PRESCHOOL-AGED CHILDREN'S MEDIA USE AND ITS RELATIONSHIP TO THEIR PROSOCIAL AND AGGRESSIVE BEHAVIOR

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ABSTRACT

Preschool-Aged Children's Media Use and Its Relationship to Their Prosocial and Aggressive Behavior

The first aim of the study was to have a descriptive data about what preschool children watched and played on the screens including the amount of time they spent for media use, and in which context they consumed media. The second aim of the study was to see if there was a relationship between the duration and the content of media that children used and their prosocial and aggressive behavior. Lastly, the goal of the present study was to explore if children's time spent for developmentally enriching activities increase or decrease with their time spent for media use. Parents of 52 children aged between 4 and 6 reported their children's media use on a media diary throughout a weekend and the teachers of the children assessed children's prosocial and aggressive behavior. The results showed that the aggressive behavior of the children increased as their time spent for playing video games increased. As expected, the time they spent for engaging developmentally enriching activities decreased as the time they spent for playing video games increased. The children's time spent for media use also increased with their age. The study contributed to the child media literature by considering various factors, such as duration, content, and context, to understand the media use of young children and its relationship to their social behavior among urban Turkish children.

ÖZET

Okul Öncesi Çocukların Medya Kullanımı ve Prososyal ve Agresif Davranışları Arasındaki İlişki

Bu çalışmada öncelikli olarak okul öncesi çocukların ekran karşısında izledikleri ve oynadıkları programların türleri, kullanma süreleri ve kullandıkları çevre hakkında genel bir veri elde etmek amaçlanmıştır. İkincil olarak, çocukların izledikleri ve oynadıkları program türleri ve kullanma süreleri ile çocukların prososyal ve agresif davranışları arasında bir ilişki olup olmadığına bakılmıştır. Son olarak ise, çocukların gelişimsel yönden zengin etkinliklere harcadıkları zamanın medya kullanım süreleriyle birlikte artış veya azalış gösterip göstermediği araştırılmıştır. Yaşları 4 ila 6 arasında olan 52 çocuğun ebeveyni çocuklarının medya kullanımlarını bir hafta sonu boyunca raporlamıştır. Çocukların prososyal ve agresyon davranışları ise öğretmenleri tarafından değerlendirilmiştir. Araştırma sonunda çocukların medya araçları kullanarak oynadıkları oyunların süresinin artmasıyla agresyon davranışlarında da artış olduğu bulunmuştur. Aynı zamanda çocukların video oyunları için harcadıkları süresinin artmasıyla gelişimsel yönden zengin etkinliklere harcadıkları sürenin azaldığı gözlemlenmiştir. Araştırmanın bir diğer bulgusu ise çocukların yaşlarının arttıkça medya kullanım sürelerinin de artması olmuştur. Söz konusu çalışma; süre, içerik ve çevre gibi farklı etkenleri dikkate alması ve bu etkenlerin kent yaşamında büyüyen okul öncesi çocukların sosyal davranışları ile olan ilişkilerini incelemesiyle literatüre katkı sağlamaktadır.

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CHAPTER 1

INTRODUCTION

Despite the rise of new technology all over the world, television is still one of the most common media tools in the households. The history of television broadcasting in the world has begun in 1929, with the United Kingdom. In the U.K. there was only one public channel at first but it continued with multiple channels after the beginning of 1970s. In Turkey television broadcasting has begun in 1968 with only one channel but the number of channels started to rise in the beginning of 1990s. Today there are approximately 555 television channels in Turkey, including local and international ones.

The TV industry serves both children and adults. There are more than 20 TV channels in Turkey that broadcast cartoons and other TV shows for children. These channels are mostly international but the shows are dubbed in Turkish. In a recent study in Turkey (Türkiye İstatistik Kurumu [TÜİK], 2013) it is stated that 48.7% of the children between the age of 6 and 15 years in Turkey watch television 0-2 hours a day and 39.3% of them watch TV between 3 and 4 hours a day. Of these children, 72.1% of them are reported to watch cartoons and 60.3% of them watch dramas and movies. On the other hand, technology grows rapidly and it serves us new media tools such as Play Station and IPad. Each new media tool includes different properties such as video games and instant messaging. As a result, it is possible to think that each media activity has unique effects on children as well as similar ones. However, research on the effects of media tools has been defined as "slow to catch up" because of the rapid growth of new technology (Hofferth, 2010).

Children's media usage in Turkey was researched by Radyo Televizyon Üst Kurulu (RTÜK) in 2013. Among 4306 children aged between 6 and 18, the results

showed that majority of the children had at least one device for media use at home. Ninety seven percent of the children had television, 73.7% of them had computer/tablet, 63% of them had internet connection, and 38.3% of them had radio in their households. Children spent 2 hours and 39 minutes for using mobile phones, 1 hour 55 minutes for watching TV, 1 hour 48 minutes for internet, 1 hour 34 minutes for using computer/tablets (except Internet use), 1 hour 32 minutes for reading, and 58 minutes for listening to radio in a day. In TUİK's study (2013), it was found that children between the ages of 8 and 15 years had started using computers at the age of 8 and mobile phones at age of 10. In the same study, it was also found that 24.4% of children have had their own computer/tablet, 13.1% of them had their own mobile phones, and 2.9% of them had game consoles.

In the report of Zero to Eight: Children's Media Use in America (Common Sense Media Research Study, 2013), it was stated that the amount of time spent for media activities in a typical day, such as playing video games, watching videos, or using apps, was 15 minutes in average among all children age under 8. Despite the fact that the report found out that children's time spent for "traditional" screen media such as television, video games, and computers decreased compared to the results they had two years ago, television was found to still dominate children's media time. Findings suggested that children aged under 8 had an average screen media use per day for 1 hour 55 minutes and of this time, 57 minutes of it was spent watching TV.

The effects of media use in the early years are crucial to understand because it is well known that there is tremendous development and growth in the first few years of life (Rideout, Vandewater, & Wartella, 2003). Despite the fact that early years are crucial, the research which focuses on early years and how children are affected by the media only started to increase in the recent years with the rise of new technology.

Besides, the media studies mostly focus on cognitive development (Mares & Woodard, 2005) whereas social development also should be taken into account while understanding the effects of media on children's well-being.

CHAPTER 2

LITERATURE REVIEW

2.1 Theoretical background

There are several theories that are used to explain the relationship between children's media viewing and its developmental consequences. Since the current literature is mostly dominated by media violence research (Bushman, Gollwitzer, & Cruz, 2014; Bushman & Huesmann, 2014; Greitemeyer & Mügge, 2014), these theories are also used to understand the children's aggressive behavior, which is assumed to occur after exposing children to violent media content. General Aggression Model, for instance, attempts to provide a comprehensive social-cognitive framework for understanding aggression and violence (DeWall, Anderson, & Bushman, 2011). Yet the model is recognized as it explains the short-term and long-term effects of the media violence (Anderson, Gentile, & Buckle, 2007, p.57; cited in Hopf, Huber, & Weiss, 2008). On the other hand, social cognitive theory and displacement theory are some of the theories which are used to explain the overall effects of media on children.

Social cognitive theory is one of the theories that attempt to explain how an individual learns in the context of social relationships (Bandura, 2001). Considering that media provides its unique context, social cognitive theory has been widely used and found to be suitable to understand and explain how media influences children's behaviors (Huesmann & Taylor, 2006; Bandura, 2001). Basically, social learning theory explains learning as acquiring knowledge of rules, skills, beliefs, strategies, and attitudes by observing others (Bandura, 1986). The theory assumes that individuals also observe the consequences of modeled behaviors and thus, they learn the usefulness and appropriateness of behaviors they observe. Especially in

explaining the aggressive behavior, the theory suggests that observation of aggressive behaviors would increase the likelihood of children's aggressive behavior (Bandura, 1977; cited in Huesmann, Moise-Titus, Podolski, & Eron, 2003).

Displacement theory, on the other hand, focuses on what media takes away from children. Supporters of this theory explaining the effects of media use claim that spending time with media tools reduces the time spent for fundamental activities that foster children's development (Huston, Wright, Marquis & Green, 1999). Social learning theory might be useful to explain how use of media tools promotes prosocial behavior. However, displacement theory goes one step further and suggests that there is no way to use media tools for such an aim because whatever the content of the media that the child uses, it steals her time from engaging in social interactions. In her book, Marie Winn, assumes that television viewing interferes with positive family and peer interactions of children and thus, it affects the healthy development of positive social behaviors and successful human relationships (Winn, 1977; cited in Bickham, 2004).

Studies that have examined displacement theory are inconclusive. In one of the earliest studies (Williams, 1986), the people's social activities before the introduction of TV and after the introduction of TV were compared, in a town in rural Canada. Children and adolescents were found to attend less to community activities and adults were found to attend fewer social clubs and meetings after the introduction of television. However, children and adolescents did not change their habits of attending in youth oriented social clubs. In a similar study (Himmelweit, Oppenheim & Vince, 1958), children from families with access to TV and no access to TV were compared. It was found that children who were 10 and 11 year old watched movies in theaters and attended club meetings less when they had TV at

home. However, the activities of children who were 13 and 14 year old were not affected as a result of having access to TV.

