Perceptions of Selected Makati Science High School Students on Artificial Intelligence Based on Science Fiction Films

Anluver Q. Brandes, Luigi Ray V. Laud,
Joshua T. Padua, Clarizza Mae R. Boongaling,
Shaica S. Cordez and Anna Stephanie K. Fernando
Makati Science High School
brandesanluverq@gmail.com
luigiraylaud@makatiscience.edu.ph
joshuapadua@makatiscience.edu.ph
clarizzamae.boongaling@gmail.com
shaicacordez@gmail.com
annafernando@makatiscience.edu.ph

Abstract: Films have the capability to shape the perception of their viewers about concepts. In support to this, Gross and Gerbner's (1976) proposed Cultivation Theory states that the frequency of the exposure of a person to television greatly affects that person's perception of reality and Smith and Carroll's (1997) formulated Thought Theory states that humans tend to be emotionally affected by what they watch even if without the establishment of facts by the film. To contextualize these theories and existing studies, the researchers conducted a study to know the effects of watching science fiction films with artificial intelligence (SFF-AI) on the perception on Artificial Intelligence (AI) in their own academe's, Makati Science High School (MSHS), students. Thirty respondents were taken from Grade 9 to 11 students who answered a preliminary survey and were then interviewed. Data gathered from the interview showed how watching SFF-AI affects the respondents on different life aspects. It showed that other media platforms also influence the respondents' perception on AI but not as significant as the effect of movies. In addition to this, it was also proven that the frequency of exposure to this medium contributes to the respondents' vulnerability to AI's effects in their lives and how they perceive it. Thus, it can be concluded that films, in general have crucial roles in shaping our lives. With this, it is advised to be more critical in choosing films to view for these can greatly affect an individual's perceptions on a certain topic.

Key Words: SFF-AI; Artificial Intelligence; MSHS; Perceptions

1. INTRODUCTION

Films, usually shown in cinemas or television, can be defined as a compilation of moving images that tell a central plot or story (Oxford University Press, 2018). It is categorized into different genres and some of the most prominent film genres are action, comedy, horror, musical, adventure, and science fiction (Rogayan, 2012). The results of a survey conducted by Statista (2016) in the United States revealed that science fiction ranks fourth (from the nine genres presented in the choices of their survey) as the most favorite genre of the respondents.

According to Kuhn and Westwell (2012) mentioned by the Dartmouth Library (2017), science fiction is a genre that tells stories that focus on the conflicts of science and technology, human nature, and social interaction in a futuristic and fictional world. These are created in cinemas with attention-grabbing iconography, images, and sounds that are usually created through the use of special effects technology. Science fiction has different subgenres such as apocalyptic, hard, future noir, space opera, and punk (Zeke, 2015).

One of the subgenres of science fiction is punk which could be broken to four more divisions which are steampunk (industrial aesthetics), nanopunk (nanotechnology), atompunk (around cold war/atomic age), and cyberpunk (cyborgs). The subgenre punk is also identified as the subgenre artificial intelligence (AI) which features computers, robots, and machineries that have abilities such as speaking, learning, planning, and feeling emotions. AI may also be described as an intelligent type of computer technology focusing on machines to make it function the same way the human brain does. ("Artificial Intelligence", n.d.).

In other science fiction films, the portrayals of AI differ. The films *Star Wars* (1977), *RoboCop* (1987), and *WALL-E* (2008) show the advantages of having AI in the lives of people. In these films, AI is portrayed as the protagonist or the sidekick of the protagonist. Meanwhile, there is a total opposite in the portrayal of AI in other films like *The Terminator* (1984), *Matrix Trilogy* (1999-2003), and *Avengers: Age of Ultron (2015)*. In these films, AI is the cause of danger on humanity for they are used by antagonists as instruments for their evil plans.

Having stated all of these, there was a study by Orthia (mentioned in the Australian National Center for the Public Awareness of Science, 2012) saying that fiction has the capability of shaping the perceptions of a person about scientific concepts but in different manner compared to non-fiction. Orthia also added that films have a greater influence in giving meaning or shaping perceptions about science than reading articles about it. Although films have been proved to have a strong influence on audiences, Pautz (mentioned by Guida, 2015) discovered that it has a greater impact on the youth. Pautz concluded that the cause of films having greater effect on the perception of the youth is their inexperienced and unacquainted minds about the realities of the physical world.

Despite having these studies, there are only limited studies concerned on the effect of science fiction film on its viewers. In other cases, there are studies stating the effect of media on the perception of people on AI; however, these studies do not include science fiction films. In order to give light on how this genre can shape the perception of the public about AI, the researchers conducted a study about this.

2. MAIN CLAIM/S

The main purpose of this study is to understand how science fiction films influence the perceptions of selected Makati Science High School (MSHS) on Artificial Intelligence (AI). This study aims to specifically answer the following questions:

1. What are the factors that affect the perceptions of the selected students about AI?
2. How do the selected MSHS students perceive AI in science fiction films?
3. How does the frequency of watched films relate to:
     a.) emotions?
     b.) career choice?
     c.) education?
     d.) daily life?

This study aims to understand how science fiction films with AI (SFF-AI) influence the students, on how they perceive AI specially in real life. The results of this study may prove the effectiveness of science fiction films, which may be a great way for them to acquire knowledge that may affect their own principles and approach in life and may also serve as inspirations for their careers as future scientists, inventors, or programmers.

