

## Influence of animated shows on children: A survey

Parveen Saini<sup>1</sup>

Assistant Professor, University Institute of Media Studies, Chandigarh University

<sup>1</sup>parvsaini08@gmail.com, <sup>2</sup>parveensaini.uims@cumail.in

### Abstract

*With the increasing technology, the influx of animated shows with violent and sexual nature has been increasing day by day. The children are exposed to such violence and their parents may not be able to see the consequences instantly, but it does pose a great threat to the innocent minds at this concept formation stage. The prime factor here is for how long they are exposed and what kind of parental supervision do they get. In this study, a sample size of 100 from diverse demographics was taken and a survey with structured questionnaire with multiple choice questions was distributed to the respondents, who are the parents of children till the age of 13. It was found that the children especially from the age group of 8-13 are regular viewers of several kinds of cartoons popular in both west and India. The negative effects caused from the long exposure of television could not be found in most of the children. As per the research sample, the parents keep a constant watch on their kids and thus, they have been successful in keeping the level of aggression in control.*

**Keywords:** *animated, animation, cartoon, anime*

### Introduction

Animation is the sequential appearance of the images and pictures which are presented in a form of a drawing, painting and can be produced using various creative ways. Earlier, there were static images but later came the motions pictures which took people by surprise. Another name given to this art was Cartoons. It was earlier presented in a two-dimensional way and now they are created in three-dimensional too. The word 'cartoon' generally refers to as television programs. 'Felix the Cat' was the first cartoon created and afterwards, Mickey Mouse and the other characters like Pluto, Donald Duck, etc. became very popular among the children. Walt Disney, who is said to be the Pioneer in American Animation, produced the first animated film based on the fairytale 'Snow White and the seven dwarfs.'

With the advent of the globalization, the cultures of various countries have crossed the borders including animation. This form of entertainment is widely-accepted by the people from all over the world especially children. Hence, the companies started focusing on the children who became the target audience. Earlier, the children used to watch just the Disney cartoons like Mickey Mouse, Tom & Jerry, etc. but now, they have been exposed to several other series from other countries especially Japan. Doraemon is the one of the most watched cartoons today. Other series like Shin-Chan, Pokémon, Ninja Hattori, Chhota Bheem, etc. have a very high viewership not just on television but online. In fact, the statistics show that the Japanese cartoons are the now most watched cartoons all over the world.

## Japanese anime

Japanese version 'anime' which is one way of the animation, where the characters are beautiful, doe-eyed, differently colored hair and present super human powers. Such kind of animation has put US animation industry in the back seat and Japanese cartoons have become much more popular. The influence of the very popular and old character Doraemon was that, the Bangladesh Government decided to ban the cartoon show. Are such animation and graphics good for the health of a child?

Japanese Manga Series, Robotech, Berserk, Ninja Turtles, Samurai Jack, etc. are some other series widely popular amongst children. Even the best rated animated movie in the world is Japanese animated movie 'Spirited Away'. So how are they different from others? The use of anime, adventure, thrill and actions are new for the children and hence, it is easy to get their attention.

There is no doubt about the good values that are shown in the cartoons. However, is the content up to the level of the understanding of small children? This is said about another series from Japan's 'Shin-Chan' & 'Pokémon'. Many parents have complained that their children's behavior getting spoiled by the notorious kid Shin-Chan. On the other hand, the very popular 'Pokémon' has caused few health issues for many children. A clinical research reveals that the children who have been exposed to Pokémon for a very long and continuous hours have caused epileptic fits in children. The graphics and level of animation shows play with the minds of the children. It should be up to the level that they can absorb. Animation makes the characters make-belief ones. They should not be presented in a way that the child should not feel difficulty in distinguishing between reality and fantasy. Some of the cartoon shows have been portraying very gruesome and raw pictures of the action and violence irrespective of the thought that their major audience is under 13 years old kids.

## Other animations

Shows like Batman, Spiderman, X-Men, Power-puff Girls, etc. also contain violence and too much action for a child to grasp. The several episodes show blood in the name of comedy. This is an example of slapstick violence which does not mean violence literally and is meant to create comic fun. The scenes where the villain is being killed by the hero through explosion, shots, dragons, murder, etc. All such actions pose a threat to the formation of the thoughts of the child. The classic shows like Tom & Jerry have been very funny and comic, and though they have received several complaints of violence too. Likewise, the Road Runner has violence as the key ingredient. Such cartoons have led to aggression and violent behavior in the children especially who watch it regularly for many hours.

