

Investigation of the Responses of Children to Animated Film that They View¹

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Abstract

Children spend an important part of their time watching animated films on different platforms (cinema, television, internet). Box office figures indicate that this is true at the global level. However, it is not known how children react momentarily to the animated films they watch, and how these reactions fit the content of the film viewed. The purpose of this study is to determine the accuracy level of children's responses to the content of the animated films that they view based on age, gender and different variables. The research was carried out with a mixed-method using both qualitative and quantitative methods. The study group consisted of 210 children between the ages of 3-9. An average of 30 children was included in each age group. In this way, it was aimed to examine the behaviour of the children in each age group while watching animated films, the way the content of the scenes affects the children during viewing, and the change that children undergo as age progresses. First, a film suitable for the research was selected and the film content was analysed on a scene and minute basis. The standard emotions to be given at every minute and scene were determined. Then Toy Story 3 film was shown to the children in the research group. During the viewing session, each child was recorded with a camera and the camera footage and film minutes were matched then. The children's reactions observed on the camera footage caught while they are watching the film were compared to the content of the animated film. In the meantime, the parents of the children in the research group were given a demographic evaluation form developed by the researcher. As a result of the research, age was found to be a determining factor in the accuracy of children's responses during movie viewing sessions. On the other hand, no significant difference was found between the groups based on gender. Other results are also included in the study.

Keywords: Child development, Animation, Media for Children

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Introduction

The development and progress of societies depend on raising healthy individuals. In particular, children are expected to make positive contributions to the development of society. As with all areas of development, children at preschool and primary school stage must have a healthy development in the psychosocial area. The importance of psychosocial development is once again understood when it is thought that it has recently been highly influenced by the media content that children are exposed. According to Gattino and Tartaglia (2015), the mass media has a strong role in shaping our beliefs, perceptions and collective feelings. Arnett (2007) emphasizes that research over the past 30 years has influenced gender role of repeated exposure to stereotyped judgments in television. Gökçearsan (2010) points out that exposing children to complex sexual role models in animations may negatively affect them in their future lives. Similarly, Klein and Shiffman (2006) argue that the attitudes and ideas of young audiences are exposed to negative media messages at childhood.

These effects of the media have been demonstrated in various areas. In different researchs, television, animations and their effects have been examined with different variables. For example, Robinson et al. (2008) argue that young people who see the relationship between body weight and popularity in the viewed content are more likely to have negative consequences. Besides, overweight teens may be sceptical of their ability to build social networking, friendships, and develop personal relationships. Viewing content including body image can be associated with low self-esteem and feelings of social confidence. Anschutz et al. (2010) conducted a study and tested the direct effect of watching programs idealizing thinness on body dissatisfaction among young girls (aged between 9-12). As a result of the study, it was revealed that only young girls aged 9-12 showed more dissatisfaction. After watching the program where thinness was idealized, they demanded a thinner body than the neutral program. In contrast to these findings, Calado et al. (2011) examined the relationship between exposure to mass media and satisfaction with the body by gender. As a result of the research, there was no clear relationship between satisfaction with body and exposure to mass media.

Considering that there might be a relationship between television viewing and gender roles, Rivadeneyra and Lebo (2008) examined the relationship between adolescents' television viewing and gender roles and flirting behaviours. The study was conducted on 215 ninth-grade students and found a relationship between watching romantic television programs and exhibiting traditional gender roles during flirting. On the other hand, it was also found that there was a relationship between watching non-romantic television dramas and thinking about television realistically and less traditional flirting behaviours. Watching soap operas has also been related to a younger age and a greater number of flirtations.

The impact of the children's Television Act, which was introduced in the United States in 1990, on children's viewing and learning experiences were investigated. The survey which was conducted on 631 children in 2-6 grade found that girls and younger children liked educational and informative television programmes more than others. Girls and older children had a better understanding of social programs in particular. Researchers emphasized that such laws improved social, emotional and cognitive well-being by making it easier for children to view quality programs (Calvert & Kotler, 2003). Monitoring educational programs (such as Sesame Street) was found to be positively correlated with social interaction and cooperative behaviour among children (Arnett, 2007).

Language development and watching cartoons is another area that has been subject to many pieces of research examining the effects of television and animation. In a study conducted on infants, Hudon, Fennell, and Hoftyzer (2013) examined the relationship between television viewing and language development of bilingual infants. While the amount of television viewing could not be correlated with language output, it was found that there was a significant relationship between low-quality television viewing and low vocabulary treasure. Wartella et al. (2010) claimed that 52% of families in general (who have children between 6 months and 6 years of age) think television prepares their children for learning at school. These families find watching baby videos acceptable because they find it safe and potentially educational. 80% of families find it important for babies to watch television to learn colours, shapes, reading skills, numbers, music, science and nature. In another study conducted on babies, Shimpi et al. (2013) pointed out that 18-24-month-old infants learned by observing completely unfamiliar strangers. In this respect, it was emphasized that the imitability of the content viewed in visual media was high. In a similar study, Williamson et al. (2013) emphasized that infants imitated social behaviours for social interaction and were able to practice them in appropriate situations. The study points out that the behaviours viewed on video are imitated by babies. According to Strouse and Troseth (2008), 24-month-old infants can repeat the behaviours they watch on video with a 24-hour delay as well as the behaviours they watch in the room they are in. Besides, according to this study, 24-month-old babies are significantly less likely to imitate what they watch on their home TV than what they watch in a laboratory environment.

