
Perc. Sens.						-.03	.01	-.22*
Sooth.						-.03	.01	-.17[a]
Anger Frust.						.00	.02	.01
Inhib. Cont.						-.01	.01	-.04
Care Village						.02	.02	.11
Group Home						.03	.02	.17[a]
Foster Care						-.02	.02	-.06
Low SES						.02	.02	.11
Anger Frust. * Care village						.02	.03	.06
Anger Frust. * Group Home						.01	.03	.04
Anger Frust. * Foster Care						.02	.04	.03
Anger Frust. * Low SES						.02	.03	.09
Soothability/Falling Reactivity as Moderator								
Step 4	.48	.23	.04	3.64***	2.34[a]			
Age						.00	.01	-.03
Gender						-.00	.01	-.01
Perc. Sens.						-.03	.01	-.21*
Sooth.						-.03	.02	-.20
Anger Frust.						.01	.01	.10
Inhib. Cont.						-.01	.01	-.03
Care Village						.02	.02	.08
Group Home						.03	.02	.16[a]
Foster Care						-.02	.02	-.05
Low SES						.03	.02	.12
Sooth. * Care village						-.03	.03	-.11
Sooth. * Group Home						.00	.03	.00
Sooth. * Foster Care						-.02	.04	-.05
Sooth. * Low SES						.06	.03	.17[a]

*p<.05, **p<.01, ***p<.001, [a]marginally significant.

When **perceptual sensitivity** was a moderator, the interaction terms did not contribute significant variance, R^2 = .21 (adjusted R^2 = .15), ΔR^2 = .02, *Finc* (4, 169) = 1.15, p = .34). Only soothability (β = -.17, p = .07) and group home (β = .17, p = .07) were marginally significant. Also, perceptual sensitivity and care village interaction was significant (β = -.20, p < .05). Overall, the model was significant when perceptual sensitivity was moderator, R^2 = .55, F(14, 169) = 3.22, p < .001). However, as results of the simple slope analysis suggest that, the slopes were not significant for perceptual sensitivity care village interaction (-1 SD, b = .05, t = .50, p = .62; +1 SD, b = -.02, t = -.20, p = .84).

When **inhibitory control** was moderator, interaction terms did not contribute to the explained variance, [R^2 = .21 (adjusted R^2 = .15), ΔR^2 = .02, *Finc* (4, 169) = 1.13, p = .35)]. Perceptual sensitivity was significant (β = -.18, p < .05) and group home was marginally significant (β = .17, p = .06). There was not any significant interaction. Overall, the model was significant when inhibitory control was moderator R^2 = .21, F(14, 169) = 3.22, p < .001).

When **anger frustration** was moderator, similar results were yielded for contribution of interaction terms [R^2 = .19 (adjusted R^2 = .13), ΔR^2 = .00, *Finc* (4, 169) = .21, p = .93)]. Similar to the other analyses, perceptual sensitivity was significant (β = -.22, p = .02). This time soothability (β = -.17, p = .07) also had a marginally significant unique effect on internalization along with group home (β = .17, p = .06). The model was significant when anger frustration is moderator overall, R^2 = .19, F(14, 169) = 2.89, p < .01.

Lastly, when **soothability** was moderator, the contribution of interaction terms was marginally significant [R^2 = .23 (adjusted R^2 = .17), ΔR^2 = .04, *Finc* (4, 169) = 2.34, p = .06)]. Perceptual sensitivity had significant unique effect on internalization (β = -.21, p = .02). Furthermore, group home (β = .16, p = .08), and soothability low SES interaction was marginally significant (β = .16, p = .08). However, interaction between soothability and low SES did not have significant slopes (-1 SD, b = -.01, t = -.05, p = .96; +1 SD, b = .06, t = .41, p = .69). The overall model was also significant for soothability as a moderator, R^2 = .23, F(14, 169) = 3.64, p < .001).

3.5.3.3 Comparison of Care Types (Care Villages, and Group Homes) with Institution After Controlling Care History

In the prediction of internalization, age and gender variables were entered in the **first step**, R^2 = .11, Adjusted R^2 = -.004, F (2, 123) = .75, p = .47. Duration in care, risk factors, and number of institutions were entered in the **second step**, R^2 = .11, Adjusted R^2 = .07, ΔR^2 = .10, F_{inc}(3, 120) = 4.33, p < .01. Mean centered temperamental characteristics (Perceptual sensitivity, inhibitory control, soothability,

and anger frustration) were entered to the equation in the **third step** (R^2 = .53, Adjusted R^2 = .23, ΔR^2 = .18, $F_{inc}(4, 116) = 7.9$, $p < .001$). Duration in care (β = -.20, p = .03), number of institutions (β = .17, p = .04), and soothability (β = -.31, p = .01) had significant unique effects on internalization, as similar to the previous analyses. **In the next step**, care types (Care village and group home) were added, leaving institution out as a comparison group (R^2 = .29, Adjusted R^2 = .22, ΔR^2 = .00, $F_{inc}(2, 114) = .20$, p = .82), and none of them had significant contribution to the explained variance. Duration in care (β = -.21, p = .03), and soothability (β = -.30, p = .01) were still significant. On the other hand, number of institutions (β = .19, p = .06), was only marginally significant in this step. **In the last step**, four interaction terms (temperamentXcaretypes) were added to the equation and the final step of the model was conducted separately for four different moderators (see Table 3.12).

Table 3.12 Results of the Hierarchical Regression Analysis For Predicting Internalization: Care Type vs Institution Comparison with Care History

Predictors	R	R^2	ΔR^2	F	F_{inc}	B	SE	β
Step 1	.11	.01	.01	.75	.75			
Age						-.01	.02	-.00
Gender						-.00	.00	-.11
Step 2	.33	.11	.10	2.92*	4.33**			
Age						.01	.02	.06
Gender						-.00	.00	-.12
Total Risk						.01	.01	.08
Duration in Care						-.00	.00	-.19*
# of Institutions						.03	.01	.24**
Step 3	.53	.29	.18	5.15***	7.19***			
Age						.01	.01	.07
Gender						-.00	.00	-.09
Total Risk						.00	.01	.04
Duration in Care						-.00	.00	-.20*
# of Institutions						.02	.01	.17*
Perc. Sens.						-.02	.01	-.15
Sooth.						-.05	.02	-.31**
Anger Frust.						.00	.02	.02
Inhib. Cont.						-.01	.02	-.08
Step 4	.54	.29	.00	4.19***	.20			
Age						.01	.02	.08
Gender						-.00	.00	-.11
Total Risk						.03	.01	.04
Duration in Care						-.00	.00	-.21*
# of Institutions						.02	.01	.19[a]
Perc. Sens.						-.02	.01	-.14
Sooth.						-.04	.02	-.30*
Anger Frust.						.00	.02	.02
Inhib. Cont.						-.01	.02	-.08
Care village						.01	.02	.04
Group Home						-.00	.02	-.02
Perceptual Sensitivity as Moderator								
Step 5	.56	.31	.02	3.91***	1.98			
Age						.02	.02	.10
Gender						-.00	.00	-.12
Total Risk						.00	.01	.03
Duration in Care						-.00	.00	-.22*
# of Institutions						.02	.01	.21*
Perc. Sens.						-.00	.02	-.01
Sooth.						-.04	.02	-.29*
Anger Frust.						.01	.02	.05
Inhib. Cont.						-.01	.02	-.05
Care village						.00	.02	.01
Group Home						-.01	.02	-.03
Perceptual Sens. * Care Village						-.05	.02	-.22[a]
Perceptual Sens. * Group Home						-.01	.03	-.04

Table 3.12 (continued)

Predictors	R	R^2	ΔR^2	F	F_{inc}	B	SE	β
Inhibitory Control as Moderator								
Step 5	.55	.30	.01	3.68***	.92			
Age						.02	.02	.09
Gender						-.00	.00	-.11
Total Risk						.00	.01	.04
Duration in Care						-.00	.00	-.22*
# of Institutions						.02	.01	.19[a]
Perc. Sens.						-.02	.01	-.13
Sooth.						-.04	.02	-.29*
Anger Frust.						.01	.02	.04
Inhib. Cont.						.00	.02	.03
Care village						.01	.02	.07
Group Home						.00	.02	.00
Inhibitory Cont. * Care Village						-.04	.03	-.15
Inhibitory Cont. * Group Home						-.01	.03	-.03
Anger Frustration as Moderator								
Step 5	.54	.29	.00	3.52***	.17			
Age						.01	.02	.08
Gender						-.00	.00	-.11
Total Risk						.00	.01	.05
Duration in Care						-.00	.00	-.21*
# of Institutions						.02	.01	.19[a]
Perc. Sens.						-.02	.01	-.15
Sooth.						-.04	.02	-.29*
Anger Frust.						-.00	.02	-.02
Inhib. Cont.						-.01	.02	-.08
Care village						.01	.02	.06
Group Home						-.00	.02	-.01
Anger Frust. * Care Village						.00	.03	.02
Anger Frust. * Group Home						.02	.03	.06
Soothability/Falling Reactivity as Moderator								
Step 5	.56	.31	.02	3.85***	1.71			
Age						.02	.02	.09
Gender						-.00	.00	-.11
Total Risk						.01	.01	.07
Duration in Care						-.00	.00	-.21*
# of Institutions						.02	.01	.20*
Perc. Sens.						-.02	.01	-.15
Sooth.						-.03	.02	.21
Anger Frust.						.01	.02	.04
Inhib. Cont.						-.01	.02	-.07
Care village						.01	.02	.04
Group Home						.00	.02	-.00
Sooth. * Care village						-.04	.03	-.16
Sooth. * Group Home						.01	.03	.04

*p<.05, **p<.01, ***p<.001, [a] marginally significant.

When **perceptual sensitivity** was moderator, last step did not contribute to the model [R^2 = .31, Adjusted R^2 = .23, ΔR^2 = .02, F_{inc}(2, 112) = 1.98, p = .14]. Duration in care (β = -.22, p = .02), number of institutions (β = .21, p = .04) and soothability (β = -.29, p = .01) were still significant even after controlling all other variables. Furthermore the interaction between perceptual sensitivity and care villages was marginally significant (β = -.22, p = .05). However, interaction did not have significant slopes (-1 SD, b = .03, t = 1.47, p = .15; +1 SD, b = -.03, t = -1.14, p = .26). Overall, the model was significant when perceptual sensitivity was moderator [R^2 = .31, F (13, 112) = 3.91, p < .001].

Inhibitory control as a moderator, did not explained further variance when interaction terms were included, [R^2 = .30, Adjusted R^2 = .22, ΔR^2 = .01, *Finc* (2, 112) = .92, p = .40]. Similarly, duration in care (β = -.22, p = .02), and soothability (β = -.29, p = .02), had significant unique effects on internalization. Furthermore, number of institutions was marginally significant (β = .19, p = .06). Overall, the model was significant when inhibitory control was moderator [R^2 = .30, F(13, 112) = 3.68, p < .001].