## Indian cartoons

Lately in India, many shows have suddenly become popular among the kids. Parents do not fear anymore that the kids are getting influenced by western culture and they have been receiving positive or negative reviews. Chhota Bheem, Bal Hanuman, Little Krishna, Vir The Robot Boy etc. are hugely adored by kids. Chhota Bheem has become a superhero of kids who eats ladoos and then, saves the village from bad people. He is inspired from the mythical Mahabharata Character Bheem and is now one of the loved cartoons show in northern India. According to a recent study by the Times of India, the

parents become more worried when their kids start to imitate and attempt to do the same actions with their friends.

### **Background of the family**

The behavior and the background of the child matters a lot when it comes to the type of violence he/ she is exposed to. If the parents do not pay proper attention, or the child is abused or beaten by them or bullied by others, such children are more susceptible to the drastic consequences of the prolonged and unsupervised cartoon viewing.

### **Positive influence**

Let's throw some light on the positive effects as well. We cannot deny that besides these negative effects, these shows have been proved to be the best friends of the children. Importance to friends, obeying parents, paying attention on studies, victory of good over evil, etc. are some good messages that cartoons shows provide. There are several scenarios where they mentally prepare the kid teaching them various things that they might not be willing to learn from others. There are many other cartoons shows as well that present the ninja techniques and martial arts. The Karate Kid is one such which inspired the kids to learn martial arts.

### **Cartoons & their merchandise**

Dragon Ball, Phineas and Ferb, Flintstones, Gravity Falls, Popeye-The Sailor, Scooby Doo, Looney Tunes, The Simpsons, Oggy and the Cockroaches, Ben 10, Doraemon, Shin-Chan, Chhota Bheem and several other cartoons shows have grossed millions of dollars from the commodities and merchandise of these characters. Children want Doraemon and Chhota Bheem printed on their tiffins, bags and bottles. There are hundreds of merchandises from kids' stuffs like games to the bed sheets, towels and curtains available for the kids. There are special packages to decorate the children's bedroom where they could get their favorite cartoon characters on the walls. It is fine that kids keep a role-model but avoiding outdoor games, studies and meeting with friends should not be the consequences of watching cartoons.

### **Review of literature**

According to a study "Children are trapped in the illusion of Cartoon Channel", the children of current generation have grown a lot smarter than the generation which existed a decade ago. Earlier, the content of cartoons shows, and the visual effects of animation did not involve the kids into themselves. The hours of telecast of animated shows and movies were very limited, however the development of cable network and internet has increased the access and exposure of such animation. Consequently, the children end up watching such programs for longer periods of time and with impressive visual effects, they get very involved into them. Children watching 'Pokémon' had been reported to have epileptic seizures as the speedy transition of what's happening on the show affect their minds. With the growth of complaints, the companies have focused more on the educational and motivational perspective so that the children could learn and watch their favorite cartoons with the consent of their parents for e.g. 'Dora, the explorer' tells the kids to help others. Indian cartoon shows like Chhota Bheem' Bal Ganesh, Bal Hanuman, Bal Krishna etc. are more like Indian superman. They add more to the cultural aspect of the shows to which the parents hardly object. There are several cartoon characters which make them laugh and spread good messages among them. Blaming the cartoon characters entirely for the conduct of the children is false and it is an equal responsibility of parents

to keep a watch of what & for how long their kids are devoting their time in watching cartoons. They should sit at appropriate distance and should not be completely engrossed into them. The advertising companies too have been taking advantage of the involvement of children to generate billions through cartoon merchandise.

In another research “Impact of Japanese cartoons on primary school going children: With special reference to Doraemon”, the Japanese cartoons have gained immense popularity and it has become the largest watched and profited animation industry in the world with the revolution in cable TV networks. Over the years, Japanese cartoons have been liked more than the Mickey mouse or Donald duck. Doraemon, Shin-Chan, Hagemaro, Pokémon etc. are more watched and liked by the children with Doraemon being the most watched cartoon these days. Children associate themselves with their favorite cartoon characters emotionally. The helping and caring behavior of Doraemon teaches the kids to benefit others and thus, influence their social behavior. The middle-class setup with situations of day to day life and Hindi dubbed dialogues give the kids a feeling of belonging. The cognitive development gets affected by the scientific aspect of gadgets and helps kids in reasoning. His scientific pocket and gadgets are used for a heroic victory over the bad people to save his friends. The positive content of the show and how it has taken up the serious issues like environment has been helpful in making the children understand such things. Cartoons have different attributes and thus children are more involved in animation than in the live people. They live the fantasy with much more ease and without guilt.