According to, Anderson and Henson (2010) adult understanding of viewed content occurs only at the age of 13. Courage and Howe (2010) claim that small babies cannot perceive the content they watch as it is, but are influenced by their formal characteristics. By the time they reach the age of two, they can understand the content that fits with their cognitive levels and interests them. However, they prefer to build relationships with people and learn from them. Besides, watching television does not lead to Attention Deficit-Hyperactivity Disorder, but it can have negative consequences such as poor administrative function when watched over 7 hours a day and when content is not suitable for the child. From a similar perspective, Courage and Setliff (2010) also argued that viewing television at an

age before 18 months do not help hold attention as it does not have content that babies can understand. The researchers point out that there is no scientific evidence that watching television leads to lack of attention, and they also claim that educational videos in the first year of life have very low teaching potential. However, with the start of meaning and the development of perceptual, cognitive skills and social understanding, the potential for teaching increases. Repeated exposure to visual media helps infants learn the format and content of media (Linebarger and Vaala, 2010). According to Calvert and Kotler (2003), children in the first grades of preschool and elementary school are unable to remember implicit messages requiring a good inferencing skill. However, it is also emphasized that children as young as 6 can have the ability to understand metaphors (Waggoner et al., 1997).

As can be inferred from what has been mentioned above, television and animation can have long-term effects on language development, cognitive development, body perception and so on. On the other hand, perhaps the most important subject of research among these is violence (American Psychiatric Association, 2005; Anderson et al., 2003; Bonds, 2002; Browne & Hamilton-Giachritsis, 2005; Gentile et al., 2004; Groebel, 1998; Hoffner et al., 2001; Huesman et al., 2003; Jipguep & Sanders-Philips, 2003; RTUK, 2005; Walsh & Gentile, 2001; Zuckerman & Zuckerman, 1985). According to the National Research Council and Institute of Medicine (2006), audience characteristics, program sensitivity and family mediation can intensify or mitigate the effects of violence on children. However, the effects of violence have not yet been fully understood.

The comparison of other materials within children's entertainment culture and violent behaviour in response to cartoons is another subject of research. In Lin's (2013) study, the answer to the question "does playing a violent computer game, watching a recorded game or watching a movie affect short-term violent behaviour?" was sought. The study found that those who played violent computer games experienced higher levels of aggressive emotions, aggressive cognition and psychological stimulation compared to others. A significant relationship between violent computer games and the development of aggressive behaviours was found. However, the effect of violent computer games on developmental changes have not yet been revealed (Kirsh, 2003). On the other hand, Williams (2014) emphasized that studies on computer games reveal a strong relationship between dissociation and the feeling of being and pleasure within the game. Krahe and Möller (2010) examined the long-term effects of media violence on aggression and empathy. As a result of the study, there was no relationship between exposure to non-violent media and aggression or exposure to violent media and relational aggression. The general belief about violence in television shows, especially cartoons, is that it has a negative effect on children's behaviour. However, contrary to this common belief, young children may be less prone to imitating the violence they see on television (Blumberg, Bierwirth & Schwartz, 2008).

Some studies argue that cartoons can affect children's behaviour and attitudes. In the study conducted by Fouts, Callan and Piasentin (2006), it was found that children's attitudes towards demonizing may be due to the cartoon content that they watch. Feature-length cartoons, unlike television and series, can bring more intimacy and identification about the character. This is because, when situations are created, events, emotions and potential lessons can have more impact on children than other media sources. Researchers argue that multiple exposures to films such as Disney's feature-length animations have an impact on children's understanding of the world and their attitudes. Leiner et al. (2004) found that messages given through animated film content are more effective than messages given by written explanations.

In addition to the studies stated above, there are also studies investigating the instant reactions during television viewing. For example, Courage et al. (2010) conducted a study and infants and parents offered free playtime was observed. Research results indicated that 6-to 18-month-old babies focus more on toys than on video and their parents. Parents were found to focus their attention on the baby and the toy, and a little bit on the video. But when the video was on, they were found to have less communication with their babies and less play with them.

In another study on immediate response, Lima et al. (2013) tested the use of animated films along with children's songs to make children who undergo ultrasound behave more treatable. Of the 464 children who underwent ultrasounds during the study period, 88 needed sedation. All of the participants, except one patient with menthol retardation, are under 5 years of age. It was found that 83% of respondents were relieved by the animation. The study found that the effect of animation viewing did not vary according to gender, age or the body part being interfered with. A similar study was also conducted on children who would undergo surgery. Gao et al. (2014) explored the effect of interesting games in reducing pre-surgery anxiety of children. The research conducted with preschool-age children revealed that there was a difference in anxiety when undergoing surgery between those in the experimental and control group. A significant difference was found in favour of the experimental group during the waiting period before anaesthesia. Similar findings apply to the findings of the study conducted by Durusoy et al. (2002).