This study may help science teachers to mindfully select and use science fiction films as a medium in educating their students. The results of this study may help film making companies realize the influence of science fiction films to students and how it affects them. In addition, this study will encourage them to create science fiction films with better portrayals of AI. This study may serve as a future reference to future researchers. The ideas and results presented may serve as a basis to start other researches involving SFF-AI's effect on the perceptions of students on different scientific concepts.

The study focuses on the influence of science fiction films to students about AI. The goal is to know the views of students about (1) the benefits, risks, and development of AI; (2) the factors influencing them; and (3) the relation of the frequency of watched films to students' emotions, career choices, education, and daily lives.

The subjects of this study are MSHS students from Grade 9 to 11 who are interested in watching SFF-AI. The selection of subjects was done using an online preliminary survey. Interviews were conducted to obtain the data from the subjects and these were held mainly at the respective classrooms of each respondent.

The sampling, data collection, interpretation, and procedures of the study took one month. This was done with the help of the researchers' advisers and other teachers of the school.

The study was only limited to MSHS Grade 9 to 11 students. Sampling problems occurred depending on the availability of the subjects. Since, the researchers used an online preliminary survey as their sampling method, problems with internet connectivity occurred.

Other limitations of the researchers for this study include: 1) availability of SFF-AI in the Philippines; 2) the movies listed in the preliminary survey; and 3) other uncontrolled variables.

There was a limitation in the quality and the availability of SFF-AI in the Philippines. Umali (2017) stated that there is a shortage in SFF-AI in the Philippines since most filmmakers and producers seemingly cannot contextualize science fiction into the Philippines' third world setting. In addition, it was also observed that Filipinos tend to rely on western SFF-AI instead of local SFF-AI, since the latter deviates from the typical Filipino speculative fiction films.

This is the one of the reasons why the movies in the preliminary survey do not include local SFF-AI but only Hollywood-produced SFF-AI. Also, the list of SFF-AI included in the preliminary survey was only taken from Wikipedia's list of Artificial Intelligence Films which was also derived from other movie sites.

The researchers also had a problem with the uncontrolled variables. These include external factors, such as their familiarity of the topic, which could have influenced the perceptions on AI of the respondents other than SFF-AI. Errors in data and correlation of the results to the theories can also be attributed to this. Another uncontrolled variable is the way the respondents answered the questions in the interview. Dishonesty in the answers of the respondents is a variable that cannot be controlled by the researchers which can also cause errors in the data analysis of the study.

The terms the researchers would like to define in this study are:

1. Artificial Intelligence (AI) - Artificial intelligence is a form of computer technology that allows machines to function similar to humans, such as the ability to reason, to discover meaning, to generalize, or to learn from the past experience (Copeland, 2017; "Artificial Intelligence," n.d.).

2. AI in film- AI in science fiction films, which include robots, androids, and other kinds of Human 2.0, are restricted to analyze the relationship of humans and technology (Nicolaou, 2017).

3. Perception - The views and opinions of the subject based on his/her answer from the interviews.

4. Science fiction- Science fiction is a genre of fiction in which the stories often tell about science and technology of the future. It has a relationship with the principles of science—these stories involve partially true to partially fictitious laws or theories of science. Science fiction texts are often set in the future, in space, on a different world, or in a different universe or dimension (Definition of Science Fiction, 2017).

5. Science fiction film- A genre of films characterized by stories involving conflicts between science and technology, human nature, and social organization in futuristic or fantastical worlds, created in cinema through distinctive iconographies, images, and sounds often produced by means of special effects technology (Kuhn & Westwell, 2012).

3. METHODOLOGY

The focus of the study is to know the perception of selected Grade 9 to 11 MSHS students on AI based on watching various science fiction films. The researchers studied the effects of watching science fiction films on students' views and opinions about AI. Hence, the research design of the study is grounded theory wherein the researchers formulated a theory based on the collected and analyzed data supported by other existing theories (Walsh, et al., 2015).

This study was conducted in MSHS which is located in Barangay Cembo along Kalayaan Avenue in Makati City. The respondents who participated in the study are Grade 9 to 11 students of the said school. They were given an online preliminary survey and were selected through purposive sampling.

The online preliminary survey, comprised of four questions with multiple choices, was used as a guide in selecting the respondents of the study. The participants are willing and available Grade 9 to 11 students of MSHS. A list of SFF-AI was included to determine the number of films a student has watched. Thirty students were selected based on their answers from the survey and on the number of watched SFF-AI. They were further categorized from low, average, and high frequency and underwent an interview.

A semi-structured interview was used as the method of data collection. Semi-structured interview format was used to give the researchers the opportunity to ask additional questions to clarify some of the answers of the respondents. This structure is appropriate in order to gather more comprehensive answers for the researchers to further understand their responses. The questions prepared by the researchers are open-ended ones to give the respondents more freedom in expressing their thoughts. Through this method, the researchers were able to know more about the perception of each respondent towards AI.

The influence of science fiction films towards their perception of AI was discovered through the interview. A personal interview was conducted on a one-on-one basis to understand the response of the students. With the respondents' consent, the interviews were recorded so that the researchers could retrospect their answers and understand it further.

The instrument used was validated by the researchers' advisers and two other research consultants from the Senior High School department of MSHS.

The researchers tabulated the gathered information from the interview of the respondents. Each researcher read and analyzed the answers of the respondents. Afterwards, the researchers had a group discussion about their findings.