One of the other theories which take place in child media studies is parental mediation theory. The theory suggests that parents may reduce the possible negative effects of media on their by using different strategies. One of these strategies is restrictive mediation which means setting rules and limits for their children's media use. The other one is coviewing which is parent's watching TV with their children. The last one is active mediation which is parent's talking with the children about what they watch on the screen (Clark, 2011). The studies show that active mediation plays an important role in moderating the negative outcomes like aggressive behavior (Nathanson, 1999). The previous studies also suggest that parents of younger children are more likely to use parental mediation strategies than parents of older children (Bocking & Bocking, 2009).

Social cognitive theory was used to formulate one of the fundamental assumptions in the current study that time children spend for different types of media contents will be related to their social behaviors differently. Specifically, in this study, the questions asked were whether prosocial content of the media children view is associated with their prosocial behaviors and aggressive content is related with aggressive behaviors. Considering that displacement theory suggested that media use will take away from the time children have for more developmentally appropriate activities such as play and other social interactions, in the current research, it was expected that there would be an inverse relationship between children's time spent for developmentally appropriate and enriching activities such as reading or outdoor play and the time they spend in front of the screens. Lastly,

parental mediation theory was used to understand and interpret the context in which the children consume media.

2.2 Effects of media on children's development

A large number of studies indicate that there are harmful effects of children's television viewing on different developmental outcomes, such as obesity (Robinson, 1999), attention problems (Christakis, Zimmerman, DiGiuseppe, & McCarty, 2004), aggression (Huesmann, Moise-Titus, Podolski, & Eron, 2003), and disorganized sleep patterns (Hofferth, 2010). In one of these studies, a decrease was indicated in children's consumption of food in front of television when the time they spend watching television was reduced (Robinson, 1999). In a longitudinal study, hours of television viewed per day at age 1 and age 3 were found to be associated with attention problems at age 7 (Christakis et al., 2004). In another longitudinal data, it was found that viewing violent media between the ages of 6 and 10 predicted young adult aggressive behavior for both females and males (Huesmann et al., 2003). Hofferth (2010) found that playing computer games and television viewing were associated with reduced sleep.

While negative outcomes of viewing media is vast in the literature, in some studies, children were found to gain knowledge about the world and to learn both directly and indirectly from the media about problem-solving skills in math and science (Fisch, 2004; cited in Hofferth, 2010). Brain imaging studies also reported that areas of the brain which are associated with memory, face and object recognition, attention, intention, perception, and arousal in threat situations, are activated while viewing TV (Anderson, Fite, Petrovich, & Hirsch, 2006). Also, educational programs on TV were found to be advantageous at ages 3 to 5 years in terms of reading recognition (Zimmerman & Christakis, 2005).

2.2.1 Cognitive development

Gentzkow and Shapiro (2008) claim that concerns about the effects of TV viewing on children's development has first emerged with the interest on cognitive domain as soon as broadcasting began. Since cognitive skills are assumed to have a significant role in aggregating labor market performance, it was not very surprising that the researchers mostly focused on this developmental area (Bishop, 1989; cited in Gentzkow & Shapiro, 2008). Thus, cognitive effects of TV viewing are studied widely to understand its implications for public policy and household behavior.

In many studies, negative association between children's TV viewing early in life and later academic achievement was found (Christakis, Zimmerman, DiGiuseppe, & McCarty, 2004; Hancox, Milne, & Poulton, 2005). This view supported the recommendations about the restriction to the preschool children's TV viewing time (American Academy of Pediatrics, 2001). On the other hand, TV programs or video games with educational content are found to be beneficial for preschoolers in receiving higher grades, reading more books, placing more value on achievement, greater creativity, and less aggression (Anderson, Huston, Scmitt, Linebarger, & Wright, 2001). In another study, Zimmerman and Christakis (2005) also found that watching educational content at ages 3 to 5 are useful for their reading recognition, which is the ability to sound out and pronounce words, and short-term memory which are considered as the most basic of the cognitive outcomes. Yet the findings of this study also showed no beneficial effect of educational TV viewing for reading comprehension and mathematics for the same age group.

Despite the positive effects of educational content on television, negative associations between television viewing and cognitive development were also found

when the age of the children were younger than 3 years even if the content is educational (Zimmerman & Christakis, 2005). Researchers found out that television viewing before age 3 to have harmful effects on children's reading recognition and reading comprehension. It is claimed that it might be because TV-viewing before age 3 decreases the time spent for other activities such as imaginative play, which would be beneficial for their cognitive development, as the displacement theory (Neuman, 1988) suggests. This assumption claims a negative association between children's media use and their developmental outcomes.

The other argument to explain the relationship between children's TV viewing and cognitive development is related to the plasticity of children's brains. The brain continues to develop rapidly through the early years of the child's life and the plasticity exists throughout this period (Barkovich, Kjos, Jackson, & Norman, 1988). It is suggested that the visual and auditory features of TV might influence children's brain development and lead to long lasting problems in cognitive development (Waldman, Nicholson, & Adilov, 2006). Zimmerman and Christakis (2005) conclude that it might be either the rapid scene changes on television or children looking at a single object in one direction for a prolonged period that causes such effects.

2.2.2 Social development

In the classic BoBo Doll Experiments, Bandura and his colleagues had demonstrated that viewing adult models acting aggressively could trigger aggressive reactions in young children (Bandura, Ross & Ross, 1961). The aggressive reactions children show would go beyond simply imitating the role models and children would demonstrate novel aggressive behaviors. The findings of this study made great contributions to social learning mechanisms of aggression and violent behaviors and

more studies on the topic followed. When children's media consumption studies are considered, aggression is found to be one of the most common topics, probably because of the increasing rates of aggressive behaviors in schools over the years (Anderson, 2000). Anderson and Bushman (2001) drew attention to the incidence in Littleton, USA in which two high school students murdered 13 people and wounded 23 and then killed themselves. These students were known with their interest in playing violent video games. It was claimed that the only positive side of such incidences were the attention they brought to the issue of video game violence. Researchers, after the incident, stated that youth playing violent video games should be focus of concern (Anderson, 2000).

Violence in the media geared towards children is not only limited to the video games. Violent media is described as those which describe individuals', including nonhuman cartoon characters', intentional attempts to inflict damage on others (Anderson & Bushman, 2001). Thus, any component of the violent media (video games, TV programs, computer games) has a risk to increase the level of aggression. Contrary to ambiguous results of the effects of child TV viewing on cognitive development, researchers have a consensus on that only brief exposure to violent media causes significant increases in aggression, and violent media is a significant risk factor in youth violence (Huesmann, Anderson, Berkowitz, Donnerstein, Johnson, Linz, Malamuth, & Wartella, 2000; cited in Anderson & Bushman, 2001).

Huesmann, Moise-Titus, Podolski, and Eron (2003) who conducted one of the few longitudinal researches in the field concluded that children's viewing TV-violence between ages 6 and 10 is significantly correlated with their aggression level in their adulthood years. Huesman et al. (2003) compared high childhood TV-violence viewers to low childhood TV-violence viewers in terms of their adult

aggressive behaviors. Researchers looked at spouse abuse, serious physical aggression, criminal behavior, and traffic violation behaviors to measure adult aggressive behaviors. Results showed that both female and male participants who had been high childhood TV-violence viewers showed significantly more aggressive behaviors in their adulthood years than other viewers. Besides, the results remained the same even when the effects of socioeconomic status, intellectual ability, and a variety of parenting factors were controlled. The association between children's TV viewing and externalizing behaviors other than aggression is also examined in the literature. Hyperactivity and inattentiveness are also linked to children's TV viewing (Ozmert, Toyran, & Yurdakok, 2002; Christakis, Zimmerman, DiGiuseppe, & McCarty, 2004). There are longitudinal studies which suggest that amount of early television viewing is linked to attention problems at school age and in adolescence (Christakis et al., 2004; Landhuis, Poulton, Welch, & Hancox, 2007).

In addition to negative behaviors as a result of media use, how media viewing influences children's positive behaviors are also investigated. One of these behaviors studied is prosocial behavior. Prosocial behavior is broadly defined as "any voluntary behavior intended to benefit another person" (Eisenberg, Fabes, & Spinrad, 2006). It includes altruism, delay of gratification, friendliness, sharing, cooperation, sympathy, acceptance of others from different groups, and high ability in imitating these behaviors (Bar-on, 2000; Wilson, 2008). If the media includes prosocial elements, it is called prosocial content which is described as having "the potential of fostering social interactions that are nonviolent and positive in tone" (Mares & Woodard, 2001).

Rushton (1979) stated that antisocial effects of the media content on children were stronger than the prosocial effects. He explains this as such because prosocial

acts are in line with the interest of the "other person" whereas antisocial acts are in line with the one's own interest. According to Mares and Woodard (2005), prosocial behaviors generally involve acts of caring for other people's needs, such as helping an old person to cross to the other side of the road. This type of behavior might make the people who help, miss their own bus and thus, these people would be considered acting against their pre-existing motives. However, antisocial acts generally arise from people's inner motives that they suppress most of the time, such as yelling at the person who talks loudly in the bus when they are trying to sleep (Mares & Woodard, 2005).