In the studies given above, the effect of television and animation on children and partly on young people was found out by the long-and short-term responses of these samples to television and animation content. However, no study examining what kind of reactions children had during the viewing period and whether these responses were correct was found out in the relevant literature. Therefore, this study aims to identify the behavioural responses of children during their animation viewing time and the variables that these responses may be related to.

Method

Research Model

Qualitative and quantitative research models both used in this research as mixed model. Toy Story 3 was selected for the research. The behaviours and scenes of the film were analysed using the content analysis technique. After analysing the film, the film was divided into categories and codes according to minutes and scenes, and each part was given a code according to the meaning or characteristic of the examined piece. To ensure the validity of the codes determined, field experts were presented and asked to watch the film and evaluate the codes. Thus, the consistency coefficient was calculated and the validity of the code system was ensured. The selected animated film was then shown to children aged between 3 years and 9 years of age and the video footage was analysed using the codes that were determined beforehand in terms of the facial expressions and observable behaviours of the children. With the help of the initially developed coding system, the behaviour observed in that second of the film and the element reflected in the film content were combined. Thus, the children's reaction to the item in the film was revealed. For the consistency of this category and code system, some of the videos obtained from children were viewed by different researchers and evaluated by categories. The data obtained were found to indicate the consistency of the form.

Research Material

Toy Story 3 (Animated Film): The study in which the violent content in animated films was investigated and the violent content of 23 animated films was analysed (Turkmen, 2012) suggested that Toy Story 3 was suitable for this research. It was also the highest revenue of all time in the world (<http://www.boxofficemojo.com/alltime/world/>, 11.08.2013) indicating that it was the most-watched animated film. To get children, watch Toy Story 3, Disney Turkey, the producer company, and Tiglon, the distributor company, were contacted and relevant permission was obtained for the display. Markham and Chiu's (2012) review can be read, for more detailed information about the Toy Story 3. These films and their box office returns are as follows:

Table 1. Worldwide Box Office Figures of Animated Films

Rank	World Rank	Name of the Animated Film	Company	Turkey (2017) TL*	Worldwide	Overseas Sales		Year Released
						Revenue	%	
1	5	Toy Story 3	BV	3.672.533	\$1.063.2	\$648.2	61%	2010
2	15	Shrek 2	DW	3.327.419	\$919.8	\$478.6	52%	2004
3	19	Ice Age: Dawn Of Dinosaurs	Fox	11.448.378	\$886.7	\$690.1	77.8%	2009

* Box-office figures regarding Turkey were obtained from <https://boxofficeturkiye.com> on 18.08.2017

Research Group

The research was planned to include at least 30 children from 3, 4, 5, 6, 7, 8 and 9 age groups. The children included in the study group were reached at their schools that they attended. In the

consent form sent to the families, the children of the families who reported that they had allowed their child to participate in the study were included in the study. The children viewed the animated film together with their age groups in groups of 13-18 people. During the viewing period, the behaviour of all children was observed by using two ceiling cameras. The control over children was also taken into consideration in this preference.

Children in 3, 4, and 5 years of age were chosen from preschool classes, and children in 6, 7, 8, and 9 years of age were chosen from primary school classes. In the determination of the children and classrooms, random sampling was used for research. Since the choice of a school or class belonging to certain socio-economic or different characteristics would be contrary to the purpose of research, random sampling was used. Another reason for this choice is that the research is based on the principles of developmental characteristics of the children rather than their characteristics. As a result of the study, the research group consisted of the age and gender characteristics presented in Table 2.

Table 2. Age and Gender Characteristics of the Research Group

Gender	Age (Month)							Total
	37-48	49-60	61-72	73-84	85-96	97-108	109-120	
Male	15	16	12	9	15	15	16	98
Female	17	17	14	15	20	13	16	112
Total	32	33	26	24	35	28	32	210

The instrument for Data Collection

Quantitative analysis was carried out by collecting data with a qualitative method in the research. A demographic evaluation form, an animated film evaluation form, a film viewing behaviour Observation Form (category and code table) were developed for this study because there are no valid and reliable categories and codes prepared by a qualitative method in the relevant literature. The research also used Toy Story 3 film as material.

Demographic Evaluation Form: The demographic evaluation form consisted of the variables that could theoretically be related to film viewing behaviours that were thought to be related to various studies during the literature review. The basic idea in the creation of this form is to provide information about the child and the arguments that will provide answers to the research questions. With the demographic evaluation form, various information about the children participating in the study was collected. Since this information was about the children's family and their own lives, it was taken from the children's families. In the light of received feedback, the final version of the form was prepared and sent to the families together with the consent form.

Animated Film Evaluation Form: Toy Story 3 film was evaluated and analysed through the developed animated film evaluation form. During the creation of this form, Toy Story 3 was first viewed by a researcher and all the behaviours in the film were recorded in minutes and seconds. This process was repeated by another researcher to prevent the behaviour exhibited in the film content from

being overlooked. The resulting minutes and seconds-based behaviour lists are combined and all of the behaviours revealed throughout the film were listed. Then the emotional states caused by each behaviour in the film were identified. Each emotional state was associated with the minutes and seconds in the film process through the codes, resulting in a chart of the items and times about the Toy Story 3 film. This chart was given to the 3 field experts and asked to evaluate the film. Based on the feedback, the codes were revised. In this way, the content and construct validity of the schedule was ensured. Furthermore, the level of consistency calculated between the researchers was found to be 81% (consistency level = amount of consistency x 100 / amount of consistency + amount of inconsistency).