When **anger frustration** was moderator, the contribution of interaction terms was not significant [R^2 = .29 (adjusted R^2 = .21), ΔR^2 = .00, *Finc* (2, 112) = .17, p = .85]. Again, duration in care (β = -.21, p = .03), and soothability (β = -.29, p = .01), had significant unique effects on internalization, and number of institutions (β = .19, p = .07) also yielded marginally significant results. The overall model was also significant for anger frustration as moderator, [R^2 = .29, F(13, 112) = 3.52, p < .001].

When **soothability/ falling reactivity** was a moderator, the step did not yield any significant contribution to the model either [R^2 = .31 (adjusted R^2 = .23), ΔR^2 = .02, *Finc* (2, 112) = 1.71, p = .19)]. Duration in care (β = -.21, p = .03), and number of institutions (β = .20, p = .046) had significant unique effects on internalization. The overall model was also significant for anger frustration as moderator, [R^2 = .31, F(13, 112) = 3.85, p < .001].

CHAPTER 4

DISCUSSION

Present study aimed to examine the effects of different care types (institution, group home, care village and foster care) on children's social competence, internalization and externalization problems. In addition, children in care were also compared to children from low SES backgrounds. Furthermore, temperamental characteristics (frustration, inhibitory control, perceptual sensitivity and soothability) were considered as moderators between care context and child outcomes.

It is now a well-established finding that institutionalization has negative effects on different developmental outcomes of children (van Ijzendoorn et al., 2011; Martins et al., 2013; Merz, McCall, Wright, & Luna, 2013; Roy, Rutter, & Pickles, 2004; Rutter et al., 2007). Therefore, new care types which promise better child outcomes (Bakermans-Kranenburg et al., 2011; van IJzendoorn, Juffer, & Poelhuis, 2005; Kreppner, Rutter, Marvin, O'Connor, & Sonuga-Barke, 2011) have been implemented for children under protection. Although there are some studies comparing care types such as foster and institutional care (Ghera et al, 2009; Nelson et al., 2007; Roy & Rutter, 2006; Scholte, 1997; Smyke et al., 2012), adoption and institutional care (Altınoğlu-Dikmeer, 2009; Vorria et al., 2006), or comparing all three types (McCall, 2013); however, there are limited number of studies comparing alternative home-based care types like group homes and care villages (Lassi et al., 2011; Munoz Hoyos et al., 2001; Whetten et al., 2009). Furthermore, it is now well known fact that the effects of environment varies by the child's temperamental characteristics (Lengua 2008; Moran, Lengua, & Zalewski, 2013; Ramos, Wright Guerin, Gottfried, Bathurst, & Oliver, 2009). But, there is not any study comparing behavioural outcomes (social competence, internalization and externalizing) while testing the moderator role of child temperament. There are only two recent studies

explored the moderating role of temperament on different child outcomes (Ertekin, 2014; Taşfiliz, 2014).

Therefore present study is unique for comparing different care types (institutions, group home, care village, foster care) and low SES in terms of behavioural outcomes (social competence, internalization and externalization) of children under protection while temperamental characteristics (frustration, inhibitory control, perceptual sensitivity and soothability) are taken as moderators. Furthermore, Turkish social service system is substituting institutional care types to the home based care types; thus there is an urgent need to identify the child outcomes to see the consequences of children's differential experiences.

In this chapter, firstly the results will be discussed with regard to the hypotheses of the study. Direct effects of care types and, moderating role of temperament on children's internalization, externalization and social competence outcomes will be discussed within the light of the literature. Lastly, strengths and limitations, and implications of this study will be mentioned.

4.1 Discussion of Care Type Differences

The first set of hypothesis (1 to 5) of the study was "children who are cared in institutions will have more externalizing, and internalizing problem behaviors and less social competence than care villages, group homes, foster care and low SES biological families; care villages would have less desired outcomes than group homes, foster care and biological families; group homes would have less desired outcomes than foster care and biological families; and lastly, foster care would have less desired outcomes than biological family care. The first set of hypotheses were based on the given literature, the less the caregiver-child ratio is, the better the child outcomes (De Schipper, Riksen-Walraven, & Geurts, 2006). As caregiver's involvement and attention increased, better outcomes were observed (Ptacek, Kuzelova, Celedova, & Cevela, 2012, Roy & Rutter, 2006). Therefore, care types with smaller group sizes were expected to have better outcomes. This set of

hypotheses was partially supported. Care types of institution, care village and group home did not show a difference. On the other hand, children reared in foster care showed less internalization problem than their peers staying in child group homes, and higher social competence than their peers staying in care villages. This result was in line with the earlier works indicating that one-to-one interaction with children and caregiver is important in terms of social and behavioral development of children (Johnson, Browne, and Hamilton-Giachritsis, (2006). Biological family care was expected to have best outcomes for children, but when groups were compared on social competence, internalization and externalization outcomes, children living with their biological families were not better than the children in care. This might be due to family care group of children in this study was also from high-risk backgrounds.

In the following parts, second set of hypotheses (6 and 7) which examines the moderating role of temperamental characteristics on care type differences and problem behavior outcomes of children will be discussed separately for each outcome variable.

4.2 Findings Concerning Social Competence

Social competence of children was measured with the ***Social competence*** subscale of Turkish Version of the Social Competence and Behavior Evaluation Scale (SYDD 30). It was based on the maternal and primary caregiver reports. As the results suggest, gender, perceptual sensitivity, soothability and inhibitory control significantly predicted children's social competence. Females had higher social competence than males, however, the main effect of gender disappeared when soothability and anger frustration were taken as moderators.

Furthermore, as it was mentioned in the results section, three sets of regression analyses were run first set had low SES as comparison group, second set had institution care as comparison and the third set of analyses compared care village, group home and institutional care groups after controlling the effects of risk factors, duration in care and number of institutions child stayed, since some studies indicated

that not only institutional care but also these children's pre-care experiences had an effect on their social and behavioral outcomes. However, none of them were significant in the prediction of social competence.

Based on the differential susceptibility hypothesis, it was hypothesized that temperamental characteristics of anger frustration and perceptual sensitivity would moderate the effects of different care types on social competence of children considering the findings of the literature (Crockenberg & Leerkes, 2005). The first temperamental characteristic that was examined was **perceptual sensitivity**. It was hypothesized that for children with high scores on the perceptual sensitivity, social competence would be lower if they are in the institution amongst all care types. But they would have better outcomes if they are reared in biological or foster families. This hypothesis was not supported. The results suggested that if children had low **perceptual sensitivity**; foster care group of children had higher social competence compared to low SES biological families. But, children with high perceptual sensitivity, living in foster care or with biological families did not make a significant difference for social competence. Similarly, comparison with foster care and institution showed that low perceptual sensitivity group of children had better social competence in foster care, but there was no difference for high perceptual sensitivity group. These findings did not support differential susceptibility. On the other hand, they underline the importance of perceptual sensitivity as a protective factor on social competence. Furthermore, it is also important for indicating the quality of care in foster families. Foster families in Turkey have higher socioeconomic level and become foster parents as voluntarily not for economic reasons. Also, it should be considered that the ones who agreed to participate to our study are among the most attentive and caring families. Thus, it is not surprising that children with low perceptual sensitivity in their care show better social competence than children in institutions.

Anger frustration was the second temperamental characteristic that was tested from the differential susceptibility theory perspective. Based on the previous findings that children with high reactivity are effected from the care type more than children with

low reactivity (Belsky, Bakermans-Kranenburg, & van Ijzendoorn, 2007), it was hypothesized that children having high **anger frustration** and staying in the institutional settings will show the least social competence amongst all other groups. But children in better conditions like foster care or living with their biological families, they will have higher social competence. Hypothesis was supported in terms of differential susceptibility. For children with high anger frustration, staying in care village had worse outcomes than staying with low SES biological families in terms of social competence. There was not any difference for low anger frustration group of children. However this interaction did not exist for children living in institutions, contrary to the expectations.

Moderator role of the other two temperamental traits (**inhibitory control** and **soothability/falling reactivity**) were tested as explanatory due to the lack of related literature. Therefore, we did not have any specific hypotheses for moderation. But for the main effects, it was expected that children with high scores on the inhibitory control and soothability to have higher social competence, and lower externalization and internalization problems, and children with low inhibitory control and soothability scores to have higher externalization and internalization problems and lower social competence. For the outcome of social competence, the results supported our hypothesis that children having high inhibitory control had higher social competence, in line with the previous findings (Acar, Moritz Rudasil, Molfese, Torquati, & Prokasky, 2015). Also, there was not any effect for soothability on social competence.

When **inhibitory control** was moderator, the results suggested that, for children with low inhibitory control, foster care group had higher social competence than institution group, but there was not any difference for the high inhibitory group of children. Similar with the previous findings, this result also underlines the better environmental conditions, socioeconomic status and quality of care offered by the foster families. Also, inhibitory control plays a role as a protective factor for social competence in the institution.

Turning to **soothability/ falling reactivity**, care village also significantly interacted with soothability trait. Soothability was a protective factor for children in the care villages because if they had high soothability, no difference observed between care village and low SES group. But if the children are hard to sooth (more reactive), they had more social competence in low SES biological family group than care village. Soothability/ falling reactivity has somehow opposite characteristics of anger frustration. From this perspective, the results are along with the literature that children having less reactivity would have better social competence (Liew et al., 2004; Moran, Lengua, & Zalewski, 2013). On the other hand, in order to support for differential susceptibility, further studies should be conducted to investigate the effects of soothability and care type interaction on social competence.

4.3 Findings Concerning Externalization

Externalization of children was measured with the ***Externalizing Behavior*** subscale of SCBE-30 and **hyperactivity** and **conduct** subscales of Turkish Version of the Strengths and Difficulties Questionnaire (SDQ). Similarly, it was also based on the maternal and primary caregiver reports. Firstly, the results suggested a significant effect for gender namely males had higher levels of externalizing problems than females even after controlling the temperamental characteristics. This finding is supporting the literature that boys have more externalization problems than girls (Baillargeon et al., 2007; Baillargeon, Sward, Keenan, & Cao, 2011; Kaiser, Hancock, Cai, Foster, & Hester, 2000; Tibu et al., 2014). Moreover, there are findings in the literature that anger frustration (reactivity) and inhibitory control were negatively related (Eisenberg et al., 2003) and children who had high anger frustration levels had difficulties in regulation. Furthermore, high levels of anger frustration and low inhibitory control also predicts externalization problems in children (Eisenberg et al., 2001; Eisenberg et al., 2007). Present findings about anger frustration positively predicting, and inhibitory control negatively predicting externalization problems were supporting the previous findings in the literature.

Furthermore, when care village and group home were compared with institutions in order to observe the effect of duration in care and risk factors, both factors had a significant effect on externalization behaviors. However, the effect disappeared when child temperamental characteristics were entered. It is known that how important that time spent in care and different risk factors are for children's positive outcomes. As the time spent in care increases, the effects on institutionalization have more negative influences (Colvert et al., 2008). This study is important for showing that how temperamental characteristics are effective on child externalization problems beyond duration in care and risk factors.