“A study on the impact of computer animation on children in three cities of Kerala” also shows that the computer animation has brought numerous changes in the cognitive, social, health and mental development of the children. The families over long time have noticed changes in education, lifestyle and routine work too. There are both positive and negative influences. On one hand, it has improved academic performance and intuitive level of kids, but long exposure of continuous of animation has brought violent changes too. As they keep glued to the computer or TV screen, there are several instances of violence, aggression, loneliness and depression amongst the children. There has been a decline in physical exercises of children leading to obesity and other diseases. Violent gaming leads to aggressiveness. Beside all the ill effects, the positive changes cannot be ignored and animation of some cultural and mythology like Ramayana, Hanuman, etc. have added to their knowledge. The researcher has used the survey method to prove the desired objectives.

According to a research study, “Effectiveness of cartoon characters in creating brand preferences among kids”, the advertising companies have been using the animated characters in their endorsements to overpower the kids’ preferences for the brands. It is observed that such brands have been preferred more when the brands are endorsed by celebrities. Also, this association of cartoon and brands has been proved beneficial in protecting the brand’s image to drain in case the endorsed celebrity gets in scandal which is unlikely. Children are observed to have more faith and reliability on their favorite characters and the pester power forces the parents to purchase such brands. Not only edible but inedible too like Tiffin boxes, notebooks, schoolbags, bed sheets too, etc. are now preferred with the cartoons on them. They seem to recall such products more than others and have more brand awareness which makes them much more important customers. Children are persuaded with by their loving cartoons and gets drawn more attention towards them.

As per a research paper titled “Power of animated characters: a study on how pictures of animated characters on packages of packaged food & beverages influence the product liking and preferences of children and perception of parents”, the food processing industry has been using the animated characters on the packaging of their food & beverages so that

they could create preferences amongst children. The products with pictures of their favorite cartoons on them are always preferred by the children as it provides a feeling of belongingness. Such strategy has been proved fruitful over the years generating a large amount of money. Also, this is one of the effective ways to sell their products to the kids as the conventional method does not form their opinions directly. The kids who neglect the healthy nutritious food & beverages have been reported to consume nutritious food which was packaged with the cartoons on them such as cereal, healthy drinks, supplements for milk and healthy bites etc.

“Effect of animation on concept formation of students from government and private schools between the age group of 7-11 years” highlights the fact how the concepts are formed in the sub-conscious parts of the minds of the school going children whose affects are not noticed by the parents, but they greatly influence the thoughts of the children. The researcher has particularly taken the sample of this age group as this is an extremely rapid development stage. The scientific evidences show that synaptic connections in the brain are found within these years of life. Hence, prolonged hours and cartoon viewing of cartoons and animation makes them victim. If negative effects are found, then continuous efforts should be made so that the children can distinguish how things happen in the real life and fantasy world of animation. Children from the government and private schools with equal percentage of boys and girls who watch cartoons for 104 hours daily along with the educational programs are taken as sample for the research. Children have stated that they find the cartoons very educational and many things can be learnt easily from them and the findings of this research indicate that majority of the children are aware that such characters do not exist in the real world. The researcher recommends parental guidance and supervision not extended up to hindrance, while the children watch cartoons. Also, the parents should limit the number of hours to which their kids are exposed to watching cartoons. They should keep a check on the violent content in such shows and must encourage their kids to watch more documentaries and educational programs. If any kind of violent or aggressive behavior is noticed, they should find out non-violent ways to solve the matter. Parents should try to spend more and more time with their kids and engage their children in other outdoor enjoyable activities.

According to a study titled “Cartoons’ effects in changing children mental response and behavior, the researcher has primarily highlighted the positive and negative effects of the cartoon viewing and says that even the well-renowned cartoons like Tom & Jerry, Hercules, Symbiotic Titans, Digimon Series, etc. have been contributing to the negative, sexual and violent imagery fed to the children in the form of comedy. There are few positive effects as well when such animated series teach many new things like how to act in the wild, building a boat, tangling a rope, etc. However, the issue arises when they start contradicting the normal scenarios. The researcher has shared an example of how the female and male organs, act of seduction, etc. are shown completely as normal. The characters getting hit and then, birds & stars circulating around the head, person not dying when shot are such examples that influence the minds of the children. Imitation is the biggest threat that is posed here, when children try to repeat what they have seen. Such aggressive actions cause a major adrenaline production as stated by the researcher. He has included the examples of a lab and field experiment. These kinds of shows either make a child nervous or aggressive. Children might reflect this during normal situations or play time. It causes an instable state of human mind where the children get confused.

## **Objectives & hypothesis**

Objectives

- To determine the kind of animated shows watched by the children these days.
- To diagnose what kind of effects the number of hours of cartoon watching has on children.
- To study the role of parental guidance in the positive or negative influence cartoon shows have on children.

#### Hypothesis

- Adventurous are the most popular cartoon shows among children.
- Long hour exposure to cartoon has negatively affected the children in terms of behavior and language.
- Parental supervision leads to positive influence on children.