An antithesis of the assumption which says that the antisocial effects of the media are stronger than its prosocial effects claims just the opposite and states that prosocial effects of media are stronger than its antisocial effects. First they argue that prosocial behaviors are more consistent with the existing social norms (Rushton, 1979). Second, positive behaviors are learned in the same way as negative behaviors are learned (Mares & Woodard, 2001). And finally it is also suggested that positive behaviors are more likely to be imitated and repeated in children because of the feedback they receive. Despite these assumptions, in their study, Mares and Woodard (2005) found that there is no difference between TV's promoting violence and promoting prosocial behavior. However the researchers found in their meta-analysis that prosocial behaviors can be learned through watching media with prosocial content as much as aggressive behaviors are learned through violent media.

There are studies indicate that children imitate prosocial behavior. One of the earliest studies in this field showed that children learned prosocial content from the TV programs and, they were able to further generalize these behaviors into their lives (Friedrich & Stein, 1975). In this study, 73 children between 3 and 6 year old were

shown prosocial television programs and then received different training sessions. Children were grouped into 4 based on these sessions. One group received training which was irrelevant to the TV program; one group received verbal-labeling training in which the themes of the TV program were labeled in storybooks; one group received role-play training in which the themes were practiced with hand puppets; and the other group received both verbal-labeling and role-play training. In the fifth group which was a control group, children were shown neutral TV programs and received irrelevant activity. The study found an increase in the helping behaviors of studied children in similar or different situations from those shown on TV.

Mares and Woodard (2005) found that children who watched more hours of TV programs with prosocial content behave more positively and have more positive attitudes than others who watched similar programs fewer hours. Thus, the researchers suggest that television could serve for other aims than violence, such as helping people understand others' feelings. Mares and Woodard (2005) also underline the importance of the relevance of the prosocial content in the TV programs because the results indicate that when the connection between the situation on the screen and the situation of the viewer is apparent, the viewer is more likely to imitate the modeled behavior.

Anderson and Bushman (2001) suggest that exposure to violent video games is negatively correlated with prosocial behavior. In another study that looks for the relationship between preschool children' media viewing habits and their social outcomes in the classroom, researchers found that the children who watched age-inappropriate content are rated lower in terms of their social skills by their teachers (Conners-Burrow, McKelvey, & Fussell, 2011). These studies underline the importance of the content of the media that children use. Yet not only the content but

also many other factors such as the age of the child, family background, and environmental factors should be considered in order to understand the overall picture.

2.3 Intervening factors

Socialization is an important element of human development and continues throughout the entire life span along with maturation. According to Kağıtçıbaşı (1996) because it includes continuous interaction with the socio-cultural environment, all the studies about human development should involve contextual and sequential components (Kağıtçıbaşı, 1996). One of the contextual factors that should be taken into account conducting a study on the effects of media on child development is the socioeconomic status (SES) of the family. According to North Central Regional Educational Laboratory, SES consists of factors such as the parents' educational level, family income, occupation of parents, and social status in the community. The child media studies that take SES into account as a factor generally conclude that children from families with low SES watch more TV compared to children from families with high SES (Comstock & Paik, 1991; cited in Huesmann, Moise-Titus, Podolski, & Eron, 2003). Huesman et al. (2003) argue that the reasons why children growing up in low SES families watch more TV include social norms, cost of alternative entertainments, and frustration with more intellectually demanding tasks.

It was pointed out that children from families with low SES, children with single mothers, and children with mothers with less than a high school education spend more time on the screen (Rideout & Hamel, 2006; Certain & Kahn, 2002). In a descriptive study conducted by Anand and Krosnick (2005), researchers found a relationship between low parental education and high levels of media use in early

childhood. However the same study concluded that there is no relationship between family income and early childhood media use, which might be because of the family income is not an indicator of parental education and vice versa. There are studies which found that children from families with low education and low income have been shown to have less access to computers (Attewell, Suazo-Garcia, & Battle, 2003; Roberts, Foehr, & Rideout, 2005). In addition to that, in the report of Common Sense Media (2013), 54% of higher-income children often or sometimes use educational content on mobile devices whereas the percentage was 28% for lower-income children. On the other hand, the percentages of children, who reached educational content on television were almost equal in lower- and higher-income children. The reason might be due to the fact that mobile devices, like IPad or smart phones, are difficult to access among lower-income families (Common Sense Media, 2013). All in all, studies indicate that watching TV programs with violent content and playing violent video games in childhood predicted increased physical aggression in adulthood even after SES of the family was controlled (Huesmann et al., 2003).

Another factor that should be recognized is the age of the children studied. The American Academy of Pediatrics does not recommend any screen time for children who are younger than 2 years old. There are studies which demonstrate that children who are younger than two do not benefit from the educational TV programs because they learn from real people other than TV characters (Kirkorian, Wartella, & Anderson, 2008).

In the current study, the focus will be on young children that are not included in the literature as often. They might be recognized as “too young” to manipulate a media device whereas the two-year-olds now are capable of using their parents’

smart phones. The literature has a consensus on that media products such as video games, applications or cartoons might have various effects on children's development depending on their content, duration of use, and in which context they are used. Thus, what young children watch or play and how much time they spend on screens will be demonstrated in the context of they are exposed to these media products.

CHAPTER 3

OBJECTIVES OF THE STUDY

Children's media viewing, defined as "children's viewing and playing activities through any media devices", and its effects on child development has been widely studied in the literature (Gentzkow & Shapiro, 2008; Munasib & Bhattacarya, 2010; Hofferth, 2010). These studies all point to three significant factors that should be taken into account while investigating the links between children's media viewing and child developmental outcomes. Knowing that currently in Turkey, there are not very many comprehensive studies investigating the effects of media on young children's development, my aim in the current study is to address these three identified factors. Of these factors, the first one is how much time children spend for media, defined as children's viewing and playing activities through any media devices. This factor is called as "the duration of media use". The second one is what children watch or play using media tools, such as cartoons, video games and smart phone applications, and this factor is labeled as "content" in the current study. And the last one is the environment in which media use takes place identified as "context," such as whether there is an adult presence and interaction during media use.

Child media studies indicate that the amount of time that children spend using media is one of the factors which play a crucial role in child development outcomes (Anderson & Hanson, 2009). The brain studies suggest that excessive screen time impaired different parts of brain structure and function (Dong, Hu, & Lin, 2013). The damage was generally found to be on the frontal lobe which determines many of the skills like controlling impulses, recognizing emotions, and capability of empathy. In their study that Manganello and Taylor (2009) conducted among 3-year-old children

and their parents, found out that children's TV exposure were significantly correlated with childhood aggression even other factors such as maternal health and demographic characteristics were controlled. As indicated by the findings of the related studies, independent of the content, when children are exposed to too much media, the levels of aggression increase. Therefore, the first question of the current study was whether there was a relationship between children's total screen time, which means total time used in engaging media activities, and their prosocial and aggressive behavior, which are the outcome behavior of frontal lobe activities.

There is a large amount of studies that examined the relationship between the content of the media that children use and their development (Anderson, Huston, Schmitt, Linebarger, & Wright, 2001). Studies suggest a positive relationship between children watching violent media and their aggressive behavior (Huessman et al., 2003).There are also studies that found the positive effects of educational cartoons on children's cognitive development (Baydar, Kağıtçıbaşı, Küntay, & Gökşen, 2008). However, there are only a few studies investigating the effects of the prosocial media on children's positive social behaviors (Friedrich & Stein, 1975; Mares & Woodard, 2005). In one of the recent studies, Greitemeyer and Mügge (2013) found out that violent video games increased aggression and prosocial video games increased prosocial skills. Therefore, in this study, the second research question investigated whether the amount of time which children spend for prosocial and aggressive media were related to their prosocial and aggressive behaviors respectively.

Parent mediation theory suggests if parents use different strategies, such as talking with the child about the content of the program or setting rules and regulations about children's television viewing, they can diminish the negative

effects of the media on their children (Clark, 2011). Therefore the third research question of the current study was: “In which context do the children consume media?” The theory offers three basic types of strategies for parents to use. These are: restrictive mediation (setting rules about content and duration of usage), coviewing, (using the media device with the child such as watching TV together), and active mediation, (talking about the content with the child). Studies in the field of children’s media usage collectively indicate that “active mediation” can moderate the negative effects of violent media (Nathanson, 1999). So only “active mediation” was considered as an indicator of “positive” context in the current study.

Finally, the last research question asks whether there was a relationship between time that children spent for media use and the time they spent for developmentally enriching activities. According to displacement theory the “negative” effects of media use in children are partly due to children spending fewer hours for play, educational activities and games, and reading, etc. So the aim of the last research question was to test the displacement theory.

CHAPTER 4

METHODOLOGY

4.1 Sample

In the current study, there were 52 preschool children whose media viewing habits were investigated. The mean age of 28 female children was 5.13 (*SD* = .70) and 24 male children's was 4.91 (*SD* = .69). They were selected from two preschool in İstanbul. The first school which comprised the 65.4% of the sample was a public school in Beylikdüzü and the children attended the school for full-day. The other school which comprised the 34.6% of the sample was a private school in Rumelihisarı and the children attended the school either half-day or full-day. In both schools, the children's age ranged from 4 to 6. The respondents for the study were parents who filled out the media diaries and the teachers who rated children's prosocial and aggressive behavior. Forty-six of the parents who completed the questionnaire were mothers (88.5%) and 6 of them were fathers (11.5%). The parents ranged in age from 28 to 47 years with an average age of 37.4 (*SD* = 5.02).