First, the researchers looked at the differences and similarities of the answers of the respondents in the interview. Then, they identified the perceptions that are most frequent in the tabulation. Through this, the researchers knew the overall perception of students about AI based from watching science fiction films. This may also indicate the factors that affected the respondents' answers. Lastly, a theory was formulated from the analyzed data.

4.   FINDINGS

The data gathered from the interviews are presented and discussed in this part. This covers the factors affecting the perceptions on AI of the selected students of MSHS, their knowledge and perceptions about AI, and the effects of SFF-AI on their emotions, career choices, education, and daily living.

Respondents

The following points about the respondents of the study will be discussed in this part: 1) the platform where they heard something about AI; 2) the categorization of respondents based on the numbers of watched SFF-AI; and 3) the most common SFF-AI watched by the selected respondents.

The online preliminary survey was open to all Grade 9 to 11 students. Out of the 131 students who answered, 30 were chosen as the respondents for the interview.

Based on the answers of the 30 chosen respondents in the preliminary survey, they have heard something about AI in different media platforms, school, and community. Among these places, mass media was the most prominent. Mass media includes television series and shows, radio programs, and movies.

Movies as a mass medium were then used to categorize the thirty chosen students. The researchers classified the respondents to three categories depending on the number of SFF-AI a respondent has watched: low, average, and high frequency. Ten students with the lowest number of SFF-AI watched were put in to the low

frequency category having a mean of 17 SFF-AI watched, ten students with the highest number of SFF-AI watched to high frequency with a mean of 49 SFF-AI watched, and the rest were categorized in the average frequency category with 36 as the mean number of SFF-AI watched.

After categorizing the respondents, the researchers also tabulated the commonly watched films among the respondents based from their answers in the survey. The most commonly watched film of the respondents can also be used to draw conclusion to how they have formed their perception on AI. The most watched SFF-AI are animated and featured AI characters that have endearing qualities. These characters appeal to the audience of all ages especially to the teenagers. *WALL-E* was also the most mentioned SFF-AI in the interviews where the respondents based their answers.
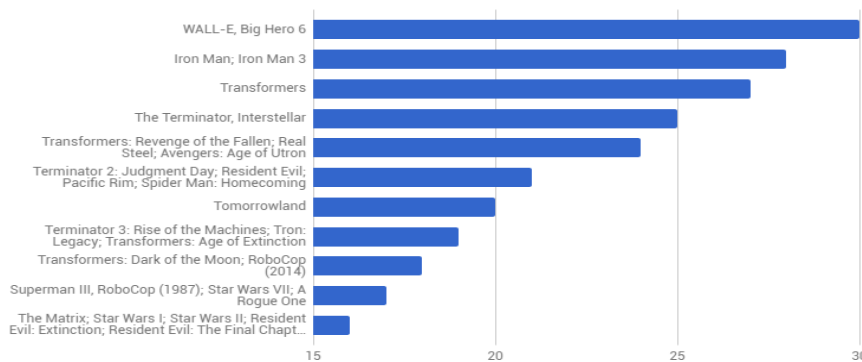

Figure 1. Most commonly watched films among the respondents.

After choosing the respondents from the online preliminary survey and categorizing them based on their watched SFF-AI, the researchers then conducted an interview. The interview consists of questions, mainly concerned on their perceptions of AI in SFF-AI, which are in line with the specific questions of the study.

Platforms

The platforms where respondents usually encounter AI will be discussed as a factor that could shape their perceptions on AI.

The respondents were first asked where they usually encounter AI. It has already been established from their responses that mass media is the main media platform where they often hear about AI. Aside from knowing this, the researchers wanted to determine where they usually have an encounter with AI.
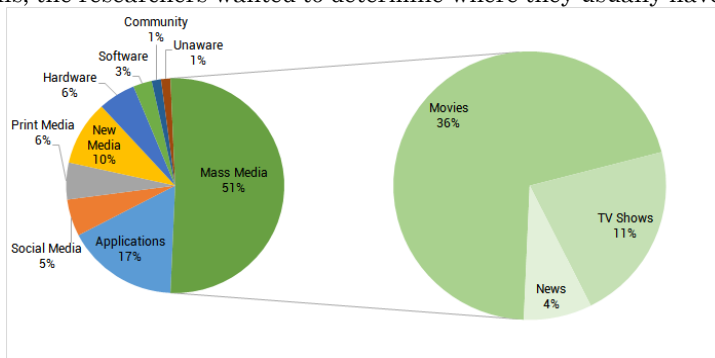

Figure 2. The graph showing where the respondents usually encounter AI.

In reference to Figure 2, it is evident that mass media is still considered as the main media platform where most of the respondents encounter AI which is similar with the findings from the survey as to where they usually hear of it.