### Methodology

**Research Design:** Descriptive Research Design was adopted for this study.

**Research Method:** Cross-sectional Analytical Survey Method. The respondents were from different age-groups, family backgrounds, income groups and children studying in government and privately-owned schools both. The forms were sent in digital format through social media, email and messaging apps like WhatsApp, Hike, etc.

**Sampling Size:** The sampling size of the children to be studied under this research project is 100 from the age group ranging from Below 5-13 years.

**Sampling Procedure:** The respondents are chosen by Non-Probability Random Sampling technique.

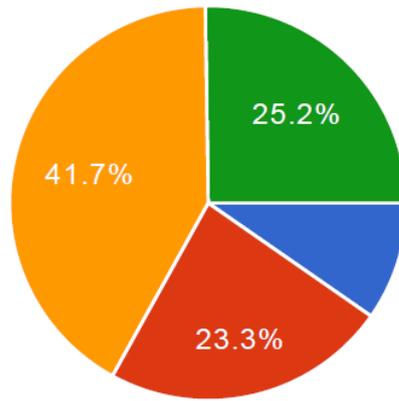
**Data Collection Tool:** A multiple-choice structured online questionnaire was distributed to the parents (Respondents) of the children (Subjects) to be filled online through Google forms. The online forms made it easily accessible for the remote respondents to be a part of this research making it more diverse in nature. The questionnaire has also been sent to the people who do not fall in the proximity of the researcher. The responses were digitally recorded and analyzed.

**Data Presentation & Analysis:** The data collected from respondents are represented in the form of Bar graphs and pie charts.

### Data presentation, findings & analysis

#### Demographics of the respondents

1. Age



Below 5 - 9.8%

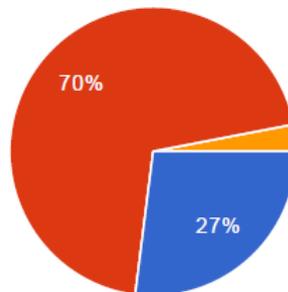
5-7 - 23.3%

8-10 - 25.2%

11-13 – 41.7%

**Observation:** Maximum respondents lie between the age-group of 11-13 years which means maximum children in the sample are adolescents. The second highest number of children lies within the age group of 8-10. There is small percentage of children who are below 5.

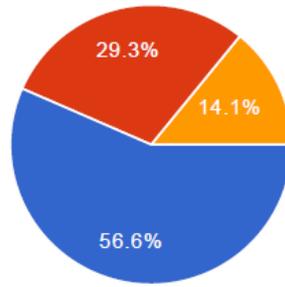
2. Schooling of the Child



Government School	27	27%
Privately-owned School	70	70%
Others	3	3%

**Observation:** Maximum children in the research study in the privately-owned school and less percentage is that of the children from Government School.

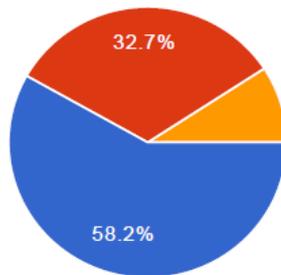
3. Occupation of the Parents



Salaried	56	56.6%
Self-employed	29	29.3%
Others	14	14.1%

**Observation:** Maximum people who have responded to the survey are salaried and a fair percentage belongs to self-employed parents.

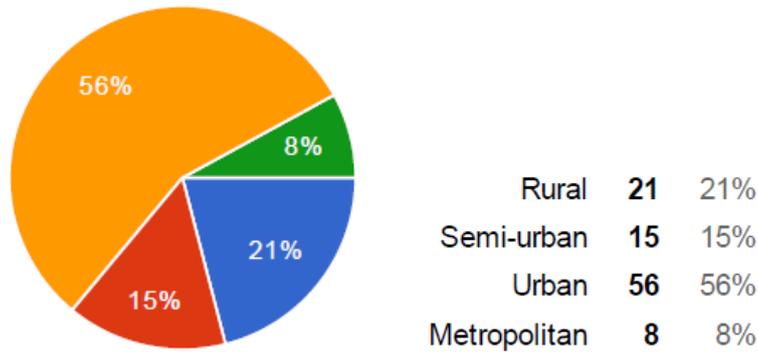
4. Monthly Family Income



Less than 25,000	57	58.2%
25000-50000	32	32.7%
More than 50000	9	9.2%

**Observation:** From the above figure, it is found that maximum number of respondents earn below 25,000.

5. Background



**Observation:** Maximum respondents belong to urban population and the lowest is that of the metropolitan city.

**Research objective 1**

To determine the kind of animated shows watched by the children these days

The objective is to find what kind of cartoon shows does the children like to watch these days. The genres include comedy, action, adventurous, educational, emotional, sci-fi, and mythological and various other categories. Through this research, it is attempted to find out that what kind of shows the kids love to watch these days. With time, the children have been given various choices and the researcher has tried to search that the latest trend and choices among the children.