Twenty-one of the parents (40.4%) had graduated from a four-year university, 14 of them (26.9%) had a master's or doctorate degree, 13 of them (25%) were high school and 4 of them (7.7%) were primary school graduates. Thirty-two of the parents (61.5%) were working and 20 of them (38.5%) were not working.

Parents rated their socio-economic level on a 5-Likert type scale. The question "How would you describe your income level when you consider İstanbul, the city that you currently live in?" was asked. The majority of the parents (48.1%) checked "Average", and 18 of them (34.6%) chose "Above average". Seven of them (13.5%) rated their SES level as either "Below average" or "Low". Only two of the parents described their SES level as "High".

The number of parents who had one child and who had two children were equal (44.2%). Five of the whole sample of parents (9.6%) had three children and only one of the parents had four children.

4.2 Instruments

Two different instruments were used to measure media using habits of children and their prosocial and aggressive behaviors.

4.2.1 Media using habits

Children's media using behaviors were measured with a packet including a questionnaire and a media diary (Appendix A), which were filled out by one of the children's caregivers. The questionnaire consisted of demographics and a set of descriptive questions about the number of the media tools in the household and the amount of time that the parents spent in a typical weekday/weekend for watching TV or using computers. The media diary was used to gather detailed information about the content, the amount of time, the context of media use, and other activities that children engage in for a whole weekend, from Friday night to Sunday evening. Media diary is an adapted form of a time diary, in which the respondents note their media activities for a particular period of time (Vandewater & Lee, 2009). Child Development Supplement (CDS) used a modified time diary methodology for the Panel Study of Income Dynamics. In this study, participants filled out a 24-hr time diary for one randomly chosen weekday and one randomly chosen weekend. In the current study, a similar method was used for a whole weekend because one of the main objectives of the study was to have descriptive data about how children spent their time when they were at home with their parents. Since parents are at work and children are at school during the most time of the weekdays, only the weekend was taken into account. There was one timetable for parents to note their children's

viewing (all programs watched on the screen) and playing activities (video games and phone applications) on each specific day. For each timetable, parents reported the name of the program that their children watched/played, the amount of time they watched/played it, and the media device that was used. The media device, by itself, did not determine the kind of media activity. If the name of the program was *Caillou* and it was watched on an IPad, for instance, this was considered as "TV watching" since it was a "viewing" activity. Even though the type of the device used could be considered a factor influencing the child outcomes, in the present study I did not intend to investigate the effects of the type of the tool, the goal was rather to focus on the content. To describe the context in which the child watched or played on the screen, the parents noted that if there was a person next to the child, if yes, who that was, what that person was doing, and how often that person talked with the child about the content of the program. They also noted the sleep and nap duration, and other activities children engaged in during the weekend and their durations, such as reading a book or doing a puzzle. These were assessed with open ended questions so that the parents could identify the details of the other activities children engaged in.

4.2.2 Children's social skills

Children's prosocial skills and aggression were measured by the Turkish version of the Child Behavior Scale (CBS; Ladd & Profilet, 1996), which is called Çocuk Davranış Ölçeği (Gülay & Önder, 2009) (Appendix B). The scale has 6 subscales: aggressive with peers, prosocial with peers, asocial with peers, anxious-fearful, excluded by peers, and hyperactivity-distractible. With respect to the aim of the current study, only "aggressive with peers" and "prosocial with peers" subscales were used. The subscale of aggressive with peers had 7 items and the subscale of prosocial with peers had 10 items. Teachers evaluated the children's aggressiveness

and prosocial skills on a 3-point-Likert scale described as, 0 for “doesn’t apply”, 1 for “applies sometimes”, and 2 for “certainly applies”. Internal reliability of the both subscales were computed with Cronbach’s Alpha. It was .809 for “aggressive with peers” and .899 for “prosocial with peers”. In the original version of CBS, it was .92 and .88, respectively. And in the Turkish version, it was .87 for aggression scale and .91 for prosocial scale.

4.2.3 Coding strategies

All the data about the children’s media use (content, duration, context and other activities) were gathered using media diaries which were filled out by the parents, typically mothers.

4.2.3.1 Content

Some of the child media researchers used rating systems of non-governmental organizations to determine the sort of media on screen, which children watch or play (Tomopoulos, Valdez, Dreyer, Fierman, Berkule, Kuhn, & Mendelsohn, 2007). Thus, the similar rating systems were used in the current study. To determine the category of the TV program, depending on its content, Common Sense Media Rating System was used to categorize the international TV programs. The organization rates all kind of media products in terms of age-appropriateness, content, and learning approach. For the TV programs, it offers information about age-appropriateness and content to the viewers. The content of each TV program was assessed in terms of educational value, positive messages, positive role models, violence & scariness, sexy stuff, “bad” language, consumerism, and drinking, drugs, & smoking. Each subcategory was rated on a 5-point scale, in which 3-points meant that there was a fair amount of that type of content. There is also brief explanation for each subcategory, from where the viewer can understand why it was given 2-points, for

instance. At the end of the assessment, the viewer finds a star rating which assessed the media's overall quality, again, on a 5-point scale. In addition to the rating system and brief explanation for each subcategory of the content, viewer finds a little paragraph about the overall information of the media. For example, *Ben 10,* which was indicated for the 8+ year-olds, got 3 points on the categories of positive messages and positive role models. Yet, in the overall information section, it says: "Parents need to know that this 10-year-old superhero battles villains using physical violence…is accompanied by dramatic visuals, dialogue, and music that may frighten younger viewers (especially those who don't understand the fantasy vs. reality concept). Some kids may be alarmed when the villains attack, punch, throw, shoot, and do whatever it takes to stop Ben.".

Out of 61 different TV programs that the parents mentioned in the media diaries, 56 of them were cartoons. Of these cartoons, 38 of them were already assessed in Common Sense Media. In order to categorize the cartoons that were reported, first, age-appropriateness was checked. If the Common Sense Media's suggestion for the cartoon was above the sample's age range (4-6), 8 for instance, then the cartoon was categorized as school-aged content. But in addition to its age-inappropriateness, if that program has also 3 or more stars in the category of violence, the cartoon was categorized as aggressive content, such as *Ben 10, Ben 10: Ultimate Alien,* and *Tom & Jerry*.

If the cartoon was suggested for the sample's age range, then the subcategories of educational value, positive messages, and violence were checked. If the cartoon got at least 3 stars only for its educational value, it was categorized as educational content. If it got at least 3 stars only for its positive messages, it was categorized as prosocial content. If the cartoon got at least 3 starts from both its

educational value and positive messages, it was categorized as both prosocial and educational content. If it has at least 3 stars only for its violence, then it was categorized as aggressive content, such as *Scooby Doo*.

Of the 18 programs which were not found on Common Sense Media Reviews, 5 of them were Turkish production cartoons which are broadcasted on TRT Çocuk, the national channel for children in Turkey. TRT Çocuk grouped its cartoons regarding the target age group. Two cartoons out of those 5, were labeled as "for preschool children" and three of them were already labeled as for children aged 6 and above.

Radyo Televizyon Üst Kurulu (RTÜK) also labels all the programs on Turkish TV channels regarding the age group and content criteria. However only 6 of the remaining cartoons were found to be labeled on RTÜK's webpage and all of them were labeled as "general audiences".

All in all, since there was no data about the contents of those cartoons which were labeled on TRT Çocuk and RTÜK, and remaining 7 cartoons out of those 18 programs that were not found on CSM reviews, they were all rated by two early childhood educators regarding the same system of CSM and depending on their star rating results, the rest of the cartoons were categorized. Two educators watched at least three episodes of each cartoon and first decided whether it was for preschool children or not. Then they rated the cartoons regarding their educational value, positive messages, and violence. At the end, their results were same except one. Therefore they watched more episodes of that cartoon, revised their ratings and had a consensus on the category of it.

Finally, the programs reported by the parents were grouped into seven categories: programs with prosocial content, programs with educational content, programs with both prosocial and educational content, programs with aggressive content, programs with school-aged content, programs for adults, and unnamed programs in case that the parent did not mention the program's name. There were 26 programs with prosocial content, such as *Yamalı Yastıklar*, *Charlie & Lola*, and *Damla'nın Dolabı*. In these programs, there were positive messages like sharing, being helpful and kind to each other, solving conflicts with a positive manner, and use of prosocial language, such as "please" and "thank you". There were 3 programs with educational content, such as *Arka Bahçede Bilim*, *Umizoomi*, and *Art Attack*. The degree of the educational value of these programs was high and they aimed to "teach" children a particular subject, for instance, shapes or law of buoyancy. There were 14 programs with both prosocial and educational content, such as *Pepee*, *İtfaiyeci Sam*, and *Caillou*. Both positive messages and educational value were relatively high in this kind of cartoons. There were 5 programs with aggressive content, such as *Ben 10* and *Mixels*. Despite these cartoons included some little piece of positive messages, the degree of the violence and scariness, and sometimes the use of "bad" language were the main themes of these cartoons. There were 8 programs with school-aged content, such as *Keloğlan*, *Win*x, and *Phineas & Ferb*. They had an advanced language and topics for preschoolers, such as having an intimate relationship. Of the all programs, 5 of them such as *Survivor*, *Arka Sokaklar*, and *Yalan Dünya*, were categorized as programs for adults because they included scenes of intense violence or sexual content.