Moreover, as perceptual sensitivity is related with behavior problems of children (Scott & O'Connor, 2012), it was hypothesized that children who have high **perceptual sensitivity** will have higher externalization problems if they are in institutional care than home based care (low SES group). The hypothesis was not supported. The results only suggested that children with low perceptual sensitivity had more externalization problems if they are staying with low SES biological families rather than foster homes.

Secondly, when **anger frustration** was moderator, it was expected that children in the institutions and having high anger frustration will have highest externalization problems amongst all groups, but there will not be any difference among the groups if they have low anger frustration. The hypothesis of differential susceptibility was supported. There was not any difference in terms of externalization problems between care village and low SES group; and group home low SES group children if they have low anger frustration. On the other hand, for high anger frustration, care village and group home children had more externalization problems than low SES families. Furthermore, similar to the previous findings of this study, children in foster care had less externalization problems than children in low SES biological families.

When **inhibitory control** was moderator, group home children tend to have more externalization problems than children in the low SES families. Although there was not any specific hypothesis regarding inhibitory control, it was expected that children

with high scores on the inhibitory control to have lower externalization problems. But for children with low inhibitory control, higher externalization and internalization problems were expected. The results supported the hypothesis because children in care villages had higher externalization problems than children in low SES biological families if they had low inhibitory control. But, for children with high inhibitory control, living in care village or biological families did not make a significant difference for externalization problems. Because children in the care villages have worse conditions in terms of high number of children staying in the same place and lack of one-to-one caregiver child interaction, they are affected from the environmental effects more than children in better conditions such as biological family group.

When **soothability/ falling** reactivity was moderator, similar findings were observed for the direct effects of the gender, anger frustration, and inhibitory control, and there was not any further significant interaction.

4.4 Findings Concerning Internalization

Internalization problems were measured with ***Internalizing Behavior*** subscale of Turkish Version of the Social Competence and Behavior Evaluation Scale (SYDD 30). The respondents were also caregivers and mothers of the children. As being similar to the externalization, increased levels internalization problems are also commonly seen in children under care (Ayaz, 2012; Erol, Simsek, & Munir, 2010; Oliviera, Fearon, Belsky, Fachada, & Soares, 2015). Children, who were placed in foster care, had less internalization problems than children who stayed in the institutions (Zeanah et al., 2009). Research also indicates that children's susceptibility for having internalization problems show variations with respect to temperamental traits such as negative reactivity (Morgan, Shaw, & Olino, 2012). In the light of the literature, it was hypothesized that children's susceptibility for internalization problems would differentiate the effects of different care types in terms of temperamental characteristics of anger frustration and perceptual sensitivity.

For the outcome of internalization, our results posit that perceptual sensitivity and soothability are negatively associated with internalization. As far as our knowledge, there is not any research examining the direct relationship between soothability, and perceptual sensitivity on young children's internalizing problem behaviors. Therefore, further research should be conducted with children in same age from different backgrounds. Furthermore, when duration in care, total number of institutions children stayed and risk factors were examined, both duration in care and number of institutions were found to be associated with internalizing outcomes of children even after the effects of child temperament were controlled. The results suggest that, as the time spent in care increases, children's internalization problems decreases. Moreover, if a child was placed in different care types, internalizing problems increased as the number of care types shows increment. Current findings are also consistent with the finding that prevalence of internalizing problems was not as high as externalizing problems among children cared in institutions in Turkey (Erol, Simsek, & Münir, 2010). However, in our findings, on the contrary to the previous finding, number of care types was also significant. This is sensible that because those children are already in risk due to their family backgrounds. When they enter to the institution, lack of stable and consistent caregiving environment is a risk factor for internalization problems and their risk will be increased if they are concurrently placed in different care types.

Turning to the findings related to temperamental characteristics, the first hypothesis was children who have high **perceptual sensitivity** will have higher internalization problems in the institution amongst other groups. Secondly, when **anger frustration** was moderator, it was expected that children in the institutions and having high anger frustration will have highest internalization problems amongst all groups. Both two hypotheses were not supported as there were not any significant interaction between care types and perceptual sensitivity, and care types and anger frustration.

When **inhibitory control** was moderator, for children with high inhibitory control, care village group had less internalization than low SES group. The result was unexpected that high inhibitory control would play a protective role in the care

villages. On the other hand, it should be noted that high inhibitory control could also result in over control which is the same for internalizing behaviors However, the role of inhibitory control should be further investigated in future studies.

S**oothability/ falling reactivity** trait had more effects on internalizing problems of children than other traits through different interactions. Firstly, children with low soothability had more internalization problems if they are reared in care villages compared to low SES. On the contrary, children with high soothability, staying in low SES lead to more internalization problems than care village.

Similarly, children with high soothability had more internalization problems in low SES than institutions. When children are institutionalized, they usually placed in care types where high number of children lives communally such as care villages and institutions, they usually adapt to the environmental conditions. Therefore, the trait of soothability may be an adaptive characteristic for children living in family based care but not for the institutional care types. Furthermore, the respondents were biological mothers of the children in the low SES group; they may tend to exaggerate the symptoms of internalization of their children due to the lack of children to compare such as the case for institutions. Additionally, for children with low soothability, higher internalization problems were found in group home children compared to low SES, however, there was not any difference for children with high soothability. Lastly, interaction between soothability and foster care was also significant. As the results suggest, for children who were characterized as having high soothability and falling reactivity traits, low SES group had more internalization problems than foster care group but, the groups did not differ if children had low soothability.

These results are important for two reasons: Firstly, as the first two findings suggest, care villages and institutions share more similar features than expected. Because care villages are apparently new and not well founded yet, the environmental characteristics are still very similar to the institutions. Therefore, the fact that care villages and institutions sharing similar outcomes is sensible. Secondly, findings

related to group homes showed differences. Group home is a home based care type where small number of children stay. But, in most of the cases children were not directly placed in group homes when they were taken under protection. Mostly, a child is first placed into an institution, than other care types are considered such as care villages, group homes, and foster care. Furthermore, children in group homes frequently changes houses due to some physical or child related reasons. The explanation for higher internalization symptoms could be along with the findings above as the number of institutions increase, children's internalization symptoms increase.

4.5 Conclusion

The aim of this study was to investigate the differences among care types in children's problem behavior and social behavior outcomes considering the child temperamental characteristics. To begin with, comparison of care types indicated that care village and institution did not differentiate for neither of the child outcomes which were examined in this study. Interestingly, children in the biological low SES family group in this study did not have best outcomes as it was discussed above. The most immanent effect which was observed in all three outcomes was for the foster care group. It was already expected that children in foster family care would end up with better outcomes than institution group of children based on the findings of the literature (Ptacek, Kuzelova, Celedova, & Cevela, 2012; Roy & Rutter, 2006; Scholte, 1997). But foster care group had even better outcomes in terms social competence, internalization, and externalization when interacted with specific child temperamental traits. This brings us to the point that being in foster care and having high perceptual sensitivity played a protective role for externalization problems and promotive role for social competence. Continuing with the interactions, the results indicated that susceptibility of children living in different environmental conditions shows variations among their social competence, and internalization problems with respect to their anger frustration and perceptual sensitivity traits even though the effect was partial.

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

Although a wealth of literature exists about the effects of institutionalization on problem behavior outcomes of children, there was not any study comparing more than three care types. As new care types are introduced in Turkey in the recent years, a key to task should be to identify children in the institutional settings according to their temperamental characteristics and the qualities of the environmental settings that increases or decreases negative developmental outcomes.

Furthermore, this study is first to examine the interactions between temperamental characteristics of children and different environmental conditions of care types in terms of social competence, and problem behaviors outcomes from the perspective of differential susceptibility. Past research focused on the risk involved in children under care in terms of different socio-emotional developmental aspects (Rutter et al., 2007; Sonuga Barke & Rubia, 2008; Vorria et al., 1998). The differential susceptibility model underlines the importance of children having the susceptibility traits are maybe at risk for negative outcomes but at the same time, they are the ones who have a greater opportunity to have positive development depending on the environment. This study contributes to the literature by examining differential susceptibility in a unique sample like children under protection in different care types. Moreover, although moderating role of soothability and inhibitory control were examined in different child related topics, there is not any study investigating their effects on care type and socio-emotional development of children.

4.7 Limitations of the Study

The main limitation of the study was the lack of multiple informants. All measurements were based on caregiver reports. Observation based scales could be strengthen our measurement and eliminate shared method variance. However, because the sample is hard to reach and our time spent in the institutions was limited, there was not any observation based measurement used in this study. Secondly,

sample sizes were not equal. Specifically for foster care, it was hard to recruit participant families due to the fact that it was hard to reach foster families having children with eligible age for the study. Lastly, although there are clear cut differences between care village and institutions reported in the governmental regulations, it was not the case for some institutions. The reason for care village and institutions did not differentiate significantly may result from this.

4.8 Future Suggestions and Implications

The results of the study are important for its applicability in the area of child care policies. As the findings underlines the importance of home based care types, more children should be placed at home based care types, especially in foster care. Moreover, it was the first study to examine child temperamental characteristics of soothability and inhibitory control as moderators of children's social competence, internalization, and externalization outcomes. More research which investigates differential susceptibility is needed to replicate these findings. Further studies should be conducted in order to have detailed information related to the underlying mechanisms.

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APPENDICES

Appendix A: Demografik Bilgi Formu

	ANNE için	BABA için
Doğum tarihi:		
Eğitim durumu:	□ Okuma-yazma bilmiyor □ Okuma yazma biliyor □ İlkokul □ Ortaokul □ Lise □ Üniversite	□ Okuma-yazma bilmiyor □ Okuma yazma biliyor □ İlkokul □ Ortaokul □ Lise □ Üniversite
Mesleği:		
Şu an için ne iş yapıyor?		
Aylık kazancı:	□ 0-500 TL □ 500-1000 TL □ 1000-1500 TL □ 2000-2500 TL □ 2500 üzeri	□ 0-500 TL □ 500-1000 TL □ 1000-1500 TL □ 2000-2500 TL □ 2500 üzeri
Yaşadığı semt neresidir?		
Medeni hali:	□ Evli ve birlikte yaşıyor □ Evli ama eşinden ayrı yaşıyor □ Eşinden ayrılmış □ Eşini kaybetmiş	□ Evli ve birlikte yaşıyor □ Evli ama eşinden ayrı yaşıyor □ Eşinden ayrılmış □ Eşini kaybetmiş
ÇOCUKLAR için		
Toplam kaç çocuğunuz var? ……		
Yaşları nelerdir? (*büyükten küçüğe yazınız*):		

Appendix B: **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 C: Çocuk Davraniş Anketi

Katılımcı No. _____ Çocuğun Doğum Tarihi:

_____ _____ _____

Gün Ay Yıl

Cinsiyeti _____

Çocuğun Yaşı _____ _____

Yıl ay

Açıklamalar: Lütfen başlamadan önce dikkatlice okuyunuz;

Aşağıda çocukların bir takım durumlar karşısında gösterdiği davranışların bir listesi verilmiştir. Lütfen bu ifadeler için çocuğunuzun son "altı ay" ını düşünerek o davranışı ne sıklıkta gerçekleştirdiğini işaretleyiniz. Doğru ya da yanlış cevap yoktur, amacımız sadece çocukların hangi davranışları sergilediğini öğrenmektir.