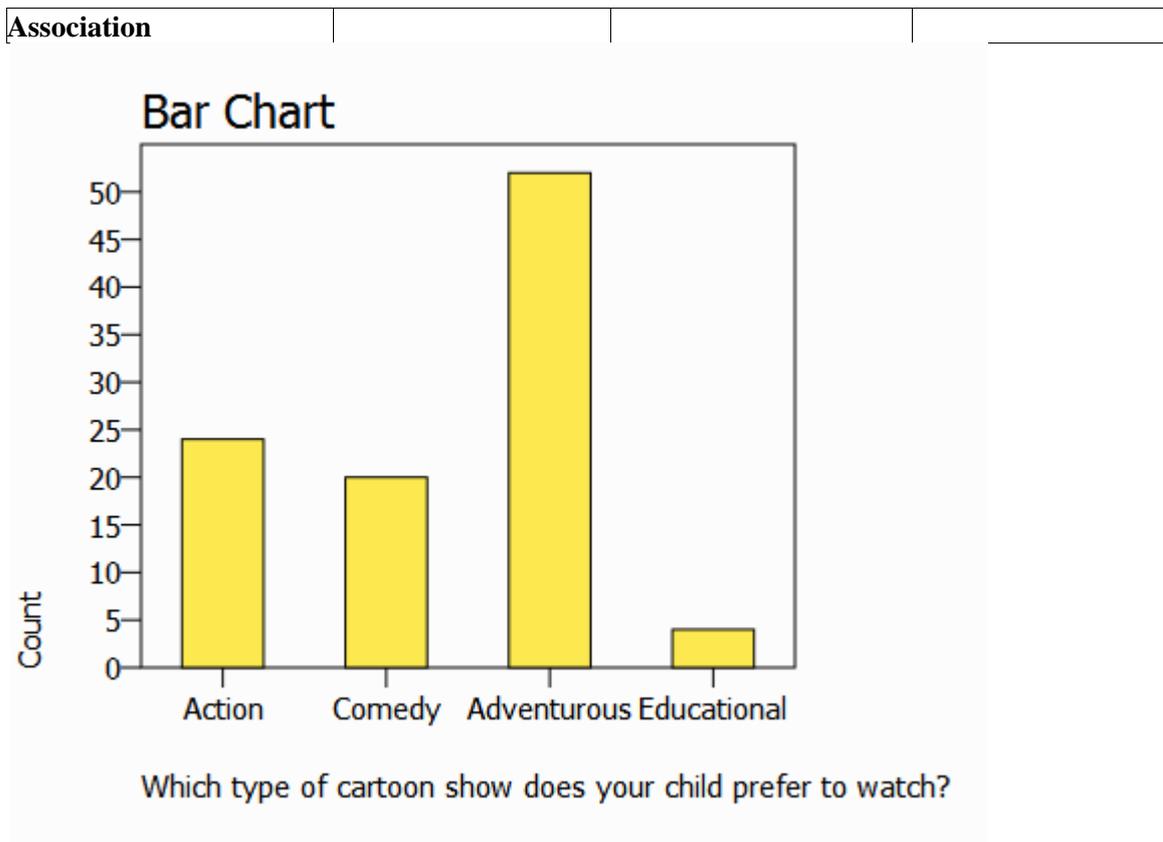
*H1: Adventurous Cartoons are the most popular cartoons among the children between the age group of 5-13 years.*

The below chart shows that the Adventurous cartoons are viewed by 52% of the total sample size in all the age groups ranging from Below 5 to 13 years of age. This percentage is highest among all the genres of the cartoon shows. The action cartoon shows are viewed only 24% and the comedy has viewership of only 20%. Hence, the above mentioned is proved. The maximum viewership in all the categories belongs to the children from 8-10 years of age and then 11-13 years.