The movies were grouped according to the rating system of Motion Picture Association of America. The organization was founded in 1922 "to protect and

support the motion picture and television industry around the world". Walt Disney Studios Motion Pictures, Paramount Pictures Corporation, Sony Pictures Entertainment, and Warner Bros. Entertainment Inc. are a few of its members. Its rating system was established in 1968 and the Classification & Ratings Administration (CARA) hosts the rating system and an independent group of parents leads it. There are five categories in this movie rating system: General Audiences (G), Parental Guidance Suggested (PG), Parents Strongly Cautioned (PG-13), Restricted (R), and No One 17 and Under Admitted (NC-17). The movies that the children watched in the current study were either from the category of general audiences, which is described as "nothing that would offend parents for viewing by children" or the category of parental guidance suggested, which is described as "parents urged to give 'parental guidance' and may contain some material parents might not like for their young children". *Winnie the Pooh* and *Kar Patileri* are the examples of general audiences category and *Karlar Ülkesi 2* and *Çılgın Hırsız* are the examples of parental guidance suggested category.

The video games played by the children were grouped according to the Entertainment Software Rating Board. This non-profit organization was established in 1994 by the Entertainment Software Association and its aim is "to assign ratings for video games and applications so parents can make informed choices". The rating system has six categories: Early Childhood (EC), Everyone (E), Everyone 10+ (E10+), Teen (T), Mature 17+ (M), and Adults Only 18+ (A). In the current study, most of the video games and apps that children played were from the category of everyone, which is described as "content is generally suitable for all ages and may contain minimal cartoon, fantasy or mild violence and/or infrequent use of mild language". *Minion Rush*, *My Talking Tom*, and *Cupets* are the examples of this type

of video games and apps. There was only one video game, *Need for Speed*, from the category of everyone +10, which is described as "content is generally suitable for ages 10 and up and may contain more cartoon, fantasy or mild violence, mild language and/or minimal suggestive themes".

4.2.3.2 Duration

The amount of time that the children watched or played on the screen for each type of program was summed for each day. Then total amount of TV time, total amount of screen time (both for watching TV and movie), and total amount of video game time for the whole weekend were calculated.

4.2.3.3 Context

The environment in which the media use takes place was described as "the child's parents and their intentional efforts at mediation" by parental mediation theory (Clark, 2011). The literature about parental mediation theory suggests that active mediation was useful to mitigate the negative effects of media on children (Eastin, Greenberg, & Hofshire, 2006). In their study, Linder and Werner (2012), active mediation was operationalized as parental discussions about media content. And they only asked the parents how often they had talked to their children about the TV show/movies/videos s/he had watched. So the same procedure was followed in the current study. The parents responded three questions for each program that they noted. The first question was: "Is there any adult next to the child while s/he is watching/playing on the screen? If yes, who is that?" The second question was: "What is that person doing while s/he is watching/playing on the screen?" And the last question was: "How often that person talked with the child about the content of the program?" and the parents rated on a 5-point-Likert scale, from 1 (never) to 5

(always). The questions only aimed to have a descriptive data about the environment during child's media use.

4.2.3.4 Other activities

Other activities the children did were grouped into 11 categories: literacy, art, role-play, lego/blocks/cars, puzzle and math, outdoor, music, branch (e.g. ballet, swimming lessons), shopping malls, family activities (e.g. playing football or cooking together), and unnamed play if the parent just wrote "s/he is playing games".

4.3 Procedure

In the preparation phase of the study, the directors of the two preschools were contacted. In one of the schools, the counseling and guidance department supported the study by making announcements to the parents via newsletters and e-mails. The department mentioned that it was a study of a graduate student and the student would give a seminar about the effects of media and a brief discussion about the results of the study when it was all over. Therefore they expected to have more returns from the parents. The parents would fill out the forms in a weekend, for 2 and a half days, from Friday evening until Sunday evening. Since the children are mostly at school and many parents work during weekdays, only the weekends were focused. Each questionnaire was sent out in an envelope and each child was given a number in order to match the envelope with the CBS form that the teachers would fill out. There were 90 children in the age group of 4 to 6 and all of them got one questionnaire. Parents received e-mails and notes to send them back in two weeks. However, since there were not enough numbers of questionnaires sent back after two weeks, two more weekends were added to the data collection period. At the end of four weeks, there were 34 questionnaires. Then the teachers of those 34 children evaluated the children in terms of their aggression and prosocial skills, with CBS.

In the other preschool, parents of 55 children whose ages were between 4 and 6 received an e-mail whether they would like to participate in a study of a master's student. Twenty-six of them agreed to participate and same procedure with the other school was followed. Eighteen of them completed the questionnaires and sent them back to school, again in the envelopes. Their teachers completed the CBS for those 18 children. Results were compiled and analyzed for these 52 subjects.

CHAPTER 5

RESULTS

From the two preschools, 116 parents received the media diary forms. At the end of one and a half month, 52 parents in total returned the diaries. The teachers filled out the CBS forms for the children of these 52 parents.

5.1. Descriptive findings on media usage at home

Of the whole sample, 40.4% of the households had two televisions. There was only one TV in the 36.5% of the home and three in 15.4% of them. In 61.5% of the households, there was one DVD player. When it comes to computers and tablets, both combined, 36.5% of the parents had two devices and 34.6% of them had at least three devices in the household. There was at least one satellite connection in majority of the households (90.4%) and there was at least one game console in only 19.2% of the households.

The mean time that the parents spent for watching TV was 91.6 minutes (*SD* = 80.86) on a typical weekday and 106.8 minutes (*SD* = 92.74) on a typical weekend. Of the whole sample, 13.5% of the parents reported that they did not watch TV during either weekdays or weekends. The maximum duration for watching TV that the parents reported was 480 minutes either for weekdays or for weekends.

The parents answered the question of "How much time do you spend time in front of computer, excluding the time you spend for work?". The mean time that the parents spent in front of computers was 40.1 minutes (*SD* = 37.80) on a typical weekday and 30.7 minutes (*SD* = 29.04) on a typical weekend. Of the whole sample, 21.2% for weekdays and 32.7% for weekends reported that they did not spend time

in front of computers. The maximum duration was 180 minutes for weekdays and 120 minutes for weekends.

The majority of the children (86.5%) had their own rooms. Only 7.7% of them had their own TVs in their rooms. The national statistical data (TÜİK, 2013) about use of media of children who are older than 6 years state that 24.4% of the children who are between 6 and 15 years old have their own computers (including PC, tablet, notebook, etc.) whereas 36.5% of the children, in the current study, had their own tablets.

The type of program on TV that the children spent most time was programs with both prosocial and educational content, such as *Dr McStuffin*s, *Kabarcık Çocuklar*, and *Barney.* The second type of program that they watched mostly was programs with prosocial content, such as *Max & Ruby, Gürültücü Aslan Ra Ra*, and *Damla'nın Dolabı.* The third type of program was programs with aggressive content, such as *Ben10* and *Mixels,* which the children spent most time (Table 1).

Table 1. Total Time Spent for Television Programs in Minutes.

	N	Minimum	Maximum	Mean	Std. Deviation
Prosocial TV	52	0	300	28,75	58,418
Prosocial TV*	52	0	300	77,12	74,402
Educational TV	52	0	195	15,77	39,325
Educational & Prosocial TV	52	0	280	48,37	57,503
Aggressive TV	52	0	120	19,90	36,749
School Age TV	52	0	120	10,67	27,117
Adult TV	52	0	180	13,85	44,243
Unnamed TV	52	0	150	16,15	38,598

*Including programs with both prosocial and educational content.

The type of video games and apps that the children mostly played with were from the category of everyone, such as *Hay Day, Subway Surf,* and *Candy Crush.* The movies

that they watched were from the category of general, such as *Kar Patileri*, *Prenses Okulu,* and *Impy's Island* (Table 2).

Table 2. Total Time Spent for Video Games and Movies in Minutes.

	N	Minimum	Maximum	Mean	Std. Deviation
Games for Everyone	52	0	270	30.00	53.229
Games for 10 above	52	0	180	5.87	26.582
Unnamed Video Games	52	0	180	9.42	30.577
General Movies	52	0	120	11.15	25.622
PG Suggested Movies	52	0	120	5.48	22.035

5.2 Research questions

A series of Pearson correlation were calculated in order to determine the association among the duration of media use, the content of the program, the context in which the child engaged in a media activity, all the other activities than media activities that the child did, and prosocial and aggressive behavior of the child.

5.2.1 The relationship between children's time spent for media use and their prosocial and aggressive behaviors

The first research question of the study was: Do the children's prosocial and aggressive scores increase or decrease with the time spent for media use, regardless of the content?

The results showed that there was a significant positive relationship between children's aggression scores and the time they spent for video games, $r(5) = .32$, $p < .05$. The more they played video games, the more likely they were to have higher aggression scores. Besides, even though it was not significant, there was a negative relationship between children's prosocial scores and the time they spent for screen time and video game time (Table 3).

Table 3. Correlation Between Time Spent for Media Use and Aggression and Prosocial Scores of the Children.