Observation form for film viewing behaviour: following the development of the form that is about the analysis of the animated film, a coding form was developed to facilitate the analysis of the video shot while children were watching the film. This form consists of the seconds recorded in the animated film evaluation form and students. A child behaviour code system was developed to encode student behaviour in this form used in the analysis of videos. This code system was created before the pilot study began and consisted of 25 behaviors. The number of behaviors increased to 46 with the additional codes obtained during the pilot study. The number of these behaviors during the actual application reached 85.

Analysis of the Data

Content analysis, a qualitative research method and quantitative research models were both used in this research. In the study, Toy Story 3 film was used as the research material. Toy Story 3 film was examined by categorical analysis technique based on behaviour. Besides, children's film viewing behaviours were videotaped and video content was analysed using categorical and frequency analysis techniques, one of the content analysis techniques. Behaviours as a unit were discussed in content analyses. The obtained qualitative data were processed and converted into quantitative data and subjected to statistical analysis. The data obtained with the forms were delivered for the content analysis by the researcher. The Kruskal Wallis test and Mann-Whitney U-test were used to examine the difference between groups in terms of age groups, gender and other independent variables following the quantification of qualitative data through codes. The analysis of the data was carried out through the SPSS 21.00 statistical package program. Within the scope of the research, 103 minutes of Toy Story 3 film and 210 (number of students) x 103 (duration of Toy Story 3 film) = 21.630 minutes (360.5 hours) of video footage were analysed.

Findings

The results of the Kruskal Wallis test for the behaviour of children from different age groups while watching Toy Story 3 are given in Table 3.

Table 3. Kruskal Wallis Test Result of Film Viewing Behaviors by Age

Group	N	Rank Average	Sd	χ^2	P	Group Difference
4,00	31	88,79	6	19,052	,004	-
5,00	33	117,42				
6,00	26	114,67				
7,00	24	127,46				
8,00	35	123,07				
9,00	28	80,14				
10,00	32	85,17				

The results of the analysis show that the behaviors exhibited by children watching Toy Story 3 differed significantly based on age [$\chi^2 (6) = 19,052, p < .05$]. This finding suggests that the behaviors that children exhibit while watching animated film are different based on age groups. When group rankings are taken into account, it is observed that the 7-year-old group exhibits the most appropriate behaviour for the film content. The Dunn-Bonferroni test conducted to find out the difference between the groups did not find out the source of the difference according to adjusted significance levels ($p > .05$).

Table 4. Kendall's Tau-b test result for the relationship between film viewing behaviors and age

Kendall's Tau-b	Age	Film Reaction	
		Correlation Coefficient	P
		-.066	,200
			N 209

As can be seen in Table 4, Kendall's Tau-B correlation analysis conducted to find out the relationship between children's ages and movie viewing behaviors did not suggest any significant relationship between the scores at $p < .05$ level ($r = -.066; p > .05$). In other words, this relationship determined by the Mann Whitney U test could not be correlated.

Table 5. Mann Whitney U-Test Result of Film Viewing Behaviors by Gender

Group	N	Rank Average	Rank Total	U	p
Male	100	102,61	10260,50	5210,500	,509
Female	110	108,13	11894,50		

The Mann Whitney U - test results for the behaviour of children from different gender groups while watching Toy Story 3 are given in Table 5. When Table 5 was examined, it was observed that there was no difference in the behaviour of children while watching Toy Story 3 in terms of boys and girls ($U = 5210,5, p > .05$). When ranking averages were taken into account, there was no big difference between the scores of boys and girls. This finding suggests that children from different gender groups exhibited similar behaviour during movie viewing.

Table 6. Kruskal Wallis Test Result of Film Viewing Behaviors According to Mother's Perceived Parenting Style

Group	N	Rank Average	Sd	χ^2	p	Group Difference
Democratic	108	95,66	3	,919	,821	-
Authoritative	33	93,68				
Demanding	9	83,67				
Protective	41	101,46				

Table 6 shows that the behaviors exhibited by children watching Toy Story 3 do not differ significantly according to the mother's perceived parenting style [$\chi^2 (3) = 0,919, p > .05$]. This finding suggests that the behaviors that children exhibit while watching an animated film do not differ based on the parenting style that their mothers perceive. When group rankings were taken into account, it was observed that the children of the mothers who considered themselves as protective parents exhibited the most appropriate behaviour to the viewed film content, but the groups did not significantly differ from each other.

Table 7. Kruskal Wallis Test Result of Film-Viewing Behaviour Based on Father's Perceived Parenting Style

Group	N	Rank Average	Sd	χ^2	p	Group Difference
Democratic	109	90,94	3	2,587	,460	-
Authoritative	51	87,62				
Demanding	4	121,88				
Protective	19	103,53				

The results of the analysis show that the behaviors exhibited by children watching Toy Story 3 did not differ significantly according to the parenting style perceived by the fathers [$\chi^2 (3) = 2,587, p > .05$].