Her ifade için verilen numaralardan birini işaretleyin,

l çok yanlış

2 yanlış

3 ne doğru ne yanlış

4 doğru

5 çok doğru

Lütfen her madde için bu seçeneklerden birini işaretlediğinizden emin olun.

Lütfen her bir ifade ile ne derece hemfikir olduğunuzu verilen ölçekteki sayılardan uygun olanı işaretleyerek belirtiniz.

ÇOCUĞUM:

		Çok Yanlış	Yanlış	Ne doğru, Ne yanlış	Doğru	Çok doğru
1	Yatağa gitmesi söylendiğinde öfkelenir.	1	2	3	4	5
2	Oturma odasındaki yeni eşyaları hemen fark eder.	1	2	3	4	5
3	Bir şey için sırada beklemekte zorlanır.	1	2	3	4	5
4	Mutsuz ya da üzgünken bir kaç dakika içinde çok daha iyi hissetmeye başlar.	1	2	3	4	5
5	Dokunduğu nesnenin pürüzsüz ya da pürüzlü olduğunu fark eder.	1	2	3	4	5
6	Bir yere çarptığında ya da bir yerinde sıyrık oluştuğunda bir kaç dakika sonra bunu unutur.	1	2	3	4	5
7	İnsanların yüz özelliklerindeki farklılıklar hakkında genellikle yorum yapmaz (burun ya da kulağın büyüklüğü, dişlerin bozukluğu).	1	2	3	4	5
8	Oynamak istediği bir şeyi bulamayınca öfkelenir.	1	2	3	4	5
9	Eğer beklenmesi söylenirse, başka bir aktiviteye başlamadan önce bekleyebilir.	1	2	3	4	5
10	Biraz eleştirildiğinde bile çılgına	1	2	3	4	5

	döner.					
11	Bir şeye sinirlendiğinde, 10 dakika ya da daha uzun süre canı sıkkın ve keyifsiz kalır.	1	2	3	4	5
12	Anne ya da babası görünüşünde bir değişiklik yaptığında fark edip söyler.	1	2	3	4	5
13	Yatağa yattıktan sonra on dakika içinde uykuya dalar.	1	2	3	4	5
14	İhtiyacı olan şeyleri planlayarak geziye gitmeye hazırlanır (örneğin; tatile, büyük anneyi ziyarete gitmek).	1	2	3	4	5
15	Bir şey yapmasına izin verilmediğinde engellenmiş hisseder ve sinirlenir.	1	2	3	4	5

Lütfen her bir ifade ile ne derece hemfikir olduğunuzu verilen ölçekteki sayılardan uygun olanı işaretleyerek belirtiniz.

ÇOCUĞUM:

		Çok Yanlış	**Yanlış**	**Ne doğru, Ne yanlış**	**Doğru**	**Çok doğru**
16	Heyecanlı bir aktiviteden sonra sakinleşmekte zorluk çeker.	1	2	3	4	5
17	Alçak sesleri bile dinler görünür (örneğin; bir fısıltı olduğunda dikkatini verir ve dinler).	1	2	3	4	5
18	İlgisini çeken bir konu hakkında konuşularak neşelendirilebilir.	1	2	3	4	5
19	"Sesini biraz alçaltır mısın?"	1	2	3	4	5

	denildiğinde sesini alçaltabilir.					
20	İstediğini almadığında öfke krizine girer.	1	2	3	4	5
21	Verilen komutları takip etmekte zorlanır (örneğin; "bana oyuncağı getir denildiğinde hemen getirmez, bu komutun bir kaç kez tekrarlanması gerekir").	1	2	3	4	5
22	Anne veya babası yeni bir kıyafet giydiğinde fark eder.	1	2	3	4	5
23	Anne ve babasının dış görünüşlerindeki değişiklikleri genellikle fark etmez.	1	2	3	4	5
24	Heyecan verici bir olaydan sonra çabuk sakinleşir.	1	2	3	4	5
25	'Deve Cüce' gibi oyunlarda iyidir.	1	2	3	4	5
26	Diğer çocuklar tarafından kışkırtıldığında öfkelenip çılgına döner.	1	2	3	4	5
27	Bir hata yaptığında nadiren sinirlenir.	1	2	3	4	5
28	Ona cazip gelen bir şey için "bunu yapmaman gerekiyor" denildiğinde, o şeyin cazibesine karşı koyabilir.	1	2	3	4	5
29	Oyunu bırakması söylenip, çağırıldığında sinirlenir (oyunu bırakmaya hazır değilken).	1	2	3	4	5

Lütfen her bir ifade ile ne derece hemfikir olduğunuzu verilen ölçekteki sayılardan uygun olanı işaretleyerek belirtiniz.

ÇOCUĞUM:

		Çok Yanlış	Yanlış	Ne doğru, Ne yanlış	Doğru	Çok doğru
30	Ağlaması nadiren bir kaç dakikadan fazla sürer.	1	2	3	4	5
31	Bir görevi yapmakta zorlandığında kolayca sinirlenir (örneğin; lego inşa etmek, resim yapmak, kıyafetlerini giymek).	1	2	3	4	5
32	Parfüm, sigara ya da yemek kokusu gibi kokuları genellikle fark etmez.	1	2	3	4	5
33	"Hayır" denildiğinde yaptığı bir aktiviteyi kolayca bırakır.	1	2	3	4	5
34	Gece uyandığında tekrar uykuya dalmakta zorluk çeker	1	2	3	4	5
35	Karşıdan karşıya geçerken çok dikkatli değildir.	1	2	3	4	5
36	Başka bir çocuk oyuncağını aldığında nadiren sinirlenir/karşı çıkar.	1	2	3	4	5
37	Bir nesne üzerindeki küçük bir çöpü, lekeyi bile fark eder.	1	2	3	4	5
38	Mutsuz ya da üzgünken sakinleştirilmesi/yatıştırılması çok zordur.	1	2	3	4	5
39	Öğle uykusu gibi ara uykular için sakinleşip, yatmakta zorlanır.	1	2	3	4	5
40	Tehlikeli olduğu söylenen yerlere	1	2	3	4	5

	yavaş ve dikkatlice yaklaşır.					
41	Yiyeceklerin farklı dokuda oluşuna (örneğin; tamamen ezilmemiş sebze püresi gibi pütürcüklü yiyecekler) oluşuna genellikle tepki vermez.	1	2	3	4	5
42	Sevmediği bir yiyeceği yemesi gerektiğinde hırçınlaşır/huysuzlaşır.	1	2	3	4	5

Lütfen her bir ifade ile ne derece hemfikir olduğunuzu verilen ölçekteki sayılardan uygun olanı işaretleyerek belirtiniz.

Çocuğum:

		Çok Yanlış	Yanlış	Ne doğru, Ne yanlış	Doğru	Çok doğru
43	Söylenileni takip etmekte iyidir (örneğin; "bana oyuncağı getir" denildiğinde hemen getirir).	1	2	3	4	5
44	Mutsuz ya da üzgün olduğunda sakinleştirilmesi/yatıştırılması kolaydır.	1	2	3	4	5
45	Yorgun olduğunda kolayca sinirlenir/huysuzlanır.	1	2	3	4	5
46	Ebeveynlerinin yüz ifadelerini pek fark etmiyor gibi görünür.	1	2	3	4	5
47	Yatağa gitmesi söylendiğinde nadiren mutsuz olur.	1	2	3	4	5
48	Mutsuz ya da üzgünken başka bir şey düşündüğünde kolaylıkla neşesi yerine gelir (örneğin; gezmeye gitmek, bahçede oynamaya çıkmak, oyuncak almaya gitmek).	1	2	3	4	5
49	Uygun olmadığı bir durumda gülümsemesini engelleyebilir/durdurabilir/ kontrol edebilir.	1	2	3	4	5
50	Söylenildiğinde kıpırdamadan, usluca oturmakta zorlanır (örneğin; sinema, tiyatro, lokanta otobüs gibi ulaşım araçları).	1	2	3	4	5
51	Eğer birinin sesi alışılmadık bir ses ise bunun hakkında genellikle yorum yapar.	1	2	3	4	5

Appendix D: Sosyal Yetkinlik Ve Davraniş Değerlendirmesi

Çocuğun Adı: _____ **Öğretmenin Adı: _____**

Anaokulunun Adı: _____ **Tarih: _____**

Aşağıdaki listede bir çocuğun duygusal durumu ve davranışları ile ilgili ifadeler yer almaktadır. Verilen numaralandırma sistemini göz önünde bulundurarak ifadelerdeki davranışları anketi doldurduğunuz çocukta ne kadar sıklıkla gözlemlediğinizi işaretleyiniz:

Her ifade için verilen numaralardan birini işaretleyin,

l –Hiçbir zaman

2-Nadiren

3-Bazen

4-Sıklıkla

5- Her zaman

Lütfen her madde için bu seçeneklerden birini işaretlediğinizden emin olun.

Lütfen her bir ifade bulunan durumu ne sıklıkta gözlediğinizi verilen ölçekteki sayılardan uygun olanı işaretleyerek belirtiniz.

	HİÇBİR ZAMAN	NADİREN	BAZEN	SIKLIKLA	HER ZAMAN
1. Yüz ifadesi duygularını belli etmez.	1	2	3	4	5
2. Zorda olan bir çocuğu teselli eder ya da ona yardımcı olur.	1	2	3	4	5
3. Kolaylıkla hayal kırıklığına uğrayıp sinirlenir	1	2	3	4	5
4. Faaliyeti kesintiye uğradığında kızar.	1	2	3	4	5
5. Huysuzdur, çabuk kızıp öfkelenir	1	2	3	4	5
6. Gündelik işlerde yardım eder (örneğin sınıf toplanırken ya da beslenme dağıtılırken yardımcı olur).	1	2	3	4	5

7. Çekingen, ürkektir; yeni ortamlardan ve durumlardan kaçınır.	1	2	3	4	5
8. Üzgün, mutsuz ya da depresiftir.	1	2	3	4	5
9. Grup içinde içe dönük ya da grupta olmaktan huzursuz görünür.	1	2	3	4	5
10. En ufak bir şeyde bağırır ya da çığlık atar.	1	2	3	4	5
11. Grup içinde kolaylıkla çalışır.	1	2	3	4	5
12. Hareketsizdir, oynayan çocukları uzaktan seyreder.	1	2	3	4	5

Lütfen her bir ifade bulunan davranışı ne sıklıkta gözlediğinizi verilen ölçekteki sayılardan uygun olanı işaretleyerek belirtiniz.