		Aggression Scores	Prosocial Scores	TV Time	Video Game Time	Screen Time
Aggression Scores	Pearson Correlation					
	Sig. (2-tailed)					
	N					
Prosocial Scores	Pearson Correlation	-.367(**)				
	Sig. (2-tailed)	.007				
	N	52				
TV Time	Pearson Correlation	.019	.045			
	Sig. (2-tailed)	.892	.749			
	N	52	52			
Video Game Time	Pearson Correlation	.328(*)	-.192	.160		
	Sig. (2-tailed)	.018	.173	.256		
	N	52	52	52		
Screen Time	Pearson Correlation	.163	-.044	.898(**)	.576(**)	
	Sig. (2-tailed)	.248	.759	.000	.000	
	N	52	52	52	52	52

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

On average, the total screen time of girls were higher than boys whereas boys spent more time than girls for playing video games (Table 4). Also, the results pointed out that there was a significant positive relationship between children's age and the total screen time, r (5) = .40, $p < .01$.

Table 4. Time Spent for Media Activities According to Children's Gender in Minutes.

		Total TV Time	Total Screen Time	Total Video Game Time
Girls	Mean	185.54	225.36	38.93
	N	28	28	28
	Std. Deviation	119.128	147.101	61.012
Boys	Mean	159.63	213.75	54.54
	N	24	24	24
	Std. Deviation	115.010	135.841	64.745
Total	Mean	173.58	220.00	46.13
	N	52	52	52
	Std. Deviation	116.827	140.754	62.634

5.2.2 The relationship between media content and children's prosocial and aggressive behaviors

The second research question of the study was: Do the children's prosocial and aggressive behavior increase or decrease with the time spent for a specific type of program / video game? In order to determine whether children's prosocial and aggression scores increase or decrease with the duration of viewing and playing each type of content, a series of Pearson correlation were employed.

There were 7 types of TV programs in total: programs with prosocial content, programs with educational content, programs with both prosocial and educational content, programs with aggressive content, programs with school-age content, programs for adults, and unnamed programs. The results showed that the children's prosocial and aggressive scores were not related to the any type of content they watched or played on the screen. There was no significant relationship between children's amount of time spent for programs with prosocial content, including the

programs with both prosocial and educational content, and children's prosocial scores, r (5) = -.13, p > .05. Also, there was no significant relationship between children's amount of time spent for programs with aggressive content and their aggression scores, r (5) = .058, p > .05.

In order to see the effect of gender on the time spent for various TV contents, independent samples *t*-test was conducted. The categories of programs with school-age and unnamed TV programs were summed under the name of "All Others" in order to decrease the number of *t*-tests. Also, the prosocial TV category included the category of the programs with both prosocial and educational content. Yet the gender had no significant effect on the time spent for TV programs with any content.

5.2.3 Descriptive findings on the context in which the children use media

The third aim of the study was to provide a description of the context in which the children use media tools. As the parental mediation theory suggests, there are three different types of strategies that parents can use to mediate the negative effects of media on their children. Out of these strategies, only the active mediation strategy is assumed as most beneficial because it requires communication between the parent and the child about the content of the media product. So the parent can prevent the negative effects of the program, if there are any. Therefore in this study, the context was described in terms of the "active mediation" type of parental mediation theory whether there was an adult next to them while they were watching any type of media content, if that adult was watching or playing with the child, and how often they talked about the content of the program (Table 5).

The children watched programs with prosocial content (including both prosocial and educational ones) generally with an adult next to them (80.68%). But

most of these adults were doing their own business (57.74%) when their children watched prosocial TV programs. The percentage of adults who talked “sometimes”, “often”, and “rarely” to the children about the program were 28.16%, 26.76%, and 25.35%, respectively.

The children also watched programs with aggressive content mostly with an adult next to them (80%). The percentage of the adults who were doing their own business and who were watching together with their children are equal. Six of the adults (30%) who existed in the room with the child “never” talked to the children about the content of the program, and same amount of the adults (30%) talked “often” to the child.

Out of 13 cases when the children watched programs with school aged content, only in one case the child watched the program all alone. Yet, in almost all cases (66.66%), the parents were doing their own business even though they were physically next to their children. Besides, most of these parents (41.66%) talked “rarely” to their children about the program.

The children generally watched the movies with an adult and they watched all of the four parent guidance needed movies together, except one case. Out of 11 movies for general audience, children had an adult next to them in nine of these movies and the adults watched the seven of them together with the children. In both types of movies, the majority of the parents (66.6%) reported that they “sometimes” talked to the children about the content of the program.

Out of 52 video game playing cases, 47 of them were in the category of games for everyone. Majority of the parents (76.60%) were next to their children while they were playing video games. Of these parents, 52.78% of them played the

video game with their children and 47.22% of them were doing their own business. From the parents who were next to their children during the video game playing, 41.67% of them “often”, 22.22% of them “very often”, and 19.45% of them “never” talked to their children about the content of the game. In the four cases where the parents did not know the name of the video game that their children were playing, three of them mentioned that they were next to their children but all of them were doing their own business. Yet two of them reported that they “sometimes” talked to their children about the content of the video game.

Table 5. Number of Cases According to the Context Factors.

		The child was…		The parent was…		The parent talked to the child about the content…				
	Total Number of Cases	Alone	With an adult	Doing something else	Watching together	Never	Rarely	Sometimes	Often	Very often
Prosocial TV	88	17	71	44	30	6	18	20	19	8
Educational TV	20	2	18	8	10	2	0	11	2	3
Aggressive TV	25	5	20	10	10	6	2	5	6	1
Unnamed TV	14	5	8	5	3	1	1	4	1	1
School Aged TV	13	1	12	8	4	1	5	2	3	1
Adult TV	9	0	9	0	9	2	0	2	2	3
General Movies	11	2	9	2	7	0	1	6	1	1
PG Suggested Movies	4	1	3	0	3	0	0	2	0	1
Everyone Games	47	11	36	17	19	7	2	4	15	8
E+10 Games	1	1	0	0	0	0	0	0	0	0
Unknown Games	4	1	3	4	0	0	1	2	0	0

5.2.4 The relationship between children's time spent for media use and their time spent for developmentally enriching activities

Regarding the displacement theory which suggests that children spend less time for developmentally enriching activities when they spend more time for media activities, the last research question of the study was: Do the time that children spent for developmentally enriching activities (e.g. reading, painting) decrease as the time they spent for media activities increase?

The parents' answers were grouped into 11 categories: literacy, art, role-play, lego/blocks/cars, puzzle and math, outdoor, music, branch (e.g. ballet, swimming lessons), shopping malls, family activities, and unnamed play. Total play time was calculated by the sum of the time spent for these activities during the weekend, except family activities and shopping malls because these two types of activities only included visiting relatives and shopping. A series of Pearson correlation were employed in order to determine whether the amount of time spent for play decreased as the time spent for media activities increased.

The results showed that there was a significant negative relationship between time spent for video games and time spent for play time, $r(5) = -.44$, $p < .01$. The results also showed that the more time the children spent for watching TV and movies, the less time they spent for play and family activities even though the results are not significant (Table 6).

Table 6. Correlation Between Time Spent for Play, Family Activities, and Media Use.

		Family Activity Time	Play Time	TV Time	Video Game Time	Screen Time
Family Activity Time	Pearson Correlation					
	Sig. (2-tailed)					
	N	52				
Play Time	Pearson Correlation	-.184				
	Sig. (2-tailed)	.191				
	N	52				
TV Time	Pearson Correlation	-.166	-.096			
	Sig. (2-tailed)	.238	.497			
	N	52	52			
Video Game Time	Pearson Correlation	-.075	-.436(**)	.160		
	Sig. (2-tailed)	.598	.001	.256		
	N	52	52	52		
Screen Time	Pearson Correlation	-.172	-.261	.898(**)	.576(**)	
	Sig. (2-tailed)	.223	.061	.000	.000	
	N	52	52	52	52	

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

The first activity that the children spent most of their time during the entire weekend was family activities. In average, the children spent 234.10 minutes (*SD* = 127.54) with the family activities for the entire weekend. The mean of the total screen time, which was 220 minutes (*SD* = 140.75) including TV and movie watching, was the second activity that the children spent most of their time with during the weekend. The third activity that the children spent most of their time with during the weekend was unnamed play, which

represented the activities that the parents did not name and only wrote “Playing games” in media diaries (Table 7).

Table 7. Time Spent for Developmentally Enriching Activities and Media Activities in Minutes.

	N	Minimum	Maximum	Mean	Std. Deviation
Literacy Time	52	0	360	49.04	71.036
Art Activity Time	52	0	170	38.94	47.106
Role Play Time	52	0	300	27.12	61.599
Cars Blocks Time	52	0	330	30.10	59.685
Puzzle Time	52	0	130	9.52	25.901
Family Activity Time	52	0	540	175.58	150.325
Outdoor Time	52	0	390	86.83	90.505
Music Time	52	0	20	1.06	4.354
Unnamed Play Time	52	0	480	88.75	109.870
Branch Time	52	0	180	10.96	33.622
Mall Time	52	0	180	14.62	43.407
TV Time	52	0	510	173.58	116.827
Movie Time	52	0	180	16.63	36.052
Video Game Time	52	0	270	46.13	62.634

The results showed that the boys spent significantly more time playing with cars and blocks (M = 53.9, SD = 72.83) than the girls (M = 9.6, SD = 35.64), t (32) = -2.71, p = 0.011. On the other hand, the girls spent significantly more time with art activities (M = 57.3, SD = 54.08) than the boys (M = 17.5, SD = 24.4), t (38) = 3.50, p = 0.001. In addition, the girls also spent significantly more time with role play activities (M = 45.3, SD = 78.9) than the boys (M = 5.8, SD = 14.7), t (29) = 2.59, p = 0.015 (Appendix C).