This finding suggests that the behaviors that children exhibit while watching an animated film do not differ based on the parenting style that their father perceives. When group rankings were taken into account, it was observed that demanding fathers exhibited the most appropriate behaviour to the film content, but the groups did not significantly differ.

Table 8. Kruskal Wallis Test Result of Film Viewing Behaviors According to the Person Who sets the Rules in the House

Group	N	Rank Average	Sd	χ^2	p	Group Difference
No rule set	12	97,08	6	4,412	,621	-
Mother	43	101,85				
Father	12	72,50				
Child	2	47,00				
Other (Grandmother-grandfather)	1	113,00				
Shared (Mother-Father-Child)	36	95,10				
Shared (Mother-Father)	83	95,30				

The findings in Table 8 show that the behaviors exhibited by children watching Toy Story 3 did not significantly differ according to the person who set the rules at home [$\chi^2 (6) = 4,412, p > .05$].

This finding suggests that the behaviour children exhibit while watching an animated film do not differ based on the person who sets the rules at home. When group rankings were taken into account, it was found that the children whose grandmothers and grandfathers set the rules exhibited the most appropriate behaviors to the film content, but the groups were found not to significantly differ.

Table 9. Kruskal Wallis test result of Film-viewing behaviour according to the State of Imposing Punishment When the Rules are not Followed at Home

Group	N	Rank Average	Sd	χ^2	p	Group Difference
Definitely	11	88,55	2	,587	,746	-
Sometimes	144	97,20				
No Punishment Imposed	35	90,69				

It is seen in Table 9 that the behaviour exhibited by children watching Toy Story 3 did not differ significantly according to the state of imposing punishment when children did not stick to the rules [$\chi^2 (2) = 0,587, p > .05$]. This finding suggests that the behaviour that children exhibit while watching an animated film does not differ based on the state of imposing punishment when they fail to follow the rules at home. When group rankings were taken into account, they indicated that the most appropriate behaviour to the film content was exhibited by those who were (sometimes) punished, but no significant relationship was found between the states of being punished.

Table 10. Mann Whitney U-Test Result Film Viewing Based on the state of setting the rule of watching television at home

Group	N	Rank Average	Rank Total	U	p
Rule set	139	91,46	12712,50	2982,500	,194
No rule	49	103,13	5053,50		

When Table 10 was examined, it was observed that there was no difference between children's behaviour when watching Toy Story 3 and children who did or did not stick to the rules about watching television ($U=2982,5, p > .05$). When ranking averages were taken into account, it was observed that there was a difference in the children who were imposed rules or who were not imposed, but this difference was not statistically significant. This finding suggests that children imposed rules and those without any imposed rule exhibit similar behaviour during movie viewing.

Table 11. Kruskal Wallis Test Result of Film Viewing According to Who Sets the Rules for Watching TV at Home

Group	N	Rank Average	Sd	χ^2	p	Group Difference
No rule	41	106,01	5	7,580	,181	-
Mother	41	101,37				
Father	9	60,56				
Child	5	111,70				
Shared (Mother-Father-Child)	19	104,08				
Shared (Mother-Father)	76	88,85				

The results of the analysis show that the behaviour exhibited by children watching Toy Story 3 did not differ significantly according to the person who set the rules for watching television [$\chi^2 (5) = 7,580, p>.05$]. This finding suggests that the behaviour children exhibit while watching an animated film does not differ according to the person who sets the rules. When group rankings were taken into account, it was observed that the group of the child who set the rules displayed the most appropriate behaviour to the film content, but there was no significant difference between the groups.

Table 12. Kruskal Wallis Test Result of Film Viewing Behaviour According to the Tv Viewing Duration of the Child

Group	N	Rank Average	Sd	χ^2	p	Group Difference
0-5	116	90,06	2	1,636	,441	-
5,5-10	57	95,48				
10,5-above	12	109,58				

The results of the analysis show that the behaviors exhibited by children watching Toy Story 3 did not differ significantly according to the child's television viewing duration [$\chi^2 (2) = 1,636, p>.05$]. This finding suggests that the behaviors that children exhibit while watching an animated film did not differ according to television viewing duration. When group rankings were taken into account, it was observed that children watching television for 10.5 hours and above gave the most appropriate behaviour to the film content, but no significant differences were found between the groups.

Table 13. Frequency and Percentages of Children's favourite cartoon characters *

Rank	Character	Male	%	Female	%	Total	%
	Elsa (Frozen)	0	0	11	5,1	11	5,1
	Bloom (Winx)	0	0	10	4,7	10	4,7
	Spiderman	5	2,3	2	,9	7	3,3
	Pepee (Domestic)	3	1,4	4	1,9	7	3,3
	Richard Waterson (Gumball)	4	1,9	3	1,4	7	3,3
	Fin (Adventure Time)	4	1,9	3	1,4	7	3,3
	Jett (Super Wings)	4	1,9	2	,9	6	2,8
	Batman	4	1,9	1	,5	5	2,3
	Supermen	4	1,9	1	,5	5	2,3
	Mia	2	,9	3	1,4	5	2,3

* Of the 65 characters, the first 10 are given.