	HİÇBİR ZAMAN	NADİREN	BAZEN	SIKLIKLA	HER ZAMAN
13. Anlaşmazlıklara çözüm yolları arar.	1	2	3	4	5
14. Gruptan ayrı, kendi başına kalır.	1	2	3	4	5
15. Diğer çocukların görüşlerini dikkate alır.	1	2	3	4	5
16. Diğer çocuklara vurur, onları ısırır ya da tekmeler.	1	2	3	4	5
17. Grup faaliyetlerinde diğer çocuklarla birlikte çalışır, onlarla iş	1	2	3	4	5
18. Diğer çocuklarla anlaşmazlığa düşer.	1	2	3	4	5
19. Yorgundur.	1	2	3	4	5
20. Oyuncaklara iyi bakar, oyuncakların kıymetini bilir.	1	2	3	4	5
21. Grup faaliyetleri sırasında konuşmaz ya da faaliyetlere	1	2	3	4	5
22. Kendinden küçük çocuklara karşı dikkatlidir.	1	2	3	4	5
23. Grup içinde fark edilmez.	1	2	3	4	5
24. Diğer çocukları istemedikleri şeyleri yapmaya zorlar.	1	2	3	4	5
25. Öğretmene kızdığı zaman ona vurur ya da	1	2	3	4	5
26. Endişeye kapılır.	1	2	3	4	5
27. Akla yatan açıklamalar yapıldığında uzlaşmaya varır.	1	2	3	4	5
28. Öğretmenin önerilerine karşı	1	2	3	4	5

29. Cezalandırıldığında (örneğin herhangi bir şeyden yoksun bırakıldığında) başkaldırır, karşı koyar.	1	2	3	4	5
30. Kendi başarılarından memnuniyet duyar.	1	2	3	4	5

Appendix E: Güçler ve Güçlükler Anketi

GÜÇLER VE GÜÇLÜKLER ANKETİ

No	Name	Age	Gender

Her cümle için, Doğru Değil, Kısmen Doğru, Tamamen Doğru kutularından birini işaretleyiniz. Kesinlikle emin olamasanız ya da size anlamsız görünse de elinizden geldiğince tüm cümleleri yanıtlamanız bize yardımcı olacaktır.

Lütfen yanıtlarınızı çocuğunuzun son 6 ay içindeki davranışlarını göz önüne alarak veriniz.

		Doğru değil	Kısmen do	Kesinlikle doğru
1	Huzursuz ve aşırı hareketlidir, uzun süre kıpırdamadan duramaz.			
2	Sıkça öfke nöbetleri olur ya da aşırı sinirlidir.			
3	Genellikle söz dinler, büyüklerin isteklerini yapar.			
4	Sürekli elleri ayakları kıpır kıpırdır ya da oturduğu yerde kıpırdanıp durur.			
5	Sıkça diğer çocuklarla kavga eder ya da onlarla alay eder.			
6	Dikkati kolayca dağılır. Dikkatini toplamakta güçlük çeker.			
7	Sıkça yalan söyler ya da hile yapar.			
8	Bir şeyi yapmadan önce düşünür.			
9	Ev, okul ya da başka yerlerden çalar.			
10	Başladığı işi bitirir, dikkat süresi iyidir.			

Appendix F: Veli İzin Formu

ORTA DOĞU TEKNİK ÜNİVERSİTESİ

MIDDLE EAST TECHNICAL UNIVERSITY
06531 ANKARA-TURKEY

1956

Psikoloji Bölümü
Department of Psychology

Tel: 90 (312) 210 31 82
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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 G: Turkish Summary

1. Giriş

1.1 Çocuk Koruma Tarihi: Geçmişten Günümüze

Çocukların doğup, içerisinde yetiştikleri aile, çocuklar için önemli bir kurumdur. Fakat, her çocuk kendi biyolojik ailesi ile yaşama şansına sahip değildir. UNICEF raporlarına göre Afrika, Asya, Latin Amerika ve Karayipler'de 13 milyondan fazla çocul yetim kalmıştır (UNICEF, 2004). Bir diğer UNICEF raporu ise alternatif bakım altında bulunan çocukların sayısının dünya üzerinde 2 milyonu geçtiği yönündedir (UNICEF, 2009).

Her nekadar bilinen ilk evlat edinme ile ilgili yazılı tarih, Hammurabi Kanunlarına kadar geri gitse de, genel olarak Asya ülkelerinde çocuk koruma uygulamarının kısıtlı olduğu, Pakistan, Çin gibi Güney Asya ülkelerinde ise çok yaygın olmadığı ve koşullarının 1980'lere dek çok sağlıklı olmadığı belirtilmiştir (Jabeen, 2013). Bunun yanısıra evlat edinme uygulamaları dünyanın bir çok farklı yerinde görülmektedir. Amerika tarihindeki uygulamalar 1800'lü yıllara dayanmakta olup, 1850 ile 1930 yılları arasında şehirde yaşayan fakir ailelere ait çok sayıda çocuk, vakıflar aracılığıyla kırsal kesimlerdeki toprak sahibi ailelerin yanına "düzgün bir hayat kazanmaları" için yetim trenleri aracılığıyla yerleştirilmişlerdir. Ancak bu dönemdeki yerleştirmelerin ajans, vakıf, ya da dini kuruluşlar aracılığıyla yapılmış olup herhangi bir hukuki temele dayalı olmaması, bakım veren ailelerin çocukları ucuz iş gücü, toprak işçisi gibi görmeleri ile olumsuz sonuçlar doğurmaya başlamıştır (Holt, 1992). 1923 yılında üniversitelerde Sosyal Hizmet bölümünün açılması ile bu uygulama, tercihen çocuğun biyolojik ailesi ile aynı şehirde olan koruyucu aile bakımına yönelmiştir, ayrıca aile yanında destek hizmetleri de sağlanmaya başlamıştır (Belingham, 1984). Ancak, büyük buhran yıllarında neredeyse boşalmış olan toplu bakım kurumları, yeniden kullanılmaya başlamış, buhran yıllarından sonra ise yeniden koruyucu aile ve evlat edindirme hizmetlerinde artış gözlenmiştir.

Avrupaya baktığımızda ise, İsviçre, Norveç, Danimarka, Finlandiya gibi Kuzey ülkelerinde çocuk refah oranının dünyanın diğer yerlerine oranla bir hayli yüksek olduğu göze çarpmaktadır (UNICEF, 2007). Bu ülkelerde her ne kadar biyolojik aile yanında destek odaklı hizmet sunulsa da kurumlarda da kalmakta olan çocuklar bulunmaktadır. Yine de İzlanda haricindeki ülkelerde koruyucu aile yanında kalan çocuk sayısı kurum bakımında olan çocuk sayısından fazladır. Bir başka Avrupa ülkesi, İskoçya'da ise devlet verilerine göre 16.000 den fazla sayıda çocuk kurum bakımında kalmaktadır (2012). Bu nedenle, son yıllarda çocuk evleri gibi daha az sayıda çocuğa bakım verilen alternatif bakım türleri uygulanmaya başlamıştır.
Ülkemizdeki çocuk koruma tarihinin gelişimi de diğer ülkelerle benzer bir süreçten oluşmaktadır. Bilinen ilk kurumlar 1800'lü yıllarda anne babası ölen çocukları koruma amacıyla kurulmuştur. Osmanlının son dönemlerinde artan savaşlar nedeniyle yetim kalan çocukların bakımı için Darülaceze ve Darüleytam isminde iki kurum hizmet vermeye başlamış, sayısı 80'e yaklaşan Darüleytamlar ise sonrasında ekonomik sebepler nedeniyle kapatılmıştır.

Türkiyedeki çocuk koruma hizmetleri alanındaki en önemli gelişme 1921 yılında Çocuk Koruma Enstitüsünün açılması ile gerçekleşmiştir. Türk Medeni Kanununda çocuklarla ilgili bir madde bulunmuş olmasına ragmen, 1957 yılına kadar herhangi bir yönetmelik bulunmamıştır. 6972 No'lu kanun ile korunmaya muhtaç çocuğun tanımı ve koruma hizmetleri hakkında ekonomik düzenlemeler tanımlanmıştır. 1965 yılında 11 farklı şehirde yuvalar açılmış, 1966 yılında ise ilk kez koruyucu aile programı uygulanmıştır (Gökçe, 1971). 1983 yılında Türkiye Sosyal Hizmetler ve Çocuk Esirgeme Kurumu kurulmuş, 1983 ile 2011 yılları arasında korunmaya muhtaç çocukların bakım, eğitim, işe yerleştirme gibi ihtiyaçlarını yürütmüştür (Akyüz, 2012). 2011 yılında, 633 sayılı kanun hükmünde yönetmelik ile Aile ve Sosyal Politikalar Bakanlığı kurularak, SHÇEK'in görevlerinin yürütmeye başlamış, Çocuk Hizmetleri Genel Müdürlüğü de çocuk koruma ile ilgili işlemlerden sorumlu hale gelmiştir (Aile ve Sosyal Politikalar Bakanlığı, 2011). Halen 5395 ve 2828 no'lu çocuk koruma kanunları yürürlükte olup sevgi evleri, çocuk evleri, yuvalar ve koruyucu aile ile ilgili hizmetler yönetmeliklerle düzenlenmektedir (ASPB, 2013).

1.2 Türkiye'deki Bakım Çeşitleri

Aileden uzakta yetiştirilen çocuklarda hangi yaşta olurlarsa olsunlar en iyi gelişimsel sonuçların gözlenmediği bilinen bir gerçektir (Healy & Lundstro, 201). Literatürdeki bilgiler bakım personeli çocuk sayısı oranını ne kadar düşükse, korunma altındaki çocukların aile yanında yetişen yaşıtlarını farklı gelişimsel alanlarda yakalama ihtimalinin daha yüksek olduğunu göstermektedir (Ainsworth & Thoburn, 2014). Bu nedenle diğer ülkelerde olduğu gibi ülkemizde de, korunma altına alınan çocukların öncelikli olarak maddi destek ile biyolojik aile yanında desteklenmesi, bunun mümkün olmadığında ise öncelikli olarak ev odaklı alternatif bakım hizmetlerinden yararlandırılmaları gözetilmektedir. Türkiye'de şuanda küçük yaş grubundaki çocuklara hizmet veren yuvalar, sevgi evleri, çocuk evleri, ve koruyucu aile bakım hizmetleri uygulamada bulunmaktadır.

Yuvalar yaş gruplarına göre ayrılan genellikle 6-10 çocuğun aynı odayı paylaştığı, çok sayıda çocuk ile birlikte aynı bina içerisinde yaşadıkları, genellikle şehirden daha uzakda ya da güvenlik nedeniyle bulundukları mahalleden ayrıştırılmış bulunan kurumlardır. *Sevgi evleri* de aynı şekilde bir kampüs içerisinde bulunmaktadır. Farklı olarak bu bakım türünde sayıları 6 ile 10 arasında değişiklik gösteren çocuklar bakım personelleri ile birlikte aynı kampüs içerisinde bulunan müstakil evlerde kalmakta, yemek, boş zaman aktiviteleri gibi tüm etkinliklerini kendi evlerinde gerçekleştirmektedirler. Benzer şekilde çocuk evlerinde de 4-6 çocuk bakım personelleri ile aynı evde kalmaktadır. Ancak bu bakım türünde amaç çocuğu aile yaşantısına alıştırmak olduğu için, evler şehrin farklı mahallelerinde yer alabilmektedir. Son olarak koruyucu aile bakımında ise, uygun koşulda bulunan çocuklar bir koruyucu ailenin yanına yerleştirilerek, ailelere çocuğun ihtiyaçlarını karşılamaları için her yıl belirlenen miktarda ödeme yapılmaktadır (ASPB, 2013).