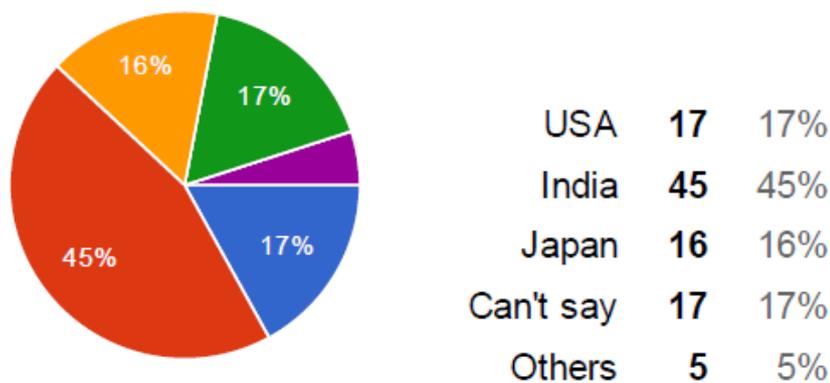
Age of the Child	Which type of cartoon show does your child prefer to watch?				Total
	Action	Comedy	Adventurous	Educational	
Below 5	4.00	.00	4.00	1.00	9.00
5-7	5.00	5.00	13.00	1.00	24.00
8-10	9.00	8.00	24.00	.00	41.00
11-13	6.00	7.00	11.00	2.00	26.00
<b>Total</b>	24.00	20.00	52.00	4.00	100.00
	24.00%	20.00%	52.00%	4.00%	100.00%

**Chi-Square Tests**

Statistic	Value	Df	Asymp. Sig. (2-tailed)
<b>Pearson Chi-Square</b>	8.78	9	.458
<b>Likelihood Ratio</b>	11.30	9	.255
<b>Linear-by-Linear</b>	.01	1	.926



Along with the genre, Indian cartoons are becoming popular and 45% of the sample size watches Indian cartoon show as shown in the below pie-chart.



**Research objective 2**

To diagnose what affects the numbers of hours of cartoon watching has on children.

Here, the researcher has tried to find out how the cartoon shows have been affecting the children. The question regarding how it has affected the behavior of the children had been posed to the parents in the survey.

*H2: Long hour exposure to cartoon has negatively affected the children in terms of behavior and language.*

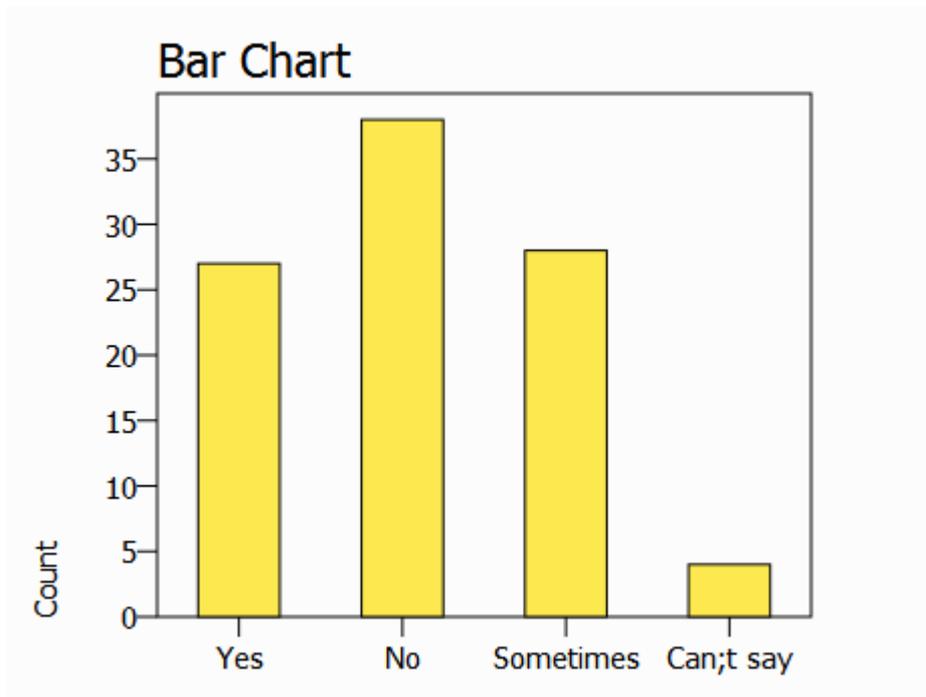
The results show that 38% of the total sample size does not find their child’s behavior affected by the cartoon character. Most of the kids spend 2-4 hours watching cartoons. 28% of the people agree that their child is getting influenced by the cartoons and 29.17% replied that there is some degree of influence, but child does not behave in the influenced manner all the time. As the level of certainty is low, this hypothesis is disapproved.