CHAPTER 6

DISCUSSION

Media is an inescapable part of our lives. We learn, teach, express, protest, and share via media tools. In short, we live with media. Thus, it is not surprising that children use media tools as well as adults. Parents and other parties who are responsible for children's development have many questions in their minds: At which age should we let children use media tools? Which programs are "good" or "bad" for them? How long should we let them watch/play? What are the developmental outcomes of watching TV or playing video games? Child media studies look for the answers of these questions and they come up with various conclusions. Regardless, they have a consensus that there are three crucial factors in evaluating the effects of media on children: what they watch or play, how much time they spend with it, and in what kind of environments they use media tools. Thus, the main goal of this study was to include all these three factors (content duration, and context) while investigating the relationship between children's media use and their aggressive and prosocial behavior.

The national statistics (TÜİK, 2013) state that average amount of time spent for watching TV in a typical day among children 6- to 15-year-olds was 1 hour 55 minutes. In the USA, it was 57 minutes among children 0- to 8-year-olds (Common Sense Media Research, 2013). In the current study, it was 1 hour 50 minutes among 4- to 6-year-olds. One of the reasons of why national statistics in Turkey reported higher amount of time might be the age segment that it took into account. Since it is an older and a wider age group, the average time might have increased. In fact, in the current study, the findings had revealed that as the children got older, time spent viewing media had increased

suggesting that age is a significant factor why the average hours in the current study is lower. Similarly, the reason why the average hours were lower in the US might be because the U.S. research included a much younger age group, 0- to 8-year-olds, for whom the parents are generally more sensitive and cautious about media use. Besides, children who are under 2, have more vital needs such as longer sleep hours and more frequent time for nutrition. Therefore, this might have caused a decreased average amount of time spent for watching TV compared to Turkey's statistics.

One of the most remarkable results of the study was that young children spent most of their time in front of the screen compared to other activities during a weekend. Even though they had their families at home during the weekend, the mean time they spent with their families and watching TV was almost equal (M = 175.58, SD = 150.32; M = 173.58, SD = 116.82). It is generally expected that children spend more time with their families during weekends. However, they did not. This might be a result of this new era of technology, increasing pressures parents feel from their children as the media devices become abundant and possibly also because parents may not know much what to do with their kids or how to play with their kids. In fact, many adults nowadays spend a significant amount of time with their smart phones or IPads doing various activities such as playing games and watching videos or getting on social media. In a survey which was conducted by Global Web Index in 2014, average time that was spent for social media among 170.000 internet users was 1.72 hours per day whereas it was 1.66 hours per day in 2013. Thus, they may prefer giving the child an IPad and let him/her "get busy" with it so that they can "rest" or engage in other activities for a "little bit". Beyens and Eggermont (2014) found in their study which they conducted with 844 parents that half

of the parents benefit from using television as a babysitter. In this sense, the results of the current study were not surprising because it showed that many of the parents who stated that they were next to their children as they watch or play on screen answered the next question of what they had been doing at the same time by reporting that they were cooking, reading newspapers, ironing, and so on. In this regard, parents may need guidance and support about how to have entertaining and educative time with or for their children, rather than playing video games together.

The current study showed that the screen time (time spent for watching cartoons and movies) increased with the children's age, which was between 4 and 6. There might be several reasons of this result. First, the parents might have thought that as the children grow up, they develop a better understanding about what is right and wrong on the screen. Therefore, the parents might have allowed their children to watch more. Another reason might be the media market has more options for older age groups. There are various cartoons, games, and movies that the older children might be interested in. Thus, the children can find a program that appeals to their interests.

The child media studies claimed that the violent media was an indicator of children's aggressive behavior (Bushman, Gollwitzer, & Cruz, 2014). Even though almost all of the video games reported by the parents were categorized as "video games for everyone" by the Entertainment Software Rating Board, the results showed that the higher the video games' duration, the higher was the aggressive behavior reported by the teachers. This shows that no matter what the content is, frequent use of video games may be associated with children's aggressive behavior, which is a similar result of Manganello and Taylor's study (2009) in which they found a positive correlation

between direct child TV exposure and childhood aggression regardless of the content and other factors. There might be several reasons of this, yet one possible explanation can be derived from the displacement theory which suggests that as children spend more time playing video games, they find less time to socialize with their peers (Bickham, 2004). Even though it was not significant, a negative relationship was found between the children's time spent for video games and their prosocial behavior. Considering these two results of the study, we can conclude that playing video games, even if the content is not harmful, might deprive children of developing the social skills in time. This might be due to the fact that the time to develop social skills is shortened by the long duration of playing video games or because the time spent for video games deteriorates social skills.

The current study also showed that the time children spent for engaging in developmentally enriching activities, such as reading or painting, decreased as the time spent playing video games increased. When combined with the increased aggression scores as stated above, this finding shows that as children spent more time playing video games, they were less likely to engage in developmentally enriching activities, and they were more likely to show aggressive behavior at school. Likewise, this might be explained by the displacement theory in that if children play video games in most of their spare time, they might not play "traditional" games in which they can practice their social skills. When they do not practice their social skills, they might be aggressive with their peers at school.

Although it was not significant, the results about watching TV is similar with the playing video games in terms of spending less time for other activities. The more time children spent time watching TV, the less time they spent either playing games or

engaging in family activities. It seems like playing video games and watching TV might have taken away children's time that they could have spent engaging in developmentally enriching activities such as role-play or building blocks, and they could have spent with their families as the displacement theory claims.

The literature about the effect of parental mediation during media use suggests that the existence of active mediation prevents relational aggression in children who watch relationally aggressive television and movies (Linder & Werner, 2012). Therefore, this study examined how often parents were present next to their children and had discussions about the content that their children were being exposed to. In 13 cases that the children watched programs for adults or movies that parent guidance suggested, 12 of the parents were next to their children and watched the program together with their children. On the other hand, strikingly there were 25 cases in which the children watched programs with aggressive content and even though the parents mentioned that they were next to their children in 20 of these cases, only half of them watched these kinds of programs with their children. It was also ironic that the parents checked "sometimes" or "often" on the scale whereas they also reported that they were doing their own business while their children were watching those TV programs with aggressive content. Asking their children what they watched or whether it was funny might have been considered as a "talk" by the parents. Yet parents should be watching the show together with their children in order to have an understanding about what is going on that cartoon and to have a discussion about it.

Out of 88 cases in which children were reported to watch programs with prosocial content, only in 30 cases the parents reported that they watched the programs

together with their children. The reason might be that the parents trusted the content was appropriate in these kind of television programs, thus they did not feel like they had to watch them with their kids. However, studies propose that children gain more benefits from these programs when they actively discuss the content with their parents. For example, when a cartoon character shares his toy with a friend, a father might open up a conversation about this with his child, and the child might have a chance to think over, reflect, and possibly internalize that behavior.

One of the limitations of this study was to have a sample with a socioeconomic level that was higher than the Turkish average. The approximate percentage of the university graduates in Turkey is 11% whereas it was 67% in the current study. Thus, some of the findings about the household, such as the higher percentage of children who had their own tablets or having game consoles at home, might be a result of families coming from this particular socioeconomic background. In addition to that, similar with the results of the studies that found a relationship between low parental education and high levels of media use in early childhood (Anand & Krosnick, 2005), the parents in the current study might be more aware of various effects of media on children so that they might be more conscious about their children's media use since their educational level was pretty higher than Turkey's average educational level.

As I worked on this study, the most difficult part was to categorize the media products because there was no clear and detailed media rating system in Turkey. Even though the international rating systems provided guidance, it was difficult to categorize Turkish cartoons. So lately, one of the most popular video games in world, Minecraft, was attempted to be forbidden in Turkey because it has violent themes and might cause

social isolation. It is good that the Ministry of Family and Social Policies are aware of the possible risks of such video games but at the same time it is somewhat of a disappointment that that they are a little bit late and yet Minecraft is not the only media product with violent themes in it. Nevertheless, this limitation can be taken into consideration for future research because this study might propel other researchers in Turkey to initiate work on categorizing Turkish cartoons and studying more on children's media use.

Finally, it is important to note that, in order to prevent children's overuse of media, or unguided use of media, a more thorough public policy work about the effects of media on children, is needed. Developing a more systematic and a detailed rating system which guides parents as to whether or not the program is appropriate for their children can be the first step of this policy. Replications with larger and more diverse samples are needed in order to increase the reliability and generalizability of these results. In addition, qualitative studies should be employed to investigate why parents let their children spend time in front of screens, the details of their interactions with their children when they communicate with their children as they use media tools such as how often they talk to their children, what they talk about while they are watching a program with their children, the activity that follows the media consumption and which strategies they use to moderate the effects of media, in more detail. This could allow for a more comprehensive analysis of the media consumption of parents and the children.

APPENDIX A

MEDIA DIARY

Değerli Veli,

Aşağıdaki anketin amacı okul öncesi çağdaki çocukların medya araçlarını kullanımları hakkında bilgi toplamaktır. Vereceğiniz bilgiler kesinlikle hiç kimseyle paylaşılmayacaktır. Teşekkürler.