1.3 Kurum Bakımındaki Çocukların Gelişimsel Özellikleri

Biyolojik ailenin ekonomik problemleri, çevresel riskler, ihmal istismar gibi çeşitli nedenlerle korunma altına alınan çocuklar (Tirella, Chan, & Miller, 2006),

halihazırda risk altında bulunmaktadır. Bu nedenle, kurum bakımına alınmaları ile birlikte gelişimsel açıdan bir çok alanda gerilik gözlenmektedir (The St. Petersburg–USA Orphanage Research Team, 2005).

Öncelikle, her nekadar bazı araştırmalarda geçtiğimiz yıllarda kurumların fiziksel özellikleri gelişme göstermesi ile çocuklarda gözlenen fiziksel problemlerde azalma bulgulansa da (Whetten et al., 2009; van Ijzendoorn, Bakermans-Kranenburg, & Juffer, 2007), aynı zamanda büyüme hızı, boy kilo oranları, kafa vücut oranları gibi alanlarda ciddi oranda gerilik gözlendiğini bulgulayan çok sayıda araştırma bulunmaktadır (Groark, McCall, & Fish, 2011; Meltzer, Lader, Corbin, Goodman, & Ford, 2004). Ayrıca, lokomotor becerileri, el göz koordinasyonu gibi becerilerinde de aile yanında yetişen yaşıtlarından geride oldukları bulgulanmıştır (Giagazoglou, Koulious, Sidiropoulou, & Fahantidou, 2012).

Beklenileceği üzere, çocuğun bilişsel gelişimini destekleyecek zengin uyaranlarla dolu bir çevreye sahip olmaması nedeniyle, kurum bakımındaki çocuklarda bilişsel becerilerinde gerilik (Crissey, 1937; Sparling, Dragomir, Ramey, & Florescu, 2005), daha düşük IQ seviyesi (van Ijzendoorn, Juffer, & Poelhuis, 2005), duyu işleme becerileri (Wilbarger, Gunnar, Schneider, & Pollak, 2010), ve yönetici işlev yetenekleri (Colvert et al., 2008; McDermott et al., 2013; Yagmurlu, Berument, & Celimli, 2005) gibi bir çok alanda risk altında oldukları bulgulanmıştır.

Bunun yanısıra kurum bakımının etkilerini, diğer alanlarda olduğu gibi çocukların sosyo-duygusal gelişimlerinde de gözlemek mümkündür. Yaşamlarının ilk yıllarında bakım veren kişilerle sağlıklı bir bağlanma kuramayan çocuklar, kurum bakımına alındıklarında da bakım personellerinin sık değişmesi, personel başına düşen yüksek çocuk sayısı, düşük bakım kalitesi gibi nedenlerle yine sağlıklı bir bağlanma deseni kuramamaktadırlar (Fox, Nelson, & Zeenah, 2013). Kurum bakımında kalan çocuklarla yapılan araştırmalar, aile yanında kalan çocuklara oranla düşük oranda güvenli bağlanma, ve daha yüksek oranda korkulu/kaygılı bağlanma desenleri gösterdiklerini ve yabancıyı ayırt etmede zorlandıklarını bulgulamışlardır (Dumais, Cyr, & Michel, 2014; Hortaçsu, Cesur, & Oral, 1993; Lionetti, Pastore, & Barone,

2015). Ayrıca sosyal belirteçleri anlamakta zorlandıkları, yüz ifadeleri ile duygu belirtilerini eşleştirmekte zorluk yaşadıkları bulunmuştur (Camras, Perlman, Wismer Fries & Pollak, 2006; Tasfiliz, 2014).

Korunma altında olan çocuklarda sıklıkla karşılaşılan bir diğer problem de davranışsal alandadır. En sık karşılaşılan problem davranışlar anksiyete ve depresyon gibi içselleştirme problemleri (Erol, Simsek, & Munir, 2010) ile agresyon, karşı gelme, dikkat eksikliği, hiperaktivite gibi dışsallaştırma problemleri (Kochanska & Kim, 2013; Roy, Rutter, & Pickles, 2000) ve kurum bakımının sebep olduğu otistik tipte davranışlardır (Gindis, 2008). Yüksek risk grubundaki aile çevresine ait olan bu çocuklarda görülen davranış problemleri, kurum bakımına alınmanın etkisi ile artış göstermektedir. Bir çok farklı ülkede yapılan araştırmalar bu bulguyu desteklemektedir (Lassi, Mahmud, Syed, & Janjua, 2011; Roy, Rutter & Pickles, 2000; Srinath et al., 2005). Benzer şekilde Türkiye örnekleminde de, 6-18 yaş arası kurum bakımında bulunan çocuklarda davranış problemlerinin görülme sıklığının ale yanında kalan çocuklara oranla 2.1 ile 4.6 kat daha fazla olduğu bulgulanmıştır (Şimşek, Erol, Öztop, & Özer, 2008). Ayaz ve arkadaşlarının (2012) araştırmasında ise 3-5 yaş aralığındaki kurum bakımında bulunan çocuklarda, yüksek oranda DEHB (% 41.2), karşı gelme problemleri (% 26.5), anksiyete seviyesi (% 29.4) ve genel psikiyatrik rahatsızlık oranları (% 64.7) bulgulanmıştır.

Belirtildiği üzere, literatürde bulunan bilgiler ışığında kurum bakım öyküsü bulunan çocuklar aile yanında kalan çocuklara kıyasla içselleştirme ve dışsallaştırma problemleri açısından daha yüksek risk altında bulunmakta olduğu görülmüştür. Bu olumsuz davranış problemlerinin altında yatan nedenleri inceleyen araştırmalar çocuğun bağlanma (McLean, Riggs, Kettler, & Delfabbro, 2013) ve bağlanma tipleri ile ilişkili olduğunu belirtmişlerdir (Torres et al., 2012). Ancak, bilgimiz dahilinde korunma altındaki çocukların mizacı ile davranış problemlerini inceleyen herhangi bir araştırma bulunmamaktadır. Bu araştırmanın amacı, farklı bakım türlerini karşılaştırarak mizaç değişkeninin problem davranışlar üzerindeki yordayıcı etkisini incelemektir. Bu nedenle bir sonraki kısımda çocukların mizaç özellikleri üzerinde durulacaktır.

1.4 Farklılaşan Hassasiyet Teorisi ve Mizaç

Farklılaşan Hassasiyet Teorisi'ne göre bireyler, aynı koşullar ve çevresel etmenler altında bile olsa verdikleri tepkiler açısından farklılaşmaktadırlar. Her nekadar çocukların gelişimsel sonuçlarını farklılaşan hassasiyet teorisi perspektifinden inceleyen az sayıda çalışma bulunsada, genel olarak bu araştırmalarda iki farklı ölçümden yararlandığı söylenebilir: Genler ve mizaç. Bazı araştırmalar yalnızca genler üzerinde durmuş (Bakermans-Kranenburg, &van Ijzendoorn, 2007), bazıları yalnızca mizaç özelliklerini incelemiş (Belsky & Pluess, 2011), bazıları ise her iki açıdan ele almıştır (Belsky, Bakermans-Kranenburg, van Ijzendoorn, 2007). Gen araştırmaları sonuçları, belirli genotip dizilimlerin, çevresel faktörlerle birleştiğinde olumsuz ya da daha olumlu sonuçlara yol açtığını (Bakerman-Kranenburg & van Ijzendoorn, 2007) bulgulamıştır.

Diğer yandan mizaçla ilgili olarak ise, çocuğun mizacının çevreye verdiği tepkiler üzerinde etkili olduğu için, davranışsal sonuçlar açısından da önemli olduğu bilinmektedir (Belsky & Pluess, 2011). Ayrıca, mizacın güvenli bağlanma ve ebeveyn duyarlılığı (Cassidy, Woodhouse, Sherman, Stupica, & Lejuez, 2011) ile içselleştirme ve dışsallaştırma problemleri (Blair, 2002) gibi değişkenler üzerinde arabulucu etkisi bulunmaktadır. Bu araştırmalarda reaktivitesi yüksek olan çocukların, daha düşük reaktivitesi olan çocuklara oranla çevresel etkenlere daha yüksek duyarlılık gösterdikleri görülmüştür. Belsky ve arkadaşlarının (2007) araştırmasında da yüksek reaktivite gösteren çocukların dışsallaştırma problemleri açısından bakım türüne daha duyarlı oldukları bulgulanmıştır. Diğer bir mizaç özelliği olan algısal hassasiyet değişkeninin de çocukların benlik gelişimi (Ertekin, 2014) ve duyguları anlama becerileri gibi (Taşfiliz, 2014) alanlara anlamlı olarak arabulucu etki gösterdiği bulgulanmıştır. Azalan tepki/sakinleşme ve engelleme denetimi gibi diğer özelliklerin de, aracı değişken olarak incelenmemiş olsa da, davranış problemleri ile anlamlı korelasyonlarının bulunduğu literatürde yer almaktadır (Beijers, Rikse-Walraven, Putnam, de Joung, & de Weerth, 2012; Moran, Lengua, & Zalewski, 2013). Literatürdeki bilgiler doğrultusunda, mizacın çevresel etkenlerle çocukların gelişimsel özellikleri arasındaki ilişki üzerinde etkili olduğunu

söyleyebilmek mümkünse de, çok az sayıda araştırma farklılaşma hassasiyeti açısından bu ilişkiyi incelemiştir (Bakermans-Kranenburg, Dobrova-Krol, & van Ijzendoorn, 2011; Drury et al., 2010). Bu nedenle bu araştırmada korunma altında bulunan çocukların içselleştirme ve dışsallaştırma problemleri ile sosyal yetkinliklerinin bakım türü olan ilişkisinde mizaç aracı değişkenleri (tepkisellik & algısal hassasiyet) ile farklılaşma hassasiyeti teorisi çerçevesinden incelenmesi hedeflenmiştir. Ayrıca azalan tepki/sakinleşme ile engelleme denetimi özelliklerinin çocukların davranış problemleri ve sosyal yetkinlikleri üzerindeki etkisi ise belirli bir hipotez olmadan incelenecektir.