When the table on children's favourite cartoon characters was examined, it was found that the most popular character was Elsa (n=11, 5.1%) from the “Frozen” animated film. All 11 children who preferred this character were female. In the second place was Bloom (n=10, 4.7%), a character from Winx, again another animated film for girls. In the same way, all of those who preferred the character Bloom were female. Later in the 7 frequency range, Spider-Man, Pepee, Richard Waterson (from the Gumball animated film) and Fin characters from The Adventure Time Cartoon were ranked by 3.3% weight. When we looked at the gender of the children who preferred these characters, it was seen that there was an equal distribution. Out of these, a total of 59 characters were found as children's favourite characters. When the table was examined, it was observed that participants were found not to have preferred one or several characters, but rather their preferences were found to have scattered.

However, the remarkable finding is that cartoon characters aimed at girls are preferred only by girls, while characters aimed at boys are preferred by both girls and boys.

Table 14. Kruskal Wallis Test Result of Film Viewing Habits Based on Television Viewing Duration of Children in Parental Control

Group	N	Rank Average	Sd	χ^2	p	Group Difference
,00 Hour	28	70,39	9	8,921	,445	-
1,00 Hour	23	97,54				
2,00 Hour	43	98,47				
3,00 Hour	42	92,39				
4,00 Hour	16	77,22				
5,00 Hour	15	95,30				
6,00 Hour	2	69,75				
7,00 Hour	2	87,50				
8,00 Hour	3	72,67				
9,00 Hour	5	116,70				

Table 14 shows that the behaviors exhibited by children watching Toy Story 3 did not differ significantly based on viewing Tv viewing duration in parental control [$\chi^2 (9) = 8,921, p > .05$]. This finding suggests that the behaviors that children exhibit while watching an animated film do not differ based on children's Tv viewing duration in parental control. When group rankings were taken into account, it was observed that children who watched films for 9 hours in parental control exhibited the most appropriate behaviors to the film content, but no significant differences were found between the groups.

Table 15. Kendall's Tau-b test result of film viewing behaviors in parental control

		Film reaction
Kendall's Tau-b	TV viewing duration in parental control	Correlation coefficient
		P
		N
		,045
		,419
		179

When Table 15 was examined, Kendall's Tau-B correlation analysis conducted to find out the relationship between television viewing durations and film viewing behaviors in parental control of children revealed that the scores were statistically significant at $p < .05$ level ($r = -.045; p < .05$).

Table 16. Kruskal Wallis Test Result of Film Viewing Behaviour Based on the Parent's Reaction When Child Fears

Group	N	Rank Average	Sd	χ^2	p	Group Difference
I switch channel/switch off	29	98,52	5	14,713	,012	-
I explain the content considering the child's comprehension level	46	69,39				
S/he is not scared/S/he does not tell that s/he is scared	14	84,46				
I give the message that I stand by her/his side	16	109,00				
I explain the difference between the real and dream	24	95,58				
I tell her/him not to watch the film	38	72,59				

According to the results of the analyses (Table 16), the behaviour exhibited by children watching Toy Story 3 differed significantly according to the way their parent reacts when they were scared while watching TV [$\chi^2 (12) = 14,713, p < .05$]. The Dunn-Bonferroni test conducted to determine the difference between the groups did not find out the source of the difference according to adjusted significance levels ($p > .05$).

Table 17. Kruskal Wallis Test Result of Film Viewing behaviors According to the Type of Viewed Program

Group	N	Rank Average	Sd	χ^2	p	Group Difference
Not stated	63	103,63	5	7,240	,203	-
Series	47	89,39				
Documentary	22	84,66				
Competition Program	36	110,99				
Film- Animation-Comedy	9	115,89				
Entertainment Program-News-Music	18	82,17				
Channel-Kid's Program-Sports Program						

The analysis showed that the behaviour of children watching Toy Story 3 did not differ significantly according to the types of programs they watched on television [$\chi^2 (5) = 7,240, p > .05$].

Table 18. Kruskal Wallis Test Result of Film Viewing Behaviour by the Age at Which Movie Watching Behaviors Started

Group	N	Rank Average	Sd	χ^2	p	Group Difference
0-12	22	88,07	5	11,317	,045	13-24/61-72
13-24	69	92,50				
25-36	47	82,53				
37-48	21	77,88				
49-60	4	94,00				
61-72	6	25,75				

The results of the analysis showed that the behaviors exhibited by children watching Toy Story 3 differed significantly according to the age at which they started watching television [$\chi^2 (5) = 11,317, p < .05$]. This finding suggests that the behaviors that children exhibit while watching animated films differ according to the age at which they start watching television. When group rankings were taken into account, it was observed that the group who started watching television in 49-60 months and 13-24 months exhibited the most appropriate behaviour to the film content. With the Dunn-Bonferroni test conducted to find out the difference between the groups, it was found that the source of the difference between the groups was the group that started watching television between 13-24 months and the group that started watching television between 61-72 months ($p = .0,019$).