	Do you find your child's behavior affected by his/her favorite cartoon character?				
For how long, does your child like to watch the cartoons daily?	Yes	No	Sometimes	Can't say	Total
Less than an hour	3.00	7.00	3.00	.00	13.00
1-2 hours	10.00	9.00	14.00	1.00	34.00
More than 2 hours	11.00	12.00	8.00	2.00	33.00
Can't say	3.00	9.00	3.00	1.00	16.00
<b>Total</b>	27.00	37.00	28.00	4.00	96.00
	28.13%	38.54%	29.17%	4.17%	100.00%

**Chi-Square Tests**

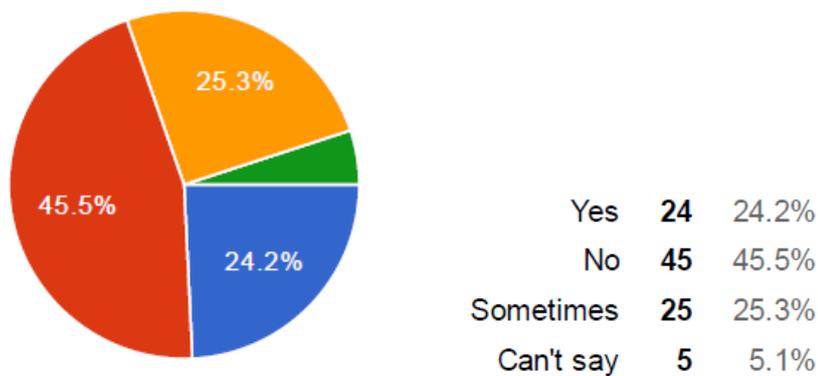
Statistic	Value	Df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	8.21	9	.514
Likelihood Ratio	8.59	9	.476
Linear-by-Linear Association	.00	1	.987

The same is shown in the bar graph below:

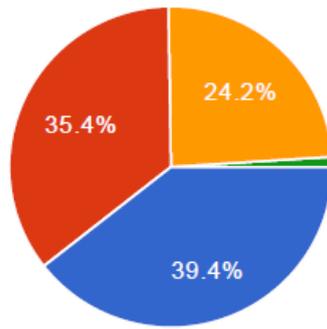


The Parents were asked questions regarding the influence of cartoons on language & action and their choice for commodities with their favorite cartoon characters imprinted on them. The pie-charts show the percentage of such children.

- The below figure shows that 45.5% of the parents think that the children do not copy or imitate the language or actions of cartoon characters.



- The below figure suggests the preference or demand that children make for their commodities to be imprinted by their favorite cartoon characters. 39% of the people agree that their children have been making the said demand, whereas 35% do not agree.



Yes	39	39.4%
No	35	35.4%
Sometimes	24	24.2%
Can't say	1	1%

**Research objective 3**

To study the role of parental guidance in the positive or negative influence cartoon shows have on children.

The objective is to find out that parental supervision has minimized the negative influence of cartoon watching.

*H3: Parental supervision leads to positive influence on children*

The results show the rating of how much the child is influenced. Where the parental supervision is more, there the negative influence is the least and vice-versa. Hence, the hypothesis is proved.

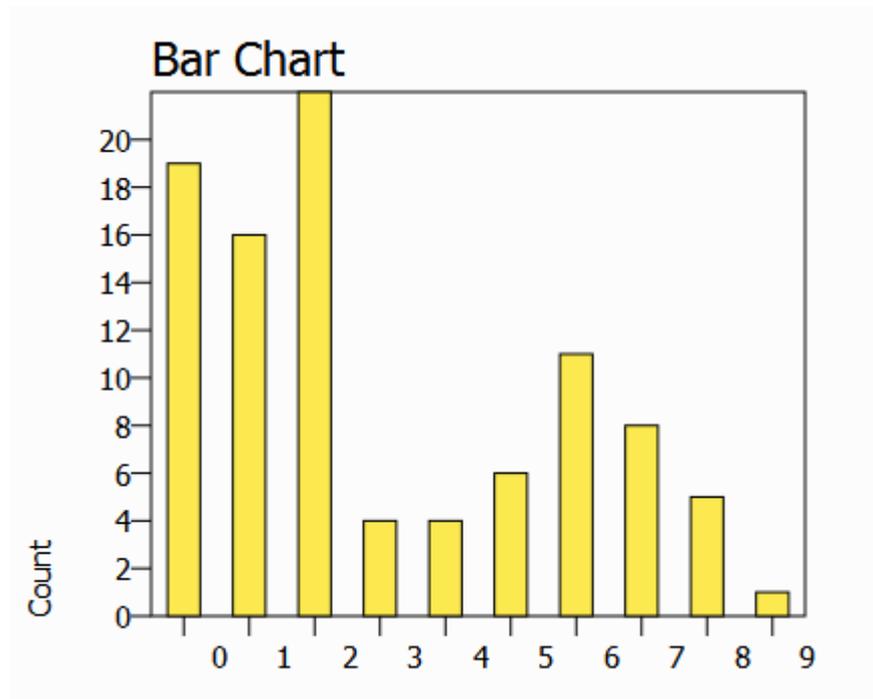
On the scale of 0 to 10, how badly your child has been affected by cartoon viewing according to you?											
Do you supervise what kind of content / show does your child watch on TV?	0	1	2	3	4	5	6	7	8	9	Total
Yes	11.00	5.00	9.00	2.00	2.00	5.00	4.00	5.00	3.00	.00	46.00
No	7.00	5.00	8.00	2.00	.00	.00	4.00	3.00	1.00	1.00	31.00
Sometimes	.00	6.00	4.00	.00	2.00	1.00	3.00	.00	1.00	.00	17.00
<b>Total</b>	18.00	16.00	21.00	4.00	4.00	6.00	11.00	8.00	5.00	1.00	94.00
	19.15%	17.02%	22.34%	4.26%	4.26%	6.38%	11.70%	8.51%	5.32%	1.06%	100.00%