1.5 Farklı Bakım Türlerinin Karşılaştırılması

Farklı ülkelerdeki çocuk koruma sistemlerinin, korunma altına alınan çocukların bakımı için uyguladıkları çeşitli yöntemler bulunmaktadır. Ancak zaten risk düzeyi yüksek olan ailelerin yanından korunma altına alınan bu çocukların kurum bakımına alınmaları da bir çok gelişimsel açıdan ayrıca risk oluşturmaktadır. Bu ikilem, çocuklar için en etkili bakım hizmetlerinin belirlenmesini zorunlu kılmaktadır (Whetten et al., 2009). Bu konuda yapılan araştırmalarda ise bekleneceği üzere, çok sayıda çocuğun bir arada kaldığı yuva yurt gibi kurumlarda bakımın çeşitli gelişimsel alanlarda en olumsuz sonuçların görüldüğü bakım türü olduğu bulgulanmıştır (Roy & Rutter, 2006; Scholte, 1997). Koruyucu aile bakımının ise başta güvenli bağlanma olmak üzere, bilişsel gelişim (Johnson, Browne, Hamilton-Giachritis, 2006), dikkat (Ghera et al., 2009) gibi çeşitli alanlarda bakım türleri arasında en olumlu gelişimsel sonuçları bulunan tür olduğu bilinmektedir. Çocuk evleri, ve sevgi evleri gibi diğer alternative bakım çeşitleri ülkelerde farklı uygulamaları bulunduğu için, çok az sayıda karşılaştırmalı araştırma bulunmaktadır. Türkiyede ise bilgimiz dahilinde uygulamada olan farklı bakım türlerinin çocukların problem davranışları ve sosyal yetkinlikleri üzerindeki etkisini inceleyen bir araştırma bulunmamaktadır.

Bu nedenle, bu araştırmada, düşük sosyo ekonomik düzey biyolojik aile, koruyucu aile, çocuk evleri, sevgi evleri ve yuvalarda kalmakta olan çocukların davranış problemleri ile sosyal yetkinliklerinin mizacın ara değişken etkisi göz önünde bulundurularak farklılaşan hassasiyet teorisi çerçevesinde incelenmesi

hedeflenmiştir. Ayrıca, yaş, cinsiyet, toplam bakım süresi, toplam kurum sayısı, şuanki bakım türünden kalma süresi, korunma altına alınma nedeni gibi değişkenler kontrol altına alınacaktır.

Hipotez 1: Yuvada kalmakta olan çocuklar, diğer bakım türlerine kıyasla en yüksek içselleştirme ve dışsallaştırma problemleri ile en düşük sosyal yetkinlik becerilerine sahip olacaklardır.

Hipotez 2: Sevgi evinde kalmakta olan çocuklar, yuvada kalanlarla karşılaştırıldıklarında daha düşük içselleştirme ve dışsallaştırma problemleri ile daha yüksek sosyal yetkinlik becerilerine sahip olacaklardır.

Hipotez 3: Çocuk evinde kalmakta olan çocuklar, yuva ve sevgi evlerinde kalan çocuklardan daha düşük içselleştirme ve dışsallaştırma problemleri ile daha yüksek sosyal yetkinlik becerilerine sahip olacaklardır.

Hipotez 4: Koruyucu aile bakımında olan çocuklar, yuva ve sevgi evi ve çocuk evlerinde kalan çocuklardan daha düşük içselleştirme ve dışsallaştırma problemleri ile daha yüksek sosyal yetkinlik becerilerine sahip olacaklardır.

Hipotez 5: Son olarak**,** düşük SES biyolojik aile yanında kalmakta olan çocuklar, tüm gruplar arasında, en düşük içselleştirme ve dışsallaştırma problemleri ile en yüksek sosyal yetkinlik becerilerine sahip olacaklardır.

Hipotez 6: Farklılaşma hassasiyeti teorisi perspektifinden ise, tepkisellik düzeyi (Öfke) ve algısal hassasiyeti yüksek olup, yuvada kalan çocukların yüksek içselleştirme ve dışsallaştırma problemleri ile düşük sosyal yetkinlik becerilerine sahip olacakları, ancak bu çocukların biyolojik ya da koruyucu aile yanında kalmaları durumunda ise daha olumlu sonuçların gözleneceği hipotez edilmiştir.

Hipotez 7: Engelleme denetimi ve Azalan tepki/sakinleşme özellikleri yüksek olan çocuklarda ise, yüksek sosyal yetkinlik becerilerinin olacağı ve daha az davranış problemlerine rastlanacağı beklenmektedir. Ancak, bu değişkenlerin farklılaşma

hassasiyeti teorisi açısından aracı değişken rolleri için literatürde herhangi bir bilgi bulunmamasından dolayı, belirli bir hipotez olmaksızın inceleme yapılacaktır.

2. Yöntem

2.1 Örneklem

Yaşları 36 ile 60 ay arasında bulunan (M_{age}= 48.4) ve yuva (N= 45), sevgi evi (N= 44), çocuk evi (N= 44), ya da koruyucu ailede (N= 17) bakım altında bulunan ve düşük SES biyolojik aile ile kalmakta olan (N= 37) toplamda 187 çocuk araştırmamıza dahil edilmiştir.

2.2 Ölçekler

Çocukların mizaç özelliklerini incelemek için Çocuk Davranış Anketi kullanılmıştır. Bu ölçekte bulunan dört özellik (kızgınlık/düşkırıklığı, algısal hassasiyet, engelleme denetimi, azalan tepki/sakinleşme) ele alınmıştır. Sosyal yetkinlik, içselleştirme problemleri ise Sosyal Yetkinlik ve Davranış Değerlendirme Ölçeği'nin (SYDD) Türkçe formu ile ölçümlenmiştir (Çorapçı ve arkadaşları, 2010). dışsallaştırma problemleri ise aynı ölçeğin dışsallatırma problemleri alt ölçeği ile Türkçe Güçler ve Güçlükler Ölçeği'nin hiperaktivite ve karşıt gelme alt ölçekleri birlikte kullanılmıştır.

3. Sonuçlar

3.1 Tek Yönlü Varyans Analizi Sonuçları

Analiz sonuçlarına gore, içselleştirme problemleri açısından yapılan karşılaştırmalar çocuk evinde kalan çocukların, koruyucu aile yanında kalanlardan daha çok içselleştirme problemleri yaşadığını, ayrıca koruyucu aile yanındaki çocukların sevgi evlerinde kalan çocuklardan daha yüksek sosyal yetkinlik becerilerine sahip olduğunu göstermiştir.

3.2 Hiyerarşik Regresyon Analizleri Sonuçları

Mizacın bakım çeşitleri ve çocukların problem davranışları (içselleştirme ve dışsallaştırma) 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.

3.2.1 Hiyerarşik Regresyon Analizleri: Sosyal Yetkinlik

3.2.1.1 Bakım Türleri (Yuva, Sevgi Evi, Çocuk Evi, Koruyucu Aile) ile Düşük SES Gruplarının Karşılaştırması

Algısal hassassiyet aracı değişken olduğunda, düşük algısal hassasiyete sahip çocuklarda koruyucu aile yanında kalıyorlar ise düşük SES aile yanındaki çocuklara göre daha yüksek sosyal yetkinlikleri olduğu (b = .80, t = 2.31, p = .02), yüksek algısal hassasiyete sahip olan çocuklarda ise bu iki grup arasında anlamlı fark olmadığı (b = -.03, t = -.19, p = .85) bulgulanmıştır.

Kızgınlık/düşkırıklığı aracı değişken olduğunda, yüksek tepkiselliğe sahip çocuklar sevgi evlerinde kalıyorlar ise düşük SES aile yanındaki çocuklara göre daha düşük sosyal yetkinlikleri olduğu (b = -.52, t = -2.70, p = .01), düşük tepkiselliğe sahip olan çocuklarda ise bu iki grup arasında anlamlı fark olmadığı (b = .12, t = .56, p = .57) bulgulanmıştır.

Engelleme denetimi aracı değişken olduğunda, sevgi evlerinde kalan çocukların diğer değişkenler kontrol altına alındığında düşük SESte kalan çocuklara göre daha düşük sosyal yetkinliklerinin olması yönünde bir eğilimlerinin bulunduğu görülmüştür (β = -.15, p = .05).

Azalan tepki/sakinleşme aracı değişken olduğunda, düşük azalan tepki/sakinleşmeye sahip çocukların, düşük SES aile yanındaki çocukların sevgi evinde kalan çocuklara göre daha yüksek sosyal yetkinlikleri olduğu (b = -.56, t = -3.03, p = .003), yüksek

azalan tepki/sakinleşmeye sahip çocuklarda ise bu iki grup arasında anlamlı fark olmadığı (*b* = .09, *t* = .44, *p* = .66) bulgulanmıştır.

3.2.1.2 Bakım Türleri (Sevgi Evi, Çocuk Evi, Koruyucu Aile ve Düşük SES) ile Yuva Gruplarının Karşılaştırması

Algısal hassassiyet aracı değişken olduğunda, düşük algısal hassasiyete sahip çocuklarda, koruyucu aile yanında kalıyorlar ise yuvada kalan çocuklara göre daha yüksek sosyal yetkinlikleri olduğu (*b* = .89, *t* = 8.11, *p* = .00), yüksek algısal hassasiyete sahip olan çocuklarda ise bu iki grup arasında anlamlı fark olmadığı (*b* = -.19, *t* = -.73, *p* = .46) bulgulanmıştır.

Kızgınlık/düşkırıklığı aracı değişken olduğunda, düşük kızgınlık/düşkırıklığına sahip çocuklarda, koruyucu aile yanında kalıyorlar ise yuvada kalan çocuklara göre daha yüksek sosyal yetkinlikleri olduğu (*b* = .49, *t* = -.92, *p* < .01), yüksek kızgınlık/düşkırıklığına sahip olan çocuklarda ise bu iki grup arasında anlamlı fark olmadığı (*b* = -.09, *t* = -.92, *p* = .36) bulgulanmıştır.

3.2.1.3 Bakım Türleri (Sevgi Evi ve Çocuk Evi) ile Yuva Gruplarının Karşılaştırması

Yuva, sevgi evi ve çocuk evlerinde kalmakta olan çocukların bakım öykülerini kontrol altında tutarak, aynı regresyon analizi tekrarlanmıştır. Bu analizlerin sonuçları ise, kızgınlık/düşkırıklığı aracı değişken olduğunda, yüksek kızgınlık/düşkırıklığına sahip çocuklarda, yuvada kalmakta olanlar arasında sevgi evlerinde kalmakta olan çocuklara göre daha yüksek sosyal yetkinlikleri olduğunu (*b* = -.50, *t* = -2.27, *p* = .31), düşük kızgınlık/düşkırıklığına sahip olan çocuklarda ise bu iki grup arasında anlamlı fark olmadığını (*b* = -.01, *t* = -.03, *p* = .97) göstermiştir.

3.2.2 Hiyerarşik Regresyon Analizleri: Dışsallaştırma Problemleri

3.2.2.1 Bakım Türleri (Yuva, Sevgi Evi, Çocuk Evi, Koruyucu Aile) ile Düşük SES Gruplarının Karşılaştırması

Algısal hassassiyet aracı değişken olduğunda, düşük algısal hassasiyete sahip çocuklarda düşük SES aile yanında yanında kalıyorlar ise, koruyucu ailedeki çocuklara göre daha yüksek dışsallaştırma problemleri bulunduğu (b = -.60, t = -2.64, p = .01), yüksek algısal hassasiyete sahip olan çocuklarda ise bu iki grup arasında anlamlı fark olmadığı (b = -.08, t = -.64, p = .52) bulgulanmıştır.