The platforms are mostly different kinds of media: mass media includes TV, radios, or films being the majority; print media includes books and periodicals; new media includes the internet; social media includes Facebook. One study found that "American teens use an average of 9 hours of media daily, not including for school or homework" (Rideout, 2015, p.14). This explains the long exposure of students to different kinds of media which served as their sources in encountering AI. Moving on, mass media ranked top, specifically in watching movies, perhaps for the presence of AI is prevalent and its concepts and ideas are very open and diverse. Likewise, many respondents answered social media as they wander in different social network sites. According to a research of Pew Research Center, almost 24% of teens continuously go online (Lenhart, 2015). This strengthens the possibility of teens encountering AI in social network sites such as Facebook and Twitter. Moreover, applications include games for entertainment purposes or virtual personal assistants such as Siri and Google Assistant. Furthermore, the respondents also answered hardware such as robots or gadgets and software such as programs. Also, they answered that they encountered AI in new media such as websites, researches, and Sophia, the first robot declared to be a citizen. In addition, books and peers may also be sources in being familiar with AI while some claim that they know they encountered it but are not aware. Knowing that mass media got the highest number of responses, the researchers tabulated which platforms under mass media the respondents refer to.

It can be seen that among the different platforms of mass media, movies are the most prominent. Film within human culture is powerfully pervasive, and this can be explained that in 2009 there were over 6.8 billion cinema admissions, which is very near to the global population, having global box office revenues of over US$30 billion (Shah, 2011). Using this information, the researchers can inferred that movies, collectively, is the media platform that have the strongest influence on the perceptions on AI of the respondents.
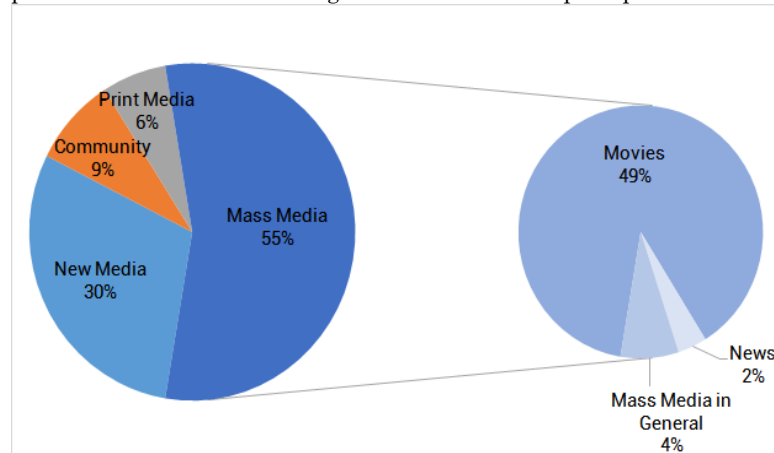

Figure 3. The graph showing the percentage of possible factors that influenced the perceptions on AI.

The answers of the respondents that were about the roles, scenes and portrayal of AI in movies, and television were included in the category of mass media. The answers about the Internet, Facebook, YouTube, Webtoon and other social media sites were included in the category of new media. The category of print media comprised of answers that involved books and literature. For the community, the answers included were science conventions, friends, parents, and other people.

As seen from the graph, majority answered that movies influenced their views on AI. The portrayals and roles of AI in these films greatly affected their views as they explained that those were what they "see", which is almost a restatement of the Thought Theory. For instance, negative portrayals of AI in movies were apparently seen by the respondents and the usual answers include AI as something which harms, controls, brings chaos, and ends humanity and the world. These responses were expected as these portrayals are evidently and repeatedly shown in most movies such as *Superman III (1983)*, the *Terminator series (1984-), Resident Evil series (2002-2016), the Transformers series (2007-), WALL-E (2008), Avengers: Age of Ultron (2015)*, and many more. Furthermore, shaping of the respondents' views on AI by the movies can be explained by the Cultivation Theory as the negative trend in the majority of the films is visibly manifested. On the other hand, there were positive

portrayals that affected their ideas on AI such as its usefulness and effectiveness in terms of its assistance to humans, especially to the protagonists, as seen on the films such as *Big Hero 6 (2014)*, *WALL-E (2008)*, *Iron Man* series *(2008-2013)*, *Transformers* series *(2007-)*, *Max Steel (2016)*, *Tomorrowland (2015)*, *Star Wars* series *(1977-)*, and many more.

Factors

The following points about the factors shaping the perception on AI of the selected students will be discussed in this section: 1) knowledge about AI; and 2) perceptions on AI.
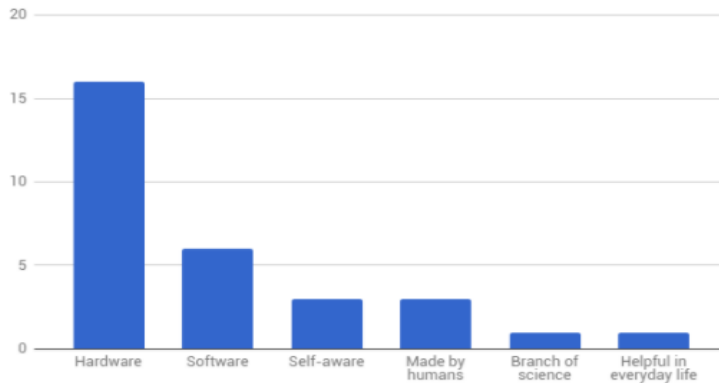

Figure 4. The graph showing the different definitions of AI by the respondents.

Figure 4 shows the six categories of the definitions of AI by the respondents namely: hardware, software, self-aware, made by humans, branch of science, and aid in everyday life. Most of the respondents answered AI as hardware where they stated that AI are robots that have knowledge or can function on its own given a certain command. They also answered software that means programs in a computer. They also believe that AI is helpful in everyday life because it makes life easier. One answered that AI is a branch of science.