Table 19. Kruskal Wallis Test Result of the Film Viewing Behaviour Based on What Parents think about the Functions of Animated Films

Group	N	Rank Average	Sd	χ^2	p	Group Difference
Very functional instrument	22	93,50	7	18,099	,012	3-8
Informative	37	83,64				
Educative	38	67,57				
Spare time activity	50	101,36				
Provides time for parents	13	90,35				
Dysfunctional	3	83,83				
Harmful	3	73,17				
An instrument with both positive and negative sides	13	129,04				

The results of the analysis show that the behaviors exhibited by children watching Toy Story 3 differed significantly according to their parents' perspective on the function of cartoons [$\chi^2 (7) = 18,099, p < .05$]. This finding suggests that the behaviors children exhibit while watching an animated film differ based on their parents' view regarding the function of the cartoons. When group rankings were taken into account, it was seen that the children of parents who see cartoons as a tool with both positive and negative aspects exhibited the most appropriate behaviour to the film content. As a result of the Dunn-Bonferroni test conducted to find out the difference between the groups, it was found that the source of the difference according to the corrected significance levels was found to be the parents who considered cartoons educational and the groups who considered them as a tool with both positive and negative aspects ($p = .0,006$).

Table 20. Mann Whitney U-Test Result of Film Viewing Behaviour According to Purchasing for Child the Toy of the Viewed Cartoon Character

Group	N	Rank Average	Rank Total	U	p
Purchased	153	93,79	14350,50	1867,500	,175
Not purchased	29	79,40	2302,50		

When Table 20 was examined, it was observed that there was no difference in the behaviour of children when watching Toy Story 3 according to the state of purchasing a toy of the cartoon character viewed and children who did not receive any toy ($U = 1867,5, p > .05$). When ranking averages were taken into account, there was no big difference between the children who received toys and the scores of those who did not receive. This finding suggests that children who received and did not receive a toy of the cartoon character viewed exhibit similar behaviour during movie viewing.

In the study, children were asked about the top 5 cartoon films they liked most respectively. The rankings of cartoons by their frequency and total frequency scores according to their rating level are given in Table 21.

Table 21. Frequency chart for children's favourite cartoons *

Cartoon Film	1.Rank	2.Rank	3.Rank	4.Rank	5.Rank	Total
	F	F	F	F	F	
Rafadan Tayfa (Domestic)	10	9	13	5	9	46
Kelođlan (Domestic)	7	8	11	11	4	41
Pepe (Domestic)	9	4	7	7	5	32
Winx	6	7	3	7	6	29
Canım Kardeřim (Domestic)	8	3	2	7	3	23
Gumball and Darwin	9	3	4	4	3	23
Maya the Bee	8	5	5	2	3	23
Super Wings	9	4	6	1	2	22
Princess Sofia	4	6	3	4	1	18
Niloya (Domestic)	2	6	6	0	3	17

* Of the 69 cartoons, the first 10 are given.

In Table 21, the cartoons that children like to watch most are given respectively. It was found that the children in the research group liked Rafadan Tayfa (F=10) most, which is a Turkish-made cartoon film. The second cartoon favoured most was Pepee, Gumball and Darwin and Wings (F= 9). In the second and third place, the most popular cartoon was the Rafadan Tayfa again (F=9, F=13). In the fourth place, the most preferred cartoon was Kelođlan, a Turkish domestic production. In the fifth place, the most preferred cartoon was Rafadan Tayfa again. In terms of the sum of the frequencies, it was seen that the most preferred cartoon was the Rafadan Tayfa (F=46). In terms of total frequency, the second place is Kelođlan (F=41) and the third place is Pepee (F=32). What is attention taking in this ranking is that the children's favourite cartoons are the products of their own culture, and in general, they prefer non-violent cartoons. The first 10 films that are preferred in terms of overall frequency were examined, and 5 of them were Turkish-made cartoons and the other 5 were cartoons produced out of Turkey. The striking point about this finding is that there are a total of 170 cartoons among the 5 favourite cartoons. Although this data shows that at first glance the most preferred cartoons show a very wide distribution, 66 out of 170 cartoons had only 1 frequency, while 100 had 2 and 1 frequencies. According to this finding, there are only 70 cartoons with a total frequency of 3 and over. Considering that there are 210 children in the research group and each of them expressed 5 preferences, the presence of 70 cartoons indicates that the diversity is not as broad as though (cartoons with frequencies 1 and 2 are not included in the table).

Discussion

Children's reactions to the media content –especially cartoons and animation they encounter– need to be revealed. Besides, it is also necessary to determine the behaviour patterns and values that children understand and internalize from the content they watch, as well as the reactions given during film viewing. This study aimed to present the perceptual structure of the children from each age group about the content of animation that they view and to gather data if parents evaluate their children considering their peers and age groups during and after their animated film viewing period.

Considering the research findings, it was seen that the children's age was primarily related to their reactions to the animated film they are watching (Toy Story 3 film was examined in this study). It could be said that especially children in the age group of 4 differed from other groups. However, when the rank averages of 9-and 10-year-olds were considered, it could be claimed that they were similar to the 4-year-olds. This may have resulted from the fact that 9 and 10-year-olds cannot adequately focus on the content they are watching. Another explanation for this may be that the monitoring behaviour of children aged 9 and 10 is different from those children younger than them. Another point that needs to be highlighted among the findings is that children's animated movie-watching behaviors did not differ in boys and girls. Previous research like Oliver and Green's (2001) states that girls are more likely to express their feelings to the viewed sad movie scenes.