1. Cinsiyetiniz : _____ Yaşınız (gün/ay yıl/): _____
2. En son diploma alarak tamamladığınız eğitim düzeyi nedir?

   □İlkokul □Lise □Üniversite □Master ve üstü
3. Ne iş yapıyorsunuz? _____ Kaç yıldır: _____

   (Eğer çalışmıyorsanız ya da ev hanımı iseniz, lütfen bunu da belirtiniz)
4. Yaşadığınız şehir olan İstanbul'u düşündüğünüzde, gelir düzeyinizi nasıl tanımlarsınız?

   1. Düşük □ 2. Orta altı □ 3. Orta □ 4. Orta üstü □ 5. Üst □
5. Eşinizle beraber mi yaşıyorsunuz? □Evet □Hayır
6. Kaç çocuğunuz var? _____

7. Aşağıdaki soruları okul öncesi olan çocuğunuz için doldurunuz. Eğer birden fazla okul öncesi dönemde çocuğunuz varsa, sadece birisini düşünerek soruların bundan sonraki bölümlerine cevap veriniz.

Yaşı (gün/ay/yıl): _____ Cinsiyeti: _____		
Kendine ait odası var mı?	Evet	Hayır
Odasında televizyon var mı?	Evet	Hayır
Odasında Play Station, Xbox gibi oyun konsolları var mı?	Evet	Hayır
Kendine ait tablet, IPad veya bilgisayar gibi bir elektronik cihazı var mı? Varsa ne olduğunu belirtiniz_____	Evet	Hayır

8. Aşağıdaki soruları yaşadığınız evi düşünerek yanıtlayınız.

Evinizdeki televizyon sayısı	
Evinizdeki DVD/VCD oynatıcı sayısı	
Evinizdeki televizyonlara bağlı kablolu yayın veya uydu alıcısı sayısı	
Evinizdeki oyun konsolu sayısı (Playstation, Wii, X-Box vs.)	
Evinizdeki bilgisayar sayısı (Ipad, tablet, notebook vs. dahil)	

9. Hafta içi ortalama bir günde kaç saat TV izlersiniz? (örn. 45 dakika) …….. dakika
10. Hafta sonu ortalama kaç saat TV izlersiniz? (örn. 45 dakika) …….. dakika
11. Hafta içi ortalama bir günde (iş saatleri dışında) …….. dakika bilgisayar başında ne kadar süre geçirirsiniz?
12. Hafta sonu ortalama kaç saat bilgisayar başında zaman geçirirsiniz? …….. dakika

1.Gün: CUMA AKŞAMI

İzlediği çizgifilmin /programın ya da oynadığı bilgisayar/ tablet/ telefon oyunun adı		Başlangıç saati	Bitiş saati	Hangi cihazı kullanıyor? (Televizyon, bilgisayar, tablet, telefon, Xbox, PlayStation, DVD/VCD)	Bu bölümü çocuğun yanında programı izlerken ya da video oyunu oynarken yanında bulunan anne ya da baba ile ilgili olarak doldurunuz.		
					Çocuğun yanında anne ya da baba var mı? Varsa kim var?	Çocuğun yanındaki yetişkin ne yapıyor?	Çocuğun yanındaki yetişkin izlenen program veya oynanan oyunla ilgili çocukla konuşuyor mu? 1 Hiç 2 Çok az 3 Biraz 4 Çok 5 Oldukça çok
1							
2							

Lütfen aşağıdaki bölümü çocuğunuzun CUMA günü, okuldan eve geldiği saatten itibaren yaptığı, televizyon izleme/telefonda oyun oynama gibi elektronik cihaz kullanarak yaptığı etkinliklerin dışındaki etkinlikleri düşünerek doldurunuz.

Gün içinde başka neler yaptı? (Resim yapma, arabalarıyla oynama, parkta oynama gibi)	Ne kadar sürdü?
……	……dakika
……	……dakika

2.Gün: CUMARTESİ AKŞAMI

İzlediği çizgifilmin /programın ya da oynadığı bilgisayar/ tablet/ telefon oyunun adı		Başlangıç saati	Bitiş saati	Hangi cihazı kullanıyor? (Televizyon, bilgisayar, tablet, telefon, Xbox, PlayStation, DVD/VCD)	Bu bölümü çocuğun yanında programı izlerken ya da video oyunu oynarken yanında bulunan anne ya da baba ile ilgili olarak doldurunuz.		
					Çocuğun yanında anne ya da baba var mı? Varsa kim var?	Çocuğun yanındaki yetişkin ne yapıyor?	Çocuğun yanındaki yetişkin izlenen program veya oynanan oyunla ilgili çocukla konuşuyor mu? 1 Hiç 2 Çok az 3 Biraz 4 Çok 5 Oldukça çok
1							
2							

Lütfen aşağıdaki bölümü çocuğunuzun CUMARTESİ günü, okuldan eve geldiği saatten itibaren yaptığı, televizyon izleme/telefonda oyun oynama gibi elektronik cihaz kullanarak yaptığı etkinliklerin dışındaki etkinlikleri düşünerek doldurunuz.

Gün içinde başka neler yaptı? (Resim yapma, arabalarıyla oynama, parkta oynama gibi)	Ne kadar sürdü?
……	……dakika
……	……dakika

3.Gün: PAZAR AKŞAMI

İzlediği çizgifilmin /programın ya da oynadığı bilgisayar/ tablet/ telefon oyunun adı		Başlangıç saati	Bitiş saati	Hangi cihazı kullanıyor? (Televizyon, bilgisayar, tablet, telefon, Xbox, PlayStation, DVD/VCD)	Bu bölümü çocuğun yanında programı izlerken ya da video oyunu oynarken yanında bulunan anne ya da baba ile ilgili olarak doldurunuz.		
					Çocuğun yanında anne ya da baba var mı? Varsa kim var?	Çocuğun yanındaki yetişkin ne yapıyor?	Çocuğun yanındaki yetişkin izlenen program veya oynanan oyunla ilgili çocukla konuşuyor mu? 1 Hiç 2 Çok az 3 Biraz 4 Çok 5 Oldukça çok
1							
2							

Lütfen aşağıdaki bölümü çocuğunuzun PAZAR günü, okuldan eve geldiği saatten itibaren yaptığı, televizyon izleme/telefonda oyun oynama gibi elektronik cihaz kullanarak yaptığı etkinliklerin dışındaki etkinlikleri düşünerek doldurunuz.

Gün içinde başka neler yaptı? (Resim yapma, arabalarıyla oynama, parkta oynama gibi)	Ne kadar sürdü?
……	……dakika
……	……dakika

APPENDIX B

ÇOCUK DAVRANIŞ ÖLÇEĞİ

Değerli Öğretmenim,

Lütfen aşağıdaki her bir maddenin içerdiği tanımı göz önüne alarak, değerlendirilen çocuğa uygun olma derecesine göre puan veriniz. Örnek olarak, çocuk cümlede tanımlanan davranışı sık sık gösteriyorsa "2- Kesinlikle Uygun" u işaretleyiniz. Çocuk davranışı ara sıra gösteriyorsa "1- Bazen Uygun" u işaretleyiniz. Çocuk nadiren bu davranışı gösteriyorsa "0- Uygun Değil" i işaretleyiniz. Lütfen her madde için sadece bir rakamı işaretleyiniz

	Uygun Değil	Bazen Uygun	Kesinlikle Uygun
1. Diğer çocuklarla dövüşür.	0	1	2
2. Diğer çocuklara zorbaca davranır	0	1	2
3. Diğer çocukları tekmeler, ısırır ya da onlara vurur.	0	1	2
4. Diğer çocuklara yardım eder.	0	1	2
5. Başkalarının duygularını anladığını gösterir. Empatiktir.	0	1	2
6. Diğer çocuklar sıkıntılı olduğunda onlarla ilgilenir.	0	1	2
7. Saldırgandır.	0	1	2
8. Diğer çocuklarla alay eder ya da onları kızdırır.	0	1	2
9. Diğer çocukları tehdit eder.	0	1	2
10. Akranlarına karşı naziktir.	0	1	2
11. Güvenilir ve dürüsttür.	0	1	2
12. Sınıf arkadaşlarını dinler.	0	1	2
13. Akranları ile anlaşmazlıklarında uzlaşmacıdır.	0	1	2
14. Akranları ile işbirliği yapar.	0	1	2
15. Akranları ile tartışır.	0	1	2
16. Ahlaki konulara (dürüstlük, başkalarının iyiliği) ilgi gösterir.	0	1	2
17. Diğer çocuklar üzgün olduklarında onları rahatlatır ya da yardım etmeyi teklif eder.	0	1	2

APPENDIX C

INDEPENDENT SAMPLES T-TEST RESULTS OF GENDER EFFECT ON THE ACTIVITIES THAT CHILDREN PLAYED

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Upper	Lower
Art Activity	Equal variances assumed	22.038	0.000	3.325	50	0.002	39.821	11.976	15.767	63.876
	Equal variances not assumed			3.502	38.784	0.001	39.821	11.370	16.819	62.824
Role Play	Equal variances assumed	21.423	0.000	2.413	50	0.020	39.524	16.378	6.627	72.421
	Equal variances not assumed			2.596	29.177	0.015	39.524	15.222	8.400	70.648
Cars/ Blocks	Equal variances assumed	5.191	0.027	-2.849	50	0.006	-44.315	15.553	-75.554	-13.077
	Equal variances not assumed			-2.715	32.254	0.011	-44.315	16.321	-77.550	-11.081

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