Based from the graph, majority of the respondents define AI as hardware, which is a common misconception of the public about AI (Urban, 2015).The latter also stated that one of the factors why people are confused about the term AI is their association in movies. He stated that it is wrong to say that robots are the AI itself when in reality, robots are not AI for what is contained inside the robot, the software, is what the real AI is. It is also suggested by Barnett et al. (2006) that students who have watched a certain science fiction film had more misconceptions compared to those who did not. In this study, 90% of the respondents included movies as a medium where they usually encounter AI.

Perceptions

The different perceptions on AI of the respondents will be discussed in this section. The flow of discussion will be: 1) perceived benefits of AI; 2) perceived dangers of AI; and 3) perceived possibility of AI happening in real life.
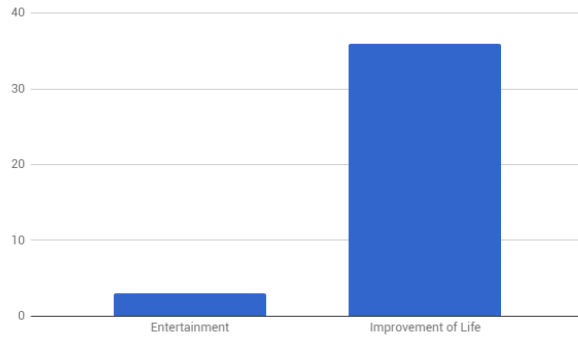
1. *Benefits*

Figure 5. The graph showing the perceived benefits of AI by the respondents.
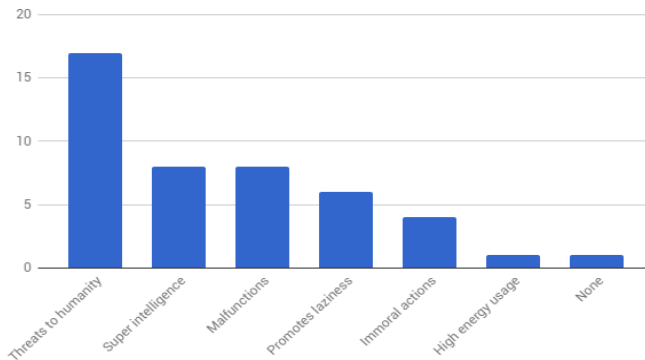
    2.   *Dangers*

Figure 6. The graph showing the perceived dangers of AI by the respondents.

        Stone (as cited by Meek, 2016) argued that movies and other forms of literature that feature artificial intelligence do not depict the real situation of AI. Due to this, people may be very positive about AI and be amazed about it, but on the other hand, some would become afraid about this believing that this would cause the human destruction. The study conducted by Stone perhaps explains the reason why most of the respondents answered human destruction as danger of AI.
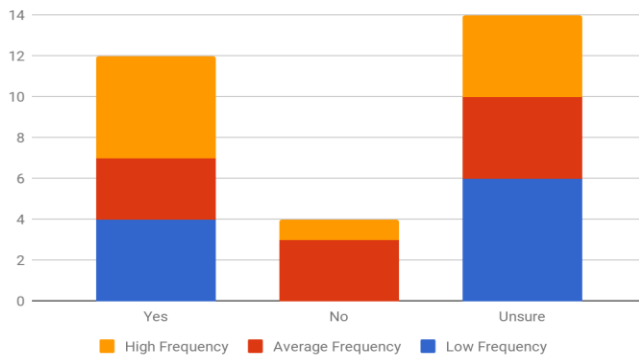
    3.   *Possibility in real life*

Figure 7. The graph showing the perceived possibility of AI happening in real life by the respondents.

Figure 7 explicitly shows that about 80% agreed that AI in SFF-AI might happen in real life and Gerbner and Gross' (1976) Cultivation Theory might explain this. The theory presents that frequent exposure to television would affect the perception of a person's reality. The respondents were chosen based on the number of watched movies. This would represent the frequency of their exposure. The results showed that Cultivation Theory is evident in SFF-AI.

Most of the respondents answered that they were unsure if AI as portrayed in movies could happen in real life. For those who answered yes, it was because of the advanced technology and existing ideas about AI. They also believe that the world is continuously improving and the humans have the ability and capability to make AI as portrayed in movies.

Effects of SFF-AI

The following points pertaining to the effects of SFF-AI in terms of the respondents' personal aspects will be discussed as follows: 1) emotions; 2) career choices; 3) education; and 4) daily life.
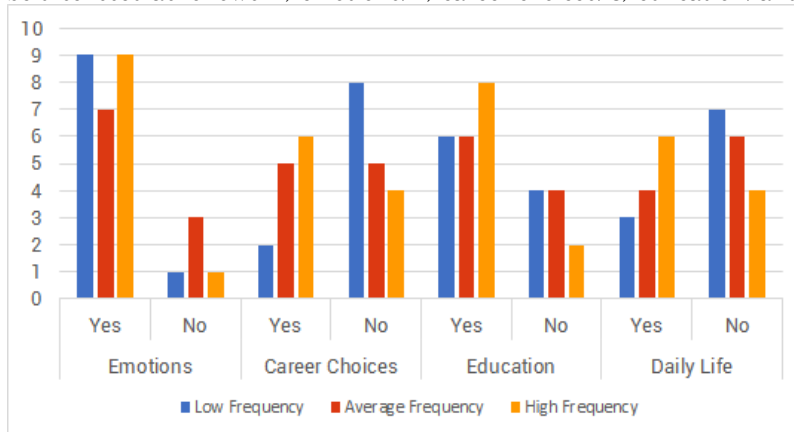