Parental style, which was found to be related to many of the child's behaviors, was also found not to be related to the children's animated film viewing behaviour. Moreover, it was also found that the state of having rules set for film viewing at home or not having, who sets the rules at home for film viewing was found not to be related to film viewing behaviour. The fact that parents apply punishment when their children do not stick to the set rules or misbehave was found to be related to the behaviors that children exhibit when they watch an animated film

Another variable which was found to be related to the behaviour of children' animated film viewing behaviors is that there are rules about watching television at home. The findings suggest that children's behaviour toward watching animated movies is similar, whether or not there are rules about watching television at home. It also appears that who sets the rule for watching television at home, does not make any difference. This can be the result of parents' attitudes for cartoon viewing. Voort, Nikken and Lil (1992) indicated that parents' beliefs about the effect of tv viewing predicts their tv viewing guidance style.

When Tv watching hours considered, findings show similar watching hours with İlhan and Çetinkaya's (2013) research. The analysis conducted considering that children who watch too much television may be more experienced in this regard shows that children's television viewing times are not related to the behaviour of children who watch animated movies. Similar result can be seen in Potts, Dedmon and Halford's (1996) research. When children were asked about their favourite cartoon characters, the character Elsa from the "Frozen" animated film and Bloom from the "Winx" cartoon that is most identified with girls were preferred among the 166 responses. Although the analysis was intended to be carried out according to the popular cartoon character, that the answers had characters up to 65 and the limited size of the research group did not allow this. However, what is interesting with this research is that despite the limited respondents in the study (166 children), the responses obtained were various (65 cartoon characters). This may be due to different age groups as well as the

fact that cartoon sources and characters are quite wide-ranging. It is also clear that all children may not have a dominant cartoon culture.

Another finding regarding the participants' favourite cartoon character is that Richard Watterson character from the Gumball animated film, which was found to be at the 5th rank, came to the forefront. When you watch the Gumball cartoon, it can be easily seen that this character is one of the side characters and that his attention-grabbing characteristic is his lazy like behaviour and shows no signs of intelligence. In the cartoon, this creates quite funny moments. Among the children, while the Gumball, the main character of this animated film, is ranked 21, Richard Watterson who is a side character in the animated film is preferred to view so much. This may be due to its comic content.

When the children's television viewing hours under parental control were evaluated, it was found not to be significantly related to the children's animated film-watching behaviour. In this respect, it shows that watching television under parental control is not related to the behaviour that children exhibit while watching animated films. This finding is contrary to Hogan's (2012) opinions. However, when another variable which was about the reaction of parents when their children face content that their children may be scared, the groups were found to significantly differ. At this point, the message that parents given by viewing the film content with their children was found to be related to the reaction that children give to the content of the viewed animated film. These finding points out "restrictive mediation" styles which has been researched by Bağlı (2003) can be important about children watching behaviour. On the other hand, an other research by Koolstra and Lucassen (2004) showed that parents and children watches tv together as social co-viewers.

Another variable that is thought to be related to the child's behaviour of watching animated movies is that the children are watching a program other than cartoons. When children watching programs other than cartoons were examined in terms of the types of programs they were watching, it was seen that the reactions of children to the animated film did not change. Potts, Dedmon and Halford (1996) states that viewed program category is not associated with sensation seeking and age. One of the rare variables associated with children's behaviour when watching animated films is the age at which children start watching television. Children who started watching television at an earlier age were found to react more appropriately to animated film content. Besides, the children of the parents who considered cartoons as educational tools had more appropriate reactions to the animated film than the children of the parents who considered cartoons as tools with both positive and negative aspects.

Karaca, Pekyaman and Güney (2007) stated that parents think 36% of their children effected by the toy commercials. In this study 153 of 181 parents emphasized that they bought a toy of a cartoon character. Purchasing a toy that is a cartoon film hero to the child and the child's desire for such a toy was found not be related to the behaviour exhibited while watching animated films. This

also applies to the analyses conducted considering both the number of toys received and the number of toys requested.

Parents' perceptions of the level of violence in the content of cartoons were again found not to be related to the behaviour of watching animated films. With a protective perspective, it is thought that the investigation of media content which may have a big negative effect on children's attitudes and behaviors, and revealing both negative and positive sides will affect children's development positively and prevent potential problems before they emerge. On the other hand, it is another idea that children's development could be helped and facilitated with cartoons. The findings of this study indicate that children's cognitive skills during watching animated films in general and for the content they are watching, in general, are progressing on a developmental basis. This study also offers the idea that many of the views aiming to protect children (especially interventions by parents) may not be functional.

It is thought that behaviourist approaches such as "you as parents need to be a role model" may not be determinant in children's relationship with the media and especially with television. Although this study was not intended to be a research in a theoretical context, it was realized that there was a need for research in which children's attitudes towards cartoons and media were investigated, especially within the framework of Jean Piaget's theory of cognitive development. With this study, it was believed that the child's relationship with the media was more advanced based on cognitive development and that this progress could be evaluated especially in the context of maturation. It has been observed that the support parents give to the child should have a more emotionally reassuring nature (especially in the case of fear). Besides, it was observed that the behaviors that children exhibit during animated film viewing are not related to their knowledge and evaluation of the content of the cartoons, and generalizations about the cognitive status of the children cannot be made from the instantaneous behaviors that occur during film viewing periods.

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