**Chi-square tests**

Statistic	Value	Df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	21.91	18	.236

Likelihood Ratio	29.05	18	.048
Linear-by-Linear Association	.03	1	.860

The bar graph below supports the proved hypothesis.



**Conclusion**

The animation has greatly influenced the children and thought formation in early ages. It has been used as a pacifier, baby sitter, a negotiation tool to convince the child and when there is some important work, it has been used as a diversion tool. The children are caught by the rapid actions and graphics of the cartoons. Cartoons have been proved to be the best tool when a lesson is to be taught to the children. With the latest technology, several channels dedicated to education have been started by the digital cable companies. Many of them have included special channels for kids who teach those nursery rhymes, puzzles, moral lessons, and many more things in animation format. When the kids are exposed to cartoons on such a large scale, they are bound to affect the children. Avoidance of outdoor games and interaction with your friends has been early symptoms which pose long term consequences of loneliness and aggression.

This research was conducted with three objectives and hypothesis. Two of the hypotheses were proved and one of them was disapproved. The major findings show that children from the age group 11-13 years constitute major part of cartoon viewing and the major part of the sample belongs to the urban population. Also, Indian cartoons are the most watched among the children these days rather than Japanese anime. The children prefer to watch adventurous cartoon mostly and then they prefer action cartoon shows. However, children watch Japanese cartoons especially Doraemon enthusiastically and this series has gained immense popularity within a short period of time. Hence, the hypothesis that longer hours of cartoon watching have negatively affected the children has been disapproved in this study.

Parental guidance and supervision are the major part of this research. Most of the parents who are majorly on salaried occupation sit and watch cartoons with their children and

keep supervising what their kid is watching. Most of them have not found any objectionable in the cartoon shows that is being watched. However, the objectionable matter here is subjective. It is found that most of the parents advise their children not to follow such things in real life. As the children are fond of cartoons, the parents, on the other hand, completely agree to the positive things their children have been absorbing. The parents also use cartoons to convince the child on several occasions at school and home-work. Most of the children show the signs of sadness, anger, resistance, irritation and disobedience when denied watching cartoons by their parents. Based on the comments received from parents of how they decrease the effects of negative influence if any, most of the parents believe in counseling the child and teaching the child the right method instead of scolding.

The overall rating by parents suggests that the children are not negatively influenced by the cartoon watching. However, there are many parents who think that kids are getting affected by watching such cartoons.

## Bibliography

Adams, N. (2014, Jan 17). Retrieved from Livestrong.com: <http://www.livestrong.com/article/221006-how-tv-violence-affects-kids>.

Adhikary, R. S. (2015). Impact of Japanese Cartoons on Primary School Going Children: With Special Reference to Doraemon. *IOSR Journal of Humanities And Social Science (IOSR-JHSS)*, 01-09.

Habib, K., & Soliman, T. (2015). Cartoons' Effect in Changing Children Mental Response and Behavior. *Open Journal of Social Sciences*, 248-264.

Jose, A., & Saraswathamma, D. K. (2014). Effectiveness of Cartoon Character's in Creating Brand Preferences Among kids. *Journal of Economic Development, Management, IT, Finance and Marketing*, 61-76.

P, P. (., & H, S. J. (2015). Power of Animated Characters: A study on how pictures of animated characters on packages of packaged food & beverages influence the product liking and preferences of children and perception of parents. *International Journal of Scientific and Research Publications*.

Pandita, A. S., & Kulkarni, B. V. (2012). Children Are Trapped in The Illusion of Cartoon Channel. *International Educational E-Journal*, 1-11.

Rodericks, I. (2014, Dec 7). Retrieved from The Times of India: <http://timesofindia.indiatimes.com/city/navi-mumbai/Addiction-to-cartoons-may-influence-kids-psychology/articleshow/45397735.cms>.

Sebastian, W. T. (2010). A Study on the impact of Computer Animation on Children in Three cities of Kerala (Calicut, Kochi & TVM). Calicut, Kerala, India.