Figure 8. Summary of the number of respondents per level of frequency AI affected in terms of their emotions, career choices, education, and daily life.
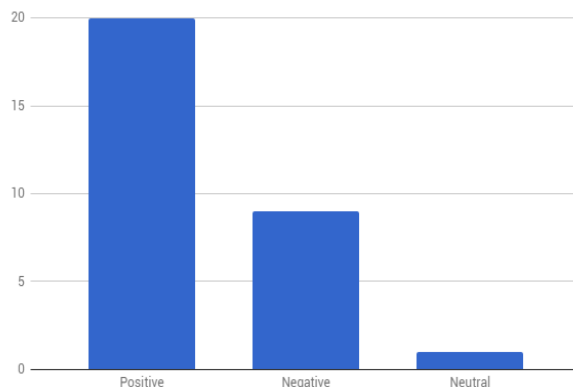
1. *Emotions*

Figure 9. The effects of SFF-AI on the respondents in terms of their emotions.

In Carroll and Smith (1976) Thought Theory, it argues that people's existence beliefs are not necessary in understanding emotional response to fiction unlike in real world where people's beliefs about the presence of actual characters and events is required. According to Lamarque (1981), Carroll (1990) and Smith (1995), a person can just "mentally represent", "entertain in thought", or "imaginatively propose" it to themselves in order to respond emotionally to fiction. The respondents were able to have an emotional response towards AI and it did not matter whether they encounter AI in real life or in movies. Their responses were drawn based on how they perceived AI in their minds.

In the interview administered, the respondents were asked if they are affected by the portrayals of AI in films in terms of their emotions. Majority of the students' emotional response to AI is positive, which includes being amazed, proud, happy, attached, and curious. However, some responses involve being afraid or worried about the possible dangers of AI. Although 80% of the respondents admit that they are influenced by SFF-AI, 20% claimed that their emotions are not affected by it at all. Lee (2017) claims that SFF-AI such as *A.I. Artificial Intelligence (2001), Her (2013),* and *Ex Machina (2015),* represent AI as a character which expresses emotions similar to a human being. These emotions include loneliness and intimacy. This could explain why some respondents said that they feel an emotional attachment to the AI character because they share same feelings presented in the movie.

The respondents had mixed views about AI. Some respondents said that the AI in movies affected them emotionally in a positive way because they were attached and sympathizing with the characters, amazed, eager, cautious, and happy. Some were affected emotionally and they were afraid of the dangers of AI.
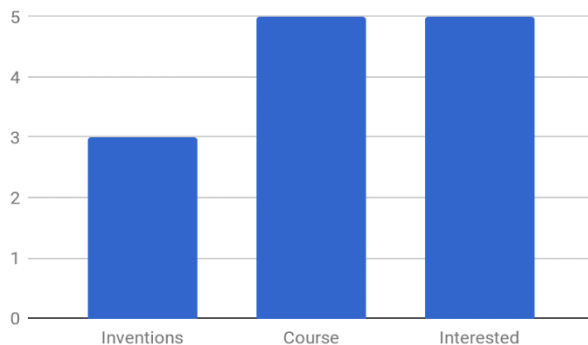
2. *Career Choices*

Figure 10. The effects of SFF-AI on the respondents in terms of their career choices

About 27% of the respondents said that the portrayals of AI in SFF-AI made a significant effect in their career choices. The table indicates that somehow, movies can affect the perception of students regarding their career choice. In relation to this, Pietro (2016) suggests that popular programs in television, such as *The Master Chef,* influence the career choices of teenagers especially promoting vocational training to them.

Majority of the respondents answered that their career choices were not affected by the movies about AI. Some said that they were interested in courses related to technology and they want to develop inventions in the future.
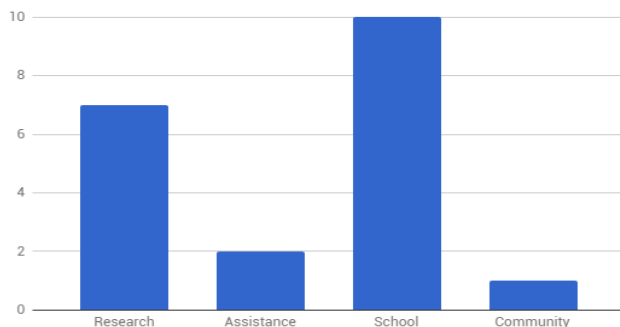
3. *Education*

Figure 11. The effects of SFF-AI on the respondents in terms of their education.

Surmeli (2012) found that the application of science fiction films alters the attitude of students towards Science and Technology courses in a positive manner. The study presents that the integration of films in science subjects provides visualization, increases interest, improves positive attitude, associates context with real life and visualizes probable and extraordinary scientific issues. However, Barnett et al. (2006) had shown that students who watched science fiction films had more misunderstandings about certain scientific concepts. This proves that students are greatly affected by the movie's conceptual presentation without considering the difference between facts and false concepts.

Although this is relevant in the study, it does not reflect in the overall results. Even though fact and fiction may be hardly distinguished due to certain factors such as the film's visual effects, it does not lead to respondents' misconception. According to majority of the respondents, some concepts in the movies can really be convincing. In order for them to confirm if it is a fact, they do further research. On the other hand, some students are influenced by SFF-AI in a way that it helps them in some subjects related to AI such as electricity, robotics, and computer programming classes.