Engelleme denetimi aracı değişken olduğunda, düşük engelleme denetimi olan çocukların, sevgi evlerinde kaldıklarında, düşük SES aile yanında kalan çocuklardan daha çok dışsallaştırma problemleri yaşadıkları (b = -.37, t = 2.89, p = .004), ancak yüksek engelleme denetimine sahip olan çocuklar arasında fark bulunmadığı (b = -.09, t = -.77, p = .44) görülmüştür.

Kızgınlık/düşkırıklığı aracı değişken olduğunda, yüksek tepkiselliğe sahip çocuklarda, çocuk evlerinde kalıyorlar ise düşük SES aile yanındaki çocuklara göre daha çok dışsallaştırma problemlerinin bulunduğu (b = .30, t = 2.90, p = .004), düşük tepkiselliğe sahip olan çocuklarda ise bu iki grup arasında anlamlı fark olmadığı (b = -.12, t = -.85, p = .39) görülmüştür.

3.2.2.2 Bakım Türleri (Sevgi Evi, Çocuk Evi, Koruyucu Aile ve Düşük SES) ile Yuva Gruplarının Karşılaştırması

Dışsallaştırma problemleri değişkeni için yapılan hiyerarşik regresyon analizleri, bir önceki bölümde belirtildiğinin aynı şekilde düzenlenmiş, yapılan analizlerde herhangi bir anlamlı etkileşim etkisi bulunmamıştır. Ancak, bütün aracı değişkenler için yapılan analizlerde de literatürü destekler şekilde, erkek çocuklarında kız çocuklarından daha çok dışsallaştırma problemleri görüldüğü bulgulanmıştır (β = .14, p < .05).

3.2.1.3 Bakım Türleri (Sevgi Evi ve Çocuk Evi) ile Yuva Gruplarının Karşılaştırması

Benzer şekilde, bakım öyküsünde bulunan değişkenleri kontrol altında tutularak yapılan analizlerde de anlamlı etkileşim etkisi bulunmamıştır. Bu analiz setinde de, erkek çocuklarında kız çocuklarından daha çok dışsallaştırma problemleri görüldüğü bulgulanmıştır (β = .15, p < .05).

3.2.2 Hiyerarşik Regresyon Analizleri: İçselleştirme Problemleri

3.2.2.1 Bakım Türleri (Yuva, Sevgi Evi, Çocuk Evi, Koruyucu Aile) ile Düşük SES Gruplarının Karşılaştırması

Algısal hassassiyet aracı değişken olduğunda, düşük algısal hassasiyete sahip çocukların, sevgi evlerinde kaldıklarında, düşük SES aile yanında kalanlara göre daha yüksek içselleştirme problemleri görülmeye yönelik bir eğilimlerinin bulunduğu (b = .04, t = 1.72, p = .08), yüksek algısal hassasiyete sahip olan çocuklarda ise, sevgi evinde kaldıklarında düşük SES aile yanında kalanlara göre daha az içselleştirme problemlerinin bulunduğu (b = -.04, t = -2.36, p = .02) bulgulanmıştır.

Kızgınlık/düşkırıklığı aracı değişken olduğunda, yüksek tepkiselliğe sahip çocuklarda, çocuk evlerinde kalıyorlar ise düşük SES aile yanındaki çocuklara göre daha çok dışsallaştırma problemlerinin bulunduğu (b = .30, t = 2.90, p = .004), düşük tepkiselliğe sahip olan çocuklarda ise bu iki grup arasında anlamlı fark olmadığı (b = -.12, t = -.85, p = .39) görülmüştür.

Azalan tepki/sakinleşme aracı değişken olduğunda, düşük azalan tepki/sakinleşmeye sahip ve sevgi evlerinde kalmakta olan çocukların, düşük SES aile yanındaki çocuklara göre daha çok içselleştirme problemlerinin olduğu (b = .04, t = 2.45, p = .02), yüksek azalan tepki/sakinleşmeye sahip çocuklarda ise düşük SES aile yanında

kalanlarda sevgi evlerine oranla daha çok içselleştirme problemlerinin bulunduğu (*b* = -.06, *t* = -3.09, *p* = .00) belirlenmiştir. İkinci olarak, yüksek azalan tepki/sakinleşmeye sahip ve düşük SES aile yanında kalan çocukların, yuvada kalanlara oranla daha çok içselleştirme problemlerinin bulunduğu (*b* = -.06, *t* = -3.47, *p* = .001), ancak düşük azalan tepki/sakinleşmeye sahip olduklarında ise gruplar arasında anlamlı bir fark bulunmadığı (*b* = .01, *t* = .36, *p* = .72) görülmüştür. Bir diğer anlamlı bulgu ise yine düşük azalan tepki/sakinleşmeye sahip çocuklarda, düşük SESaile yanında kalanlarda çocuk evlerinde kalanlara göre daha az içselleştirme problemleri görüldüğü (*b* = .04, *t* = 2.37, *p* = .02), yüksek azalan tepki/sakinleşme grubunda ise bakım türleri arasında anlamlı fark bulunmadığı (*b* = -.03, *t* = -1.23, *p* = .22) görülmüştür.Son olarak, yüksek azalan tepki/sakinleşmeye sahip çocuklar arasında, düşük SES aile yanında kalanların, koruyucu aile yanında kalanlara göre daha çok içselleştirme problemleri yaşadıkları (*b* = -.09, *t* = -2.10, *p* = .04), düşük sakinleşme özellikleri olan çocuklarda ise bu iki grup arasında anlamlı fark bulunmadığı görülmüştür (*b* = .01, *t* = .16, *p* = .87).

3.2.2.3 Bakım Türleri (Sevgi Evi ve Çocuk Evi) ile Yuva Gruplarının Karşılaştırması

Bakım öyküsünü kontrol altına alarak yapılan üç bakım türü karşılaştırmasında, herhangi bir anlamlı etkileşim görülmemiştir. Ancak bütün mizaç özellikleri aracı değişkenleri için toplam bakım süresi ile içselleştirme problemleri arasında negatif yönde (β = -.22, $p < .05$), ve çocuğun kaldığı toplam kurum türü sayısı ile pozitif yönde bir ilişki bulunduğu (β = .21, $p < .05$) belirlenmiştir.

4. Tartışma

4.1 Sonuçların Tartışılması

Varyans analizi sonucunda hipotez 1, 2, 3, 4, ve 5 kısmen doğrulanmıştır. Yuva, sevgi evi ve çocuk evi arasında anlamlı bir fark görülmezken, koruyucu aile yanındaki çocuklarda çocuk evlerine göre daha az içselleştirme problemleri

yaşadıkları ve çocuk evlerindeki çocuklardan daha yüksek sosyal yetkinliğe sahip oldukları görülmüştür.

Sosyal yetenekle ilgili sonuçlar, kız çocuklarının erkeklerden daha çok sosyal yetkinliğe sahip olduğunu göstermiştir. Algısal hassasiyet aracı değişkeni için farklılaşan hassasiyet teorisi hipotezleri desteklenmemiş, ancak algısal hassasiyetin yuvada kalan çocuklar için sosyal yetkinlik becerilerinin gelişmesi açısından koruyucu faktör olarak ortaya çıktığı görülmüştür. Kızgınlık/düşkırıklığı aracı değişken olduğunda ise, sonuçlar farklılaşan hassasiyet teorisini desteklemiş, yüksek tepkiselliğe sahip olan çocuklar sevgi evlerinde kaldıklarında düşük SES aile yanındakilere oranla daha düşük sosyal yetkinliğe sahip olmuş, düşük tepkiselliğe sahip olan çocuklarda ise fark gözlenmemiştir. Engelleme denetimi aracı değişkeni için olan hipotez desteklenerek, literatürle aynı şekilde yüksek olanlarda daha fazla sosyal beceri görülmüştür.Benzer şekilde azalan tepki özelliği de sevgi evlerinde kalan çocuklar için sosyal yetkinlik açısından koruyucu özellikte olduğu bulunmuştur.

Dışsallaştırma ile ilgili sonuçlar, erkek çocuklarında daha çok dışsallaştırma problemleri görüldüğü yöndeki literatürü desteklemiştir. Algısal hassasiyet aracıdeğişkeni için farklılaşma teorisi hipotezi desteklenmemiştir. Kızgınlık/düşkırıklığı aracı değişken olduğunda ise, sonuçlar farklılaşan hassasiyet teorisini desteklemiş, yüksek tepkiselliğe sahip olan çocuklar çocuk evlerinde ve sevgi evlerinde kaldıklarında düşük SES aile yanında kalanlara göre daha çok dışsallaştırma problemleri göstermişlerdir. Ayrıca engelleme denetimi ile ilgili hipotez de desteklenmiş, yüksek olan çocuklarda sevgi evi ile biyolojik aile bakımı arasında fark görülmezken, düşük olanlarda sevgi evinde daha çok dışsallaştırma problemleri görülmüştür.

İçselleştirme problemleri ile ilgili sonuçlar koruyucu aile bakımındaki çocuklarda daha az içselleştirme problemleri bulunduğunu, ve bakım süresi arttıkça içselleştirme problemlerinin azaldığını, bakım türü sayısı arttıkça da azalma gösterdiğini ortaya

çıkarmıştır. Algısal hassasiyet ve kızgınlık/düşkırıklığı ile ilgili farklılaşma teorisi hipotezleri desteklenmemiştir.

4.2 Literatüre Katkılar ve Kısıtlar

Literatürde kurum bakımının çocuklar üzerindeki etkileri ile ilgi çok sayıda araştırma yer alsa da, farklı bakım türlerinin karşılaştırılmasını kapsayan çok az sayıda bilgi bulunmaktadır. Bilgimiz dahilinde çocukların problem davranışlarıyla sosyal becerilerinin farklı bakım türlerine göre karşılaştırarak, aynı zamanda mizaç değişkenlerini de göz önünde bulunduran ilk araştırmadır. Ayrıca, farklılaşma teorisinin korunma altındaki çocukları kapsayan bir örneklemde incelenmesi açısından da önem taşımaktadır.

Araştırmadaki ölçümlerin çocukların yaş grubu dolayısıyla bakım veren kişilerin cevaplarını içermesi, kurumlardaki ziyaret süresi nedeniyle gözleme dayalı ölçüm yapılamamış olması, ve koruyucu ailelere ulaşmakta zorluklar yaşanması nedeniyle bu gruptaki katılımcı sayısının düşük olması bu araştırmanın kısıtları arasındadır.

Appendix H: Tez Fotokopisi İzin Formu

ENSTİTÜ

Fen Bilimleri Enstitüsü ☐

Sosyal Bilimler Enstitüsü ☒

Uygulamalı Matematik Enstitüsü ☐

Enformatik Enstitüsü ☐

Deniz Bilimleri Enstitüsü ☐

YAZARIN

Soyadı : Memişoğlu

Adı : Aybegüm

Bölümü : Psikoloji

TEZİN ADI (İngilizce) : Predicting Problem Behaviors In Different Care Types: Moderating Role Of Temperament

TEZİN TÜRÜ : Yüksek Lisans ☒ 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. ☒

TEZİN KÜTÜPHANEYE TESLİM TARİHİ: