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Anime affection on human IQ and behavior in Saudi Arabia

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Abstract

The present study attempted to determine the effects of watching anime and understanding if watching anime could affect the mental and social aspects of kids or other group of ages, and also to decide that the teenagers and children should watch anime or not. The research design used in this study is the descriptive research method and observational where in data and facts from direct observations and online questionnaires were used to answer the research question. The finding of this study suggested that anime viewers has higher level of general knowledge comparing with the non-anime viewers and as well as higher IQ level significantly in a specific group, besides anime can be used to spread a background about any culture and plays a role in increase the economy.

Keywords: Anime effect; Human IQ; Behavior; Saudi Arabia

1. Introduction

Anime is one of the most popular sources of entertainment in the world [1]. Anime is the way of making a movie by using a series of drawings, computer graphics, or photographs of objects (such as puppets or models) that are slightly different from one to another and that when viewed quickly one after another create the appearance of movement [2]. Most of the population of our world today mainly gets influenced by anime so as the world got fascinated by Japanese animated shows, Saudi Arabia is followed. The researcher aims to observe the effects of watching animation on human IQ and behavior. People have become much more interested in anime for the past years due to the excellent characters, characterization, and the storyline portrayed in the programs. Typically, children begin watching anime on television at an early age of six months, and by the age two or three, children become enthusiastic viewers [3]. This study aimed to find out the answers for the research question such as: Is there any effect of watching anime on IQ and behavior of anime viewers? The michaeljay1818 performed the study with questions how anime affect to a person? (Posted on January 11, 2015 by michaeljay1818 [4] michaeljay1818 reported that this question was intended for the people especially those teenage who loved to watch anime movies and series. He loved to watch anime it makes him feel awesome and when he watched anime series every day he felt like he is sober in his daily works and appointment, this statement was come from his roommate, he did really love to watch anime, and he thinks that his roommate was an anime addict or anime lover. We also have seen the social media too, to see what the people that watching anime think about animation and if it's really affect them such as in applications [5]. We observed that most of the members if not all of them said that the anime is actually changed them a few said that they didn't like the changes that happened to them due to the abuse and taking the animations seriously [6] and that affect them in a bad way, and the most said that the anime changed them to the better because the anime inspires them to learn more about language and the benefits is depends on the show and its contents [5]. Some of them said that the anime brings to them the joy, thrills and evokes every emotion on the spectrum. While some of them said they don't care about what kind of animation they are watching, but they hate when their liked anime coming to the end [7]. The study performed by F. Omar reported the perceived impact

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of anime on school children's aggressive behavior [8]. The theory adopted in this study is the Social Learning Theory. This theory identified that children can learn new behaviors in one or two ways: by direct experience or by observing and imitating others in their social environment.

2. Methodology

2.1. Study design

The study was a case-control study that was carried out through the survey among the two different groups. The study was performed in College of Medicine- Dawadmi, Shaqra University, Kingdom of Saudi Arabia and the study was conducted from 01/01/2019 to 31/12/2020. The distribution of the groups was carried out on the basis of habits of watching anime Group-1: That watch anime and Group-2: That does not watch anime. A total of 200 samples, 100 samples were watching anime and the other 100 samples were not watching animation. The sampling type we applied in our study was convenience sampling technique.

2.2. Data collection and measures

The sample was convenience sampling technique in which 100 anime watching samples were firstly and randomly selected. Then the samples were further subdivided according to the age groups- (10-15 years old), (16-20 years old), (21-25 years old) and (those who are more than 25 years old) groups to assess the IQ only, while we compare between two groups in testing the general knowledge and for open questions. The other 100 samples were the samples that do not watch animation selected based upon the age groups which initially selected. IQ questions points were allotted after collecting the data, the highest points was given for the question being answered more frequently among the samples. Maximum total points were 400. The target population was 200 samples, and the study area was Saudi Arabia in which all the cities and population can be involved in our study. The data collection done by using (IQ test consists of 20 questions), (general knowledge test composed of 20 questions), (opened questions), and multiple choice questions, which then published by using the network.

IQ questions were asked for each group and each carry 10 points therefore 20 IQ questions have 400 points. The questions related to the general knowledge were selected from materials in elementary school as well as many facts and from information from anime movies. There were 20 questions each question carry one point.

3. Results

To accomplish the aim of the study 200 samples were selected from the various cities of Saud Arabia, and observed that the viewed the anime or not figure-1, figure-2. Then the samples were further subdivided according to the age groups- (10-15 years old), (16-20 years old), (21-25 years old) and (those who are more than 25 years old) as mentioned in figure-3. General knowledge test of 100 samples that does not watch animation showed that non-anime viewers have less general knowledge than those who are watch anime. In which those who took more than 17 were 0% , more than or equal 15 were 5% , and those who took from 10 to 14 were 51%. However, those who took less than 10 were 44% figure-4. General knowledge test of 100 sample that watching animation showed that anime viewers are having more general knowledge in which those who took grades more than 17 were 0% , more than or equal 15 were 8% , and those who are took from 10 to 14 were 66%. However, those who took less than 10 were 26% figure-3. The average score of anime viewers in general knowledge was (10.95) and the lowest was (5). However, the average score of non anime viewers was (10.18) and the lowest was also (5), the p value appeared to be 0.0396. The IQ test of anime watching samples for those who are from 10 to 15 years old showed that those who watch anime a little bit have more IQ level. In case of 10 to 15 years group that watch anime 67% has took more than or equal 120, 48% took more than or equal 150, 10% took more than or equal 200, and only 5% has took more than or equal 250. However, 0% took more than or equal 350, and 33% has took less than 120 figure-6. In case of 10 to 15 years group that does not watch anime showed that 62% took more than or equal 120, 48% has took more than or equal 150, and 19% took more than or equal 200. However, 0% has took more than or equal 250, 0% has took more than or equal 350, and 38% took less than 120, figure-7. The average IQ level for anime viewers group (10-15) was (145.2381) and the lowest was (53.9091). However, the average IQ level of non-anime viewers group (10-15) was (139.0476) and the lowest was (49.1838), while the p value was appeared to be 0.7508. In case of 16 to 20 group that watch anime showed 94% has took more than or equal 120, 79% took more than or equal 150, 59% took more than or equal 200, 41% has took more than or equal 250, and only 6% took more than or equal 350. However, only 6% has taken less than 120, figure-8. In case of 16 to 20 group that does not watch anime showed 79% took more than or equal 120, 65% took more than or equal 150, 32% took more than or equal 200, and only 12% has took more than or equal 250. However, 0% has took more than or equal 350, and 21% has took less than 120, figure-9. The average IQ level of anime viewers group (16-20) was (217.6471) and the lowest was

(83.8852). However, the average IQ level of non-anime viewers group (16-20) was (169.7059) and the lowest was (66.1717). the p value was 0.0212. In case of 21 to 25 years group that watch anime showed 85% took more than or equal 120, 74% took more than or equal 150, 56% has took more than or equal 200, 44% has took more than or equal 250, and only 18% took more than or equal 350. However, only 15% has taken less than 120, figure-10. In case of 21 to 25 years group that does not watch anime showed 74% has took more than or equal 120, 62% has took more than or equal 150, 50% took more than or equal 200, 29% has took more than or equal 250, and only 6% has took more than or equal 350. However, 26% has taken less than 120, figure-11. The average IQ level of anime viewers group (21-25) was (220.2941) and the lowest was (96.6244). However, the average IQ level of non-anime viewers was (183.5294) and the lowest was (82.6047), the p value was appeared to be 0.1290. In case of more than 25 years group that watch anime showed 91% has took more than or equal 120, 73% took more than or equal 150, 55% took more than or equal 200, 45% has took more than or equal 250, and only 9% has took more than or equal 350. However, 9% took less than 120, figure-12. In case of more than 25 years group that does not watch anime showed 82% has took more than or equal 120, 82% also has took more than or equal 150, but only 36% has took more than or equal 200, and 18% took more than or equal 250. However, 0% took more than or equal 350, and 18% took less than 120, figure-13. The average IQ level of anime viewers group (>25) was (222.7273) and the lowest was (87.6460). However, the average IQ level of non-anime viewers (>25) was (191.8182) and the lowest was (76.9179). p value was 0.3426. We asked about the time that anime viewer spend in watching anime to see how much time that anime viewers spend in watching animation. And our study showed that 54% of anime viewers spend at least one to two days of a week in watching animation, 25% spend at least three to four days in week, and 21% said they watch anime every day, figure-14. However, 58% spend one to two hours watching anime in a day, 26% spend two to four hours, and 16% spend more than 5 hours watching animation in a day, figure-15. We asked a question for both groups to see if they are interested in visiting Japan and our study showed that only 27% of those who are not watching anime interested in visiting Japan, and 67% of those who are watching animation interested in visiting Japan, figure-16. We wanted to see if there is any affection of watching animation on viewer eyes, and our study showed that 48% of anime viewers admit that they have visual disturbance, and 52% said they do not have any visual disturbance, figure-17. However, 30% of anime viewers are were glasses, and 70% do not were glasses figure-18. We also asked the samples under investigation that watch animation about the definition of life, and the most common answers of anime viewers were:

- Science seeks to truth
- Life is work

We asked anime viewers to talk about their social life, and most of anime viewers answered:

- They prefer to be isolated and alone

We wanted to see the how anime viewers could behave to others if they were in a place of a president and most of answers were:

- Fairness in the judiciary
- The want to participate in the development of their societies
- They want to work honestly and provide the help to poor people

We wanted to see how could anime viewers behave to others, so we asked to image themselves as heroes or rich, and most of answers were:

- Help others
- Finish the evil in this world
- Gain knowledge

We wanted to know what anime viewers spent their time in, so we asked a direct question so most common:

- Studying
- Read books
- Watching animation
- Drawing
- Using their imagination to plot anime characters

Less common:

- Reading manga
- Social media
- Mobil phone

We wanted to know if there is there any reason make anime viewers interested in watching animation, and most common answers were:

- I like watching anime because it makes me feel happy
- Because it's world better than our real world
- Because thoughts and emotions more clear in comparison with real movies

Less common:

- For losing time

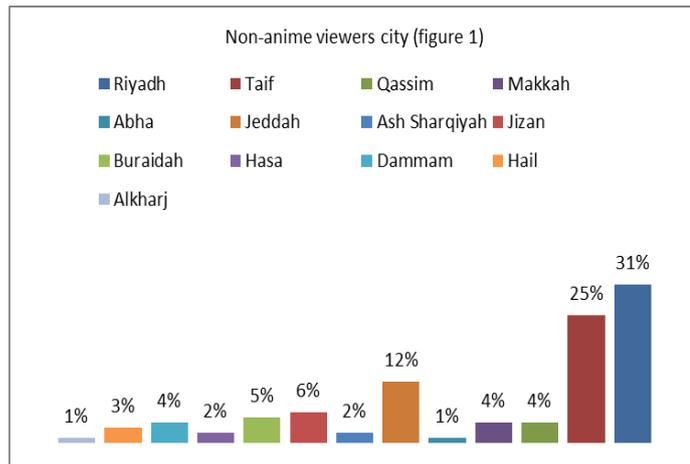


Figure 1 The city wise responses of the subjects that do not view anime

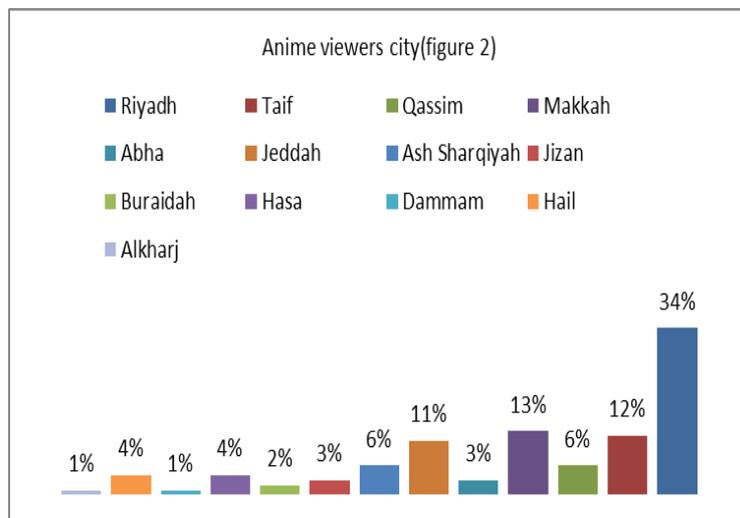


Figure 2 The city wise responses of the subjects that viewed anime

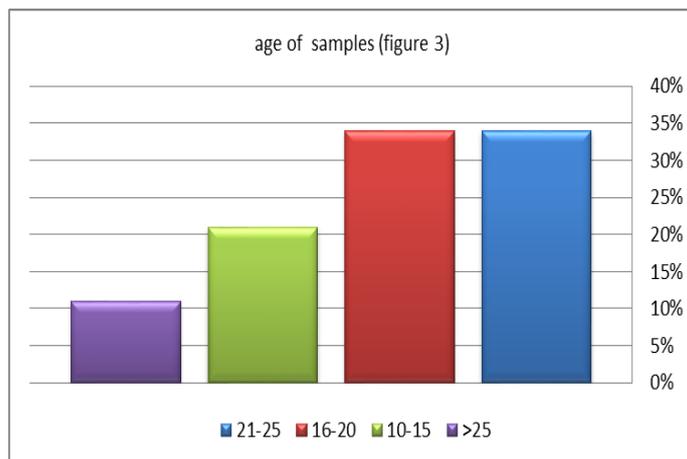


Figure 3 Representing the age wise responses of the subjects

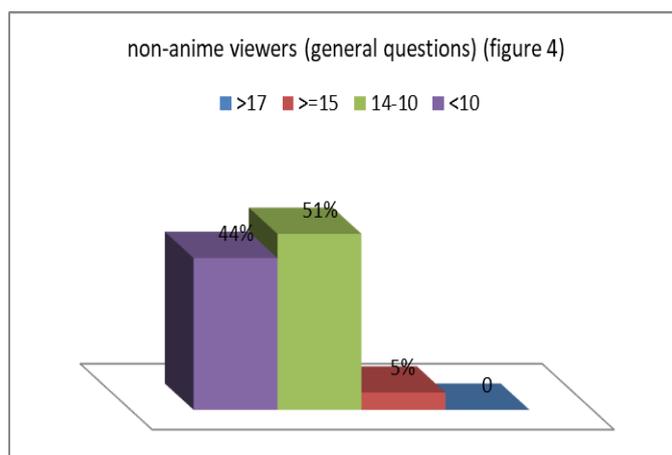


Figure 4 Representing the responses received from the subjects for general knowledge test among non-anime viewers.

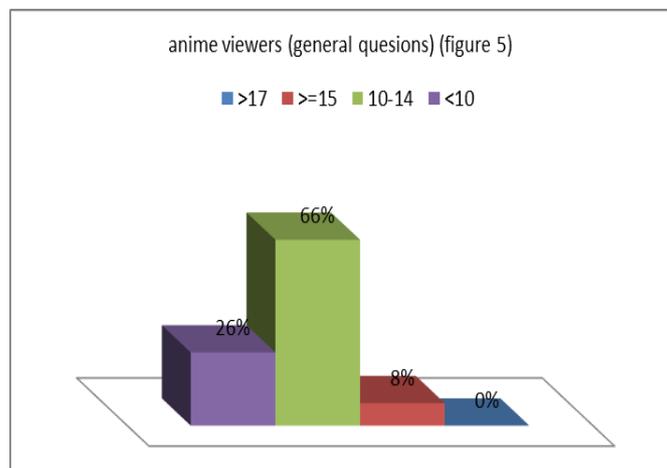


Figure 5 Representing the responses received from the subjects for general knowledge test among anime viewers

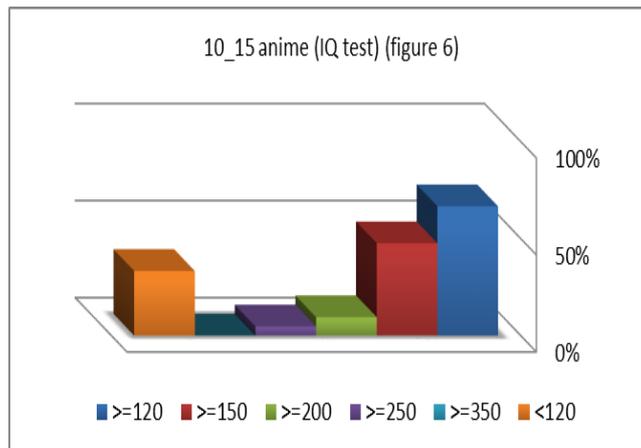


Figure 6 Representing the responses received from the subjects for IQ test among anime viewers

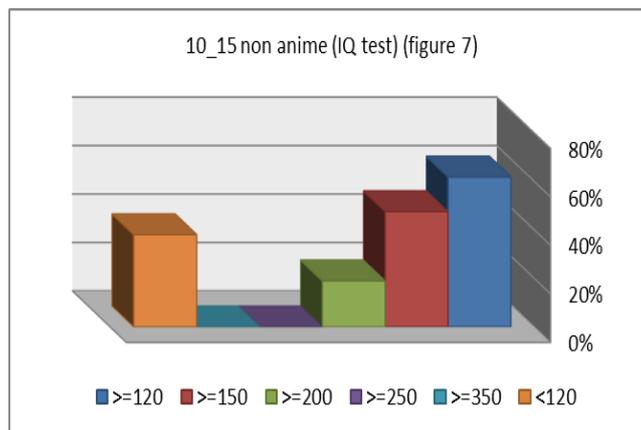


Figure 7 Representing the responses received from the subjects for IQ test among non-anime viewers

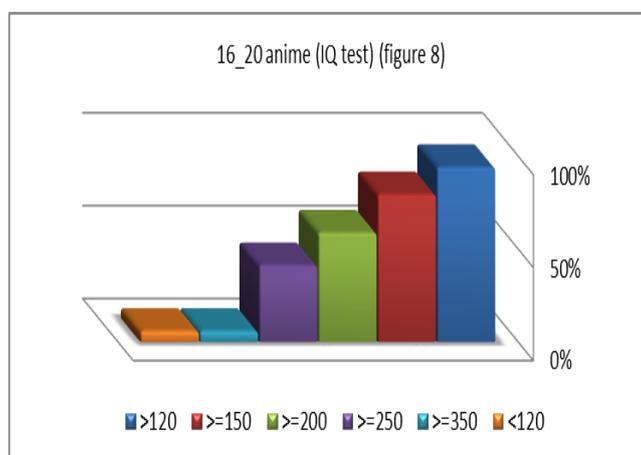


Figure 8 IQ test responses from the subjects under the age of 16-20 years old anime viewers

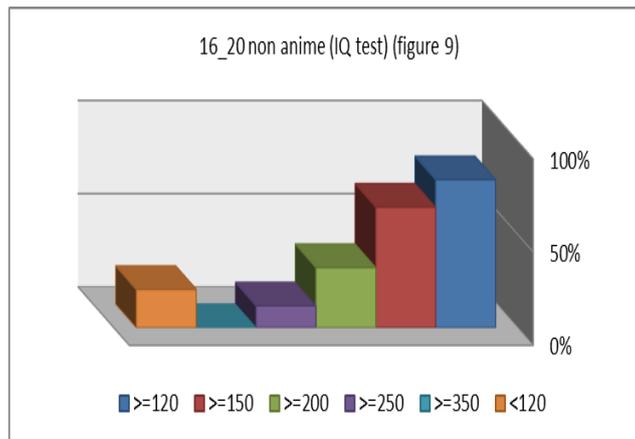


Figure9 IQ test responses from the subjects under the age of 16-20 years old non-anime viewers

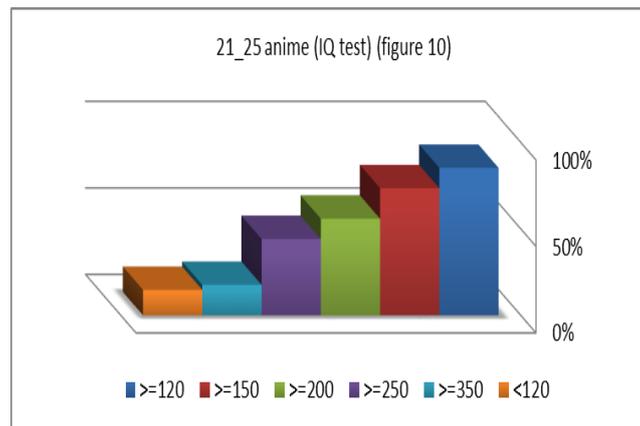


Figure 10 IQ test responses from the subjects under the age of 21-25 years old anime viewers

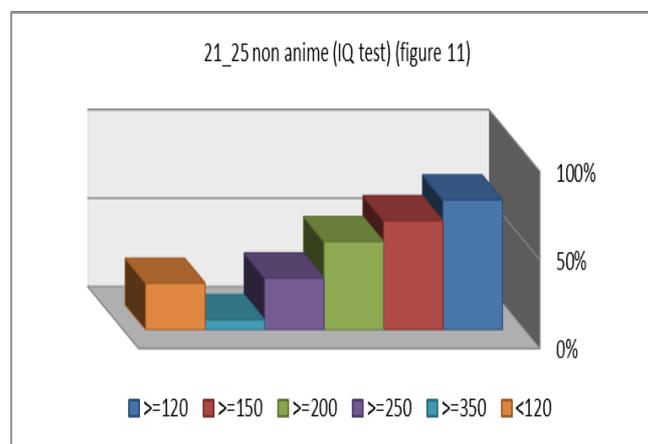


Figure 11 IQ test responses from the subjects under the age of 21-25 years old non-anime viewers

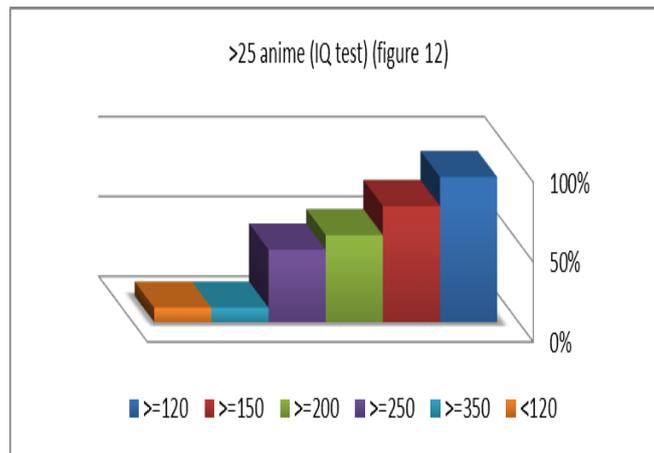


Figure 12 IQ test responses from the subjects under the age of more than 25 years old (anime viewers)

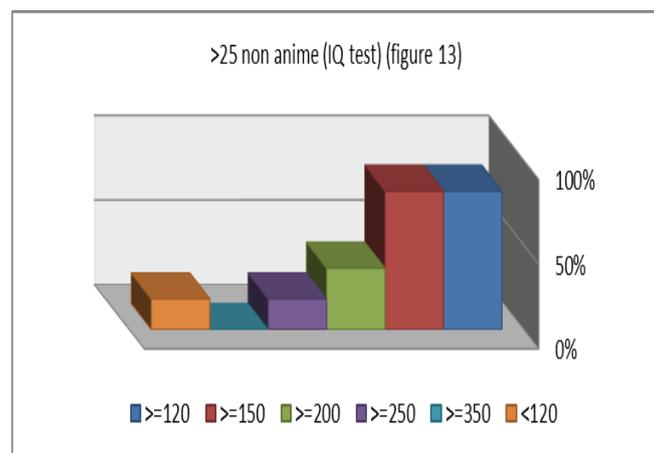


Figure 13 IQ test responses from the subjects under the age of more than 25 years old (non-anime viewers).

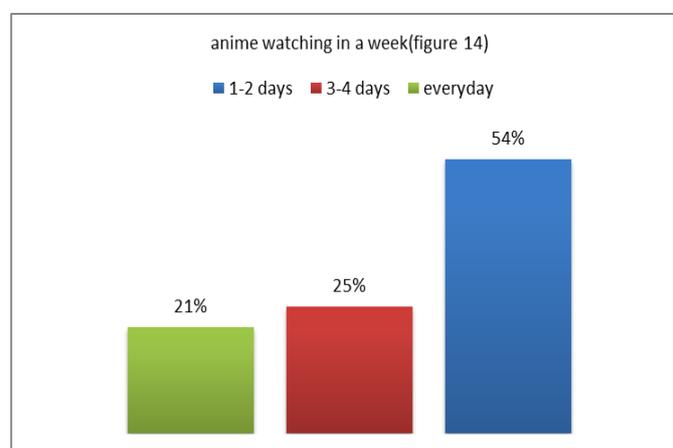


Figure 14 Responses from the subjects regarding the duration of watching anime/week

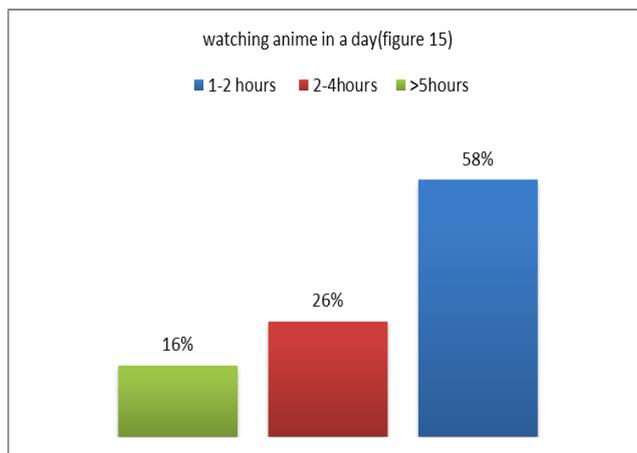


Figure 15 Responses from the subjects regarding the duration of watching anime/day

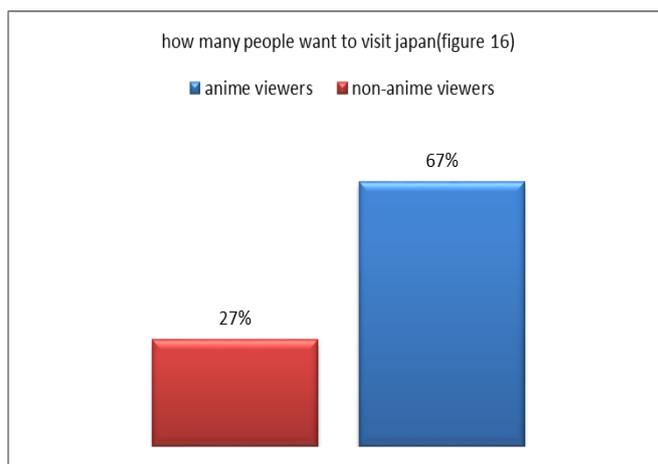


Figure 16 Responses from the subjects for question about the interest of visiting Japan

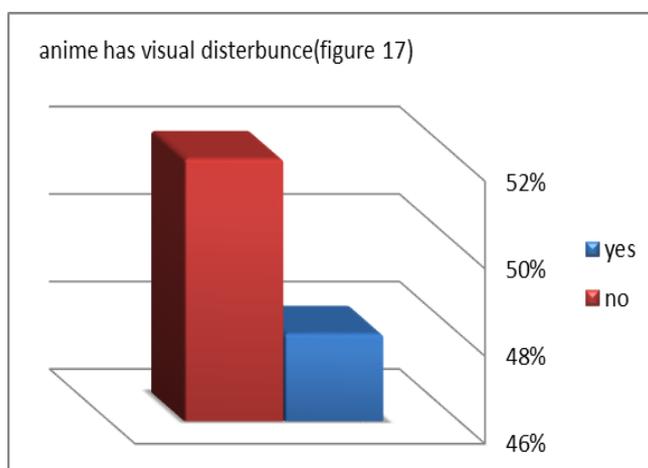


Figure 17 Responses from the subjects for question regarding the visual disturbance

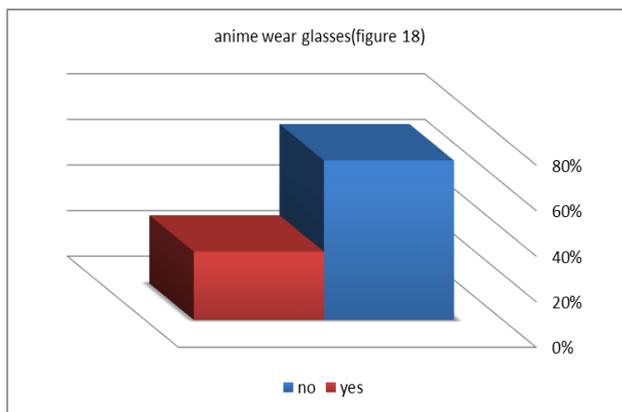


Figure 18 Responses from the subjects for question regarding the wearing glasses or not while watching anime

Table 1 Representing the IQ test for anime viewers group

Anime viewers group	>=120	>=150	>=200	>=250	>=350	<120
10-15 years	67%	48%	10%	5%	0%	33%
16-20 years	94%	79%	59%	41%	6%	6%
21-25 years	85%	74%	56%	44%	18%	15%
>25 years	91%	73%	55%	45%	9%	9%

Table 2 Representing the IQ test for Non- anime viewers group

Non-Anime viewers group	>=120	>=150	>=200	>=250	>=350	<120
10-15 years	62%	48%	19%	0%	0%	38%
16-20 years	79%	62%	50%	29%	6%	26%
21-25 years	74%	62%	50%	29%	6%	26%
>25 years	82%	82%	36%	18%	0%	18%

Table 3 The response (%) of the general knowledge test for anime viewers group and Non- anime viewers group

Groups	18-20	15-17	10-14	0-9
Anime viewers group (%)	0%	8%	66%	26%
Non-Anime viewers group (%)	0%	5%	51%	44%

4. Discussion

The finding of this study suggested that anime viewers have higher level of knowledge in comparison to the non- anime viewers and as well as higher IQ level among age groups of (10-15) and (16-20) as shown in figures 6 and 8 and the difference reduced significantly among the age of (21-25) and those older than 25 years as shown in figures 10 and 12. This showed that watching anime after 20s has no significant role in increasing the IQ, we suggested that because of spending a lot of time in watching the animation instead of studying or reading as most of non anime viewers do as shown in figures 14 and 15. The study also suggested that anime viewers exposed many dangerous factors like exposing their eyes to mobile phones which can damage their eyes. This study suggested that anime can be used in giving a background of a culture or country, and suggested that anime may affect the social life of an anime viewer. Also this study suggested that those who watch anime use their imagination and think a lot of time. In our results anime viewers were more open minded and more cultural than those do not watch animation. Their behavior was more emotional and

more sensitive. In figure 16 Most of anime viewers showed that they want to visit Japan in comparison with those do not watch animation, and that means anime can be used as a way for giving a background of a culture which may participate in raising the economy through the tourism. In figure 14 and figure 15 almost half of anime viewers spend much of their time watching animation which can affect their social life. We noticed that the average IQ level of anime viewers was higher than the non anime viewers in general. However, the main difference in IQ level was observed among (10-15) and (16-20) groups. Surprisingly, the answers of anime viewers were very close. They have almost the same behavior and having almost the same way of thinking. Some of children (10-15) were able to get higher score of those who are not watching animation and more than 25 years.

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5. Conclusion

The present study was carried out to understand about the effects of anime among the peoples of Saudi Arabia. The study was performed on two hundred samples and the responses were recorded. The findings of the study revealed that watching anime possessed some positive as well as negative impact associated with IQ level and behavior. The main negative effect of watching anime was observed to be addiction, but it is only considered as minor effect because it doesn't really have the same effect an addicting substance. Watching anime has effected in the mental and social aspects of its viewers in a good way. It recommended for teenagers and children to watch anime because the many positive effects of anime easily beat the negative ones. If one watches anime, he will be inspired, be socially active, multicultural, and be more imaginative and creative. This can be utilized as one of the sources boosting the economy since anime can be used to give a background of a country or culture, which in return invite in indirect way the viewers for tourism. The effects of watching animation can be different from one to another and the changes based upon the animation contents, so we conclude parental checking. As per the finding we concluded that anime could be watched for a limited time, so the addiction can be avoided, watch anime with beneath good lighten room and with suitable distance, so reduce the damage to the eyes.

Compliance with ethical standards

Acknowledgments

The authors are highly thankful to the Dean College of Medicine, Al-Dawadmi, Shaqra University Kingdom of Saudi Arabia, for his kind support to accomplish this study

Disclosure of conflict of interest

There is no conflict of interest among authors

Statement of ethical approval

The recent study was approved by the Medical research ethical committee (MREC), Al-Dawadmi College of Medicine, Shaqra University, KSA, vide proposal number (CMD/DWD/SU/2019/01/009)

Statement of informed consent

"Informed consent was obtained from all individual participants included in the study."

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