In terms of education, some respondents were researching to familiarize themselves with AI and identify the wrong portrayals in the movies. AI also gives assistance to the students in obtaining the information by using applications like Siri. In school, respondents also use the information they acquire from movies with the lessons they learn in their subjects. They also believe that the teaching of AI should be emphasized in school and they know that AI will have an impact in the education system.
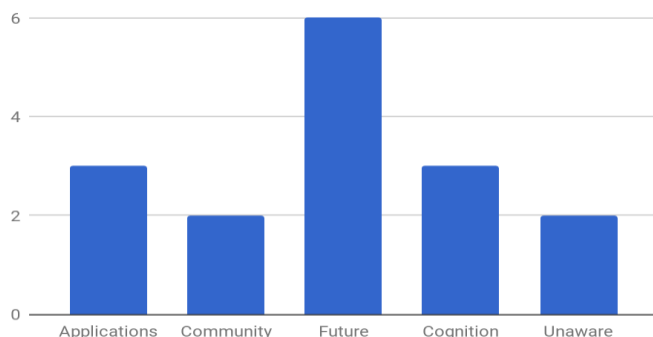
4. *Daily life*

Figure 12. The effects of SFF-AI on the respondents in terms of their daily life.

Those who said yes explained that they are affected by it since some of them use voice recognition and Siri, which is classified as AI, every day in their phones. Another respondent also stated that it made him want to have AI for assistance. In addition, others also look forward to the enhancements of AI technology in the future since they believe that it can benefit humans just like what they see in films. This can be related to Cultivation

Theory by Gerbner and Gross (1977). It focuses on the long term effects of frequent viewing of films in which, viewers are affected in terms of their idea or perception of everyday life. This theory shows that those who are more exposed are more likely to be influenced.

On the other hand, almost half of the respondents said that their daily living is not influenced by SFF-AI. This may be caused by the lack of student's knowledge about AI. Some students may not be aware that they are already using AI in their daily life. Their knowledge may only be limited to what they see and cannot identify AI around them.

The effects of AI in the daily lives of the respondents can be classified into five categories. First, voice recognition applications such as Google Assistant and Siri affects the daily lives of the respondents. Next, AI can be a topic for socializing among peers. Some are looking forward to what would happen in AI in the future while some believe that AI would cause too much dependence of people from machines and less employment. Another category is cognition where one respondent said that watching SFF-AI affect her life because of the morals that can be learned. Others think that they may just be unaware of the impact of AI in their daily lives.

5. ANALYSIS

Most of the respondents agreed that mass media is the platform where they usually encounter AI and that among all mass media platforms, movies are the most prominent. The survey showed that the most commonly watched movies among the 30 respondents are *WALL-E* (2008) and *Big Hero 6* (2014) which are both animated films. Other films with highest number of respondents who said they have watched these films depicted AI as machines specifically robots with human like body and human like characteristics. These affected the thinking of the respondents which is the reason why most of them answered that AI is a machine and are robots or hardware instead of identifying it as a program or branch of science which perform tasks for people. The researchers inferred that if a person is exposed to movies depicting wrong information, chances are they would be thinking the same concept the movie teaches. Be critical in watching movies. For movie makers, consult to a scientist to avoid depicting wrong or vague portrayals of AI which may cause misconceptions.

6. CONCLUSION

Based on the significant findings of the study, the following conclusions were derived:

The respondents believe that AI, which is perceived as machines with human characteristics and traits, can happen in real life due to the numerous technological advancements happening in the modern world. If this perceived possibility of AI is materialized and realized, it could greatly help humanity live a more convenient and easier life. However, there is a possibility that AI becomes a threat to humanity when it achieves super intelligence or fails to function properly.

The respondents pointed out that among all types of media and other factors; mass media mostly influenced their perception on AI. They also specified that movies as a part of mass media is the most prominent factor of all.

The respondents who had more misconceptions about AI are the respondents who were solely exposed on movies only. The respondents who were not just exposed to mass media, but also new media, exemplified a better understanding of what AI is.

The results showed that the respondents under high frequency have a greater chance of being affected by SFF-AI. They exhibit high affinity with AI in terms of their emotions, career choices, education and daily life. They tend to be more emotionally attached to SFF-AI compared to the lower frequency categories. They are motivated to take up courses related to AI and built a perception that they could change the world to their vision by creating or inventing with the help of AI. They become more interested in watching more SFF-AI and researching about AI which could lead to them formulating new studies and somehow clear up misconceptions on AI. Lastly, because of their frequent streaming of SFF-AI, they tend to be more conscious of the AI around them which they use to ease their daily living.

7. REFERENCES

Andrews, E. (2015, August 7). *Who were the Luddites?* Retrieved from History: http://www.history.com/news/ask-history/who-were-the-luddites

Artificial intelligence. (n.d.). In *Collins English Dictionary*. Retrieved from https://www.collinsdictionary.com/dictionary/english/artificial-intelligence

Asano, Y., et al. (2017). Design principles of a human mimetic humanoid: Humanoid platform to study human intelligence and internal body system. Science Robotics. doi:http://dx.doi.org/10.1126/scirobotics.aaq0899

Barnett, M., Wagne, H., Gatling, A., Anderson, J., Houle, M., & Kafka, A. (2006). The Impact of Science Fiction Film on Student Understanding of Science. *Journal of Science Education and Technology,* 191

Communication Studies. (2012, May 5). *Cultivation theory.* Retrieved from http://www.communicationstudies.com/communication-theories/cultivation-theory

Copeland, B. (2017). Artificial intelligence. In *Encyclopædia Britannica*. Retrieved from https://www.britannica.com/technology/artificial-intelligence

Dartmouth Library . (2017). *Film Genres: Science fiction*. Retrieved from Dartmouth Library : https://researchguides.dartmouth.edu/filmgenres/scifi

Definition of Science Fiction. (2017). Retrieved from http://www.readwritethink.org/files/resources/lesson_images/lesson927/SciFiDefinition.pdf

Dodd, M., Grant, A., & Seruwagi, L. (n.d.). Retrieved from Artificial Intelligence Through the Eyes of the Public https://web.wpi.edu/Pubs/E-project/Available/E-project-030411-114414/unrestricted/Artificial-Intelligence_Through_the_Eyes_of_the_Public.pdf

Dube, R. (2015, March 26). *How Hollywood Has Depicted Artificial Intelligence Over the Years.* Retrieved from MakeUseOf : https://www.makeuseof.com/tag/hollywood-depicted-artificial-intelligence-years/

Fisher, R. (2004). *AI and Cinema - Does artificial insanity rule?* University of Edinburgh. Retrieved from https://homepages.inf.ed.ac.uk/rbf/PAPERS/aicinema.pdf

Guida, J. (2015). How Movies Can Change Our Minds. [Web log]. Retrieved from https://op-talk.blogs.nytimes.com/2015/02/04/how-movies-can-change-our-minds/

Kuhn, A., & Westwell, G. (2012). Film Genres: Science fiction. Retrieved from https://researchguides.dartmouth.edu/filmgenres/scifi

Lee, Y. (2017, November 8). *Codeburst.io*. Retrieved from A.I. in Movies: Hollywood and the "Other": https://codeburst.io/a-i-in-movies-hollywood-and-the-other-6bb5920cfb93

Lenhart, A. (2015). Teens, Social Media & Technology Overview 2015. Retrieved from Pew Research Center: http://www.pewinternet.org/2015/04/09/teens-social-media-technology-2015/

Logan, R.A. (2001). Science Mass Communication. Science Communication. 23 (2): 135-163.

Lufkin, B. (2017, March 7). Retrieved from BBC: http://www.bbc.com/future/story/20170307-the-ethical-challenge-facing-artificial-intelligence

McCann, J. (2017). 15 Most Scarily Realistic Artificial Intelligence In Sci-Fi Movies, Ranked. Retrieved from https://screenrant.com/best-most-realistic-artificial-intelligence-sci-fi-movies/

Nicolaou, E. (2017). These Robot Movies Will Make You Question Your Humanity. Retrieved from http://www.refinery29.com/2017/05/156778/best-robot-movies

Oxford University Press. (2018). *Film*. Retrieved from English Oxford Living Dictionaries: https://en.oxforddictionaries.com/definition/film

Pautz, M. (2015). Argo and Zero Dark Thirty: Film, Government, and Audiences. *PS: Political Science & Politics, 48*(1), 120-128. doi:10.1017/S1049096514001656

Pietro, G. D. (2016, March). *The Impact of Television Programmes on Teenage Career Aspirations: The 'MasterChef Effect'*. Retrieved from The Impact of Television Programmes on Teenage Career Aspirations: http://ftp.iza.org/dp9804.pdf

Rideout, V. (2015). The Common Sense Consensus: Media Use by Tweens and Teens. (P. Seeta Pai, Ed.) Retrieved from Common Sense: https://www.commonsensemedia.org/sites/default/files/uploads/research/census_executivesummary.pdf

Roger, O. (2014, March 11). Silverscreen advertising. Retrieved from Convergence Magazine: http://humberjournalism.com/convergencespring2014/silverscreen-advertising/

Schneider, S. (n.d.). Paradox of fiction. Retrieved from Internet Encyclopedia of Philosophy: http://www.iep.utm.edu/fict-par/#H4

Shah, V. (2011, June 19). *The Role of Film in Society*. Retrieved from Thought Economics: https://thoughteconomics.com/the-role-of-film-in-society/

Statista. (2016, September). *What is your favorite movie/television genre? (by gender)*. Retrieved from Statista: https://www.statista.com/statistics/254115/favorite-movie-genres-in-the-us/

The impact of fiction on public perceptions of science. (2013). Retrieved from http://cpas.anu.edu.au/news-events/highlights/impact-fiction-public-perceptions-science

Umali, A. D. (2017, July 8). For Him Magazine. Retrieved from It's High Time We Talk About The Bleak State Of Pinoy Sci-Fi Films: https://www.fhm.com.ph/pop-culture/movies/-instalado-and-the-dystopic-state-of-science-fiction-in-philippine-cinema-a19-20170708-lfrm

Walsh, I., Holton, J. A., Bailyn, L., Fernandez, W., Levina, N., & Glaser, B. (2015). What Grounded Theory Is…A Critically Reflective Conversation Among Scholars. 581-599.

Zeke. (2015). Ultimate List of Film Sub Genres. Retrieved from https://www.nyfa.edu/student-resources/ultimate-list-of-film-sub-genres/