

**ISTANBUL TECHNICAL UNIVERSITY ★ GRADUATE SCHOOL**

**THE FEAR OF AI IN HORROR MOVIES: A COMPARATIVE FILM  
ANALYSIS THROUGH THE LENS OF PUBLICS' PERCEPTIONS OF  
TECHNOLOGY**



**M.Sc. THESIS**

**Hüseyin Cenk ERDEM**

**Department of Science, Technology and Society**

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**İSTANBUL TEKNİK ÜNİVERSİTESİ ★ LİSANSÜSTÜ EĞİTİM ENSTİTÜSÜ**

**KORKU FİMLERİNDE YAPAY ZEKA KORKUSU: KAMUOYUNUN  
TEKNOLOJİ ALGISI MERCEĞİNDEN KARŞILAŞTIRMALI BİR FİLM  
ANALİZİ**

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**Date of Submission :** 20 May 2024  
**Date of Defence :** 12 June 2024





*To Lilly  
(She has always been right beside me,  
very close to my laptop,  
through my sleepless nights  
working on this research)*



## **FOREWORD**

I would like to thank my thesis advisor, Assoc. Prof. Dr. Ebru Belgin YETİŞKİN DOĞRUSÖZ, for her guidance and invaluable contributions to improving my research. I would like to thank Dr. Aysel Sultan for her contributions, which guided my progress in improving my research at the Technical University of Munich. I would like to thank my jury members; Assoc. Prof. Dr. Aslihan ERKMEN BİRKANDAN and Prof. Dr. Duysal AŞKUN ÇELİK, for their invaluable support. Finally, I would like to thank my mother, and my best friend, Asst. Prof. Dr. Mustafa Deniz Türkođlu, for their care and support in this process.

**June 2024**

**Hüseyin Cenk ERDEM**



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## **ABBREVIATIONS**

<b>AI</b>	: Artificial Intelligence
<b>GM</b>	: Genetically Modified
<b>MIT</b>	: The Massachusetts Institute of Technology
<b>ML</b>	: Machine Learning
<b>NGO</b>	: Non- governmental Organization
<b>NLP</b>	: Natural Language Processing
<b>SDT</b>	: Self- determination Theory
<b>STS</b>	: Science, Technology and Society



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# **THE FEAR OF AI IN HORROR MOVIES: A COMPARATIVE FILM ANALYSIS THROUGH THE LENS OF PUBLICS' PERCEPTIONS OF TECHNOLOGY**

## **SUMMARY**

Science, Technology and Society (STS) studies investigate the interactions and reciprocal shaping processes among science, technology, and society. This research examines the representation of AI technology in horror movies, focusing on the publics' perception of technology and analyzing how these representations reflect fears, societal anxieties and possible risks associated with AI. This research has a descriptive research design because it aims to identify the socially constructed fear of AI technology in contemporary societies. The qualitative research includes a discourse analysis of the purposefully sampled movies, a focus group study at the Technical University of Munich consisting of seven graduate students attending the Science, Technology and Society (STS) Department's Science and Technology Studies Master of Arts Program, and responses from a generative AI, ChatGPT 3.5, to validate the findings of the focus group study. This research purposefully chose these films based on their popularity over the past five years: *Upgrade* (2018), *Child's Play* (2019), and *M3gan* (2022). The research focuses on these movies because the advancements in AI technology and humanoid robots over the past five years have heightened fears and anxieties about AI. This research encourages critical thought on the effects of technological opacity that influence our interactions with developing technology by investigating the representation of AI technology in movies. Findings show that the representation of AI in the movies are related to current social concerns about unpredictability of emerging technologies and loss of control. The findings of the research may also help to enhance our understanding of the complex relationship between how fear is embedded within publics' perception of technology, and accordingly the social construction of AI. To foster meaningful discussions about the ethical, societal, and cultural impacts of technological advancements, increased transparency and critical engagement with technological processes are required.



# **KORKU FİMLERİNDE YAPAY ZEKA KORKUSU: KAMUOYUNUN TEKNOLOJİ ALGISI MERCEĞİNDEN KARŞILAŞTIRMALI BİR FİLM ANALİZİ**

## **ÖZET**

Bilim, Teknoloji ve Toplum (STS) çalışmaları, bilim, teknoloji ve toplum arasındaki etkileşimleri ve karşılıklı şekillendirme süreçlerini incelemektedir. Bu araştırma, kamuoyunun teknoloji algısını dikkate alarak ve korku filmlerinde yapay zekanın temsil edilmesinin yapay zeka ile ilgili toplumsal korkuları ve potansiyel riskleri nasıl yansıttığını analiz ederek korku filmlerinde yapay zeka teknolojisinin nasıl temsil edildiğini incelemektedir. Literatürdeki araştırmalar teknolojinin medyada ve filmlerde nasıl temsil edildiğinin kamuoyunun teknoloji algısını ve teknolojiye olan yaklaşımını önemli ölçüde etkilediğini göstermektedir. Kamuoyunun teknoloji algısı devletlerin yönetim çerçevelerini, uluslararası politikalar oluşturma süreçlerini etkilediği gibi uluslararası politikalar, teknoloji endüstrileri ve sivil toplum kuruluşları kamuoyunun kolektif olarak paylaştığı ortak gelecek vizyonlarını sosyoteknik tasavvurlar aracılığıyla etkilemektedir. Teknoloji endüstrileri, sivil toplum kuruluşları, devlet ve devlet dışı enstitülerin anlatılarının sosyoteknik tasavvurların üretilmesinde önemli rolleri vardır.

Araştırmalar, bilimin ve teknolojinin sinemada temsil edilmesinin ve sinemadaki anlatılarının da sosyoteknik tasavvurların farklı bir biçimi olarak kamuoyunun teknoloji algısı üzerinde çok güçlü bir etkisi olduğunu ortaya koymaktadır. Bu araştırma, kamuoyunun teknoloji algısı merceğinden seçilen korku filmlerinin yapay zeka teknolojileri ile ilgili potansiyel riskleri ve toplumdaki endişeleri nasıl yansıttığını araştırmaktadır.

Araştırmada sosyal olarak inşa edilen yapay zeka korkusunu tanımlamak amacıyla betimleyici araştırma tasarımı kullanılmıştır. Nitel araştırma, seçilen filmlerin söylem analizini, Münih Teknik Üniversitesi'nde gerçekleştirilen ve Münih Teknik Üniversitesi, Bilim, Teknoloji ve Toplum Bölümü, Bilim ve Teknoloji Çalışmaları, Yüksek Lisans Programı öğrencisi olan yedi öğrencinin katılımcı olduğu odak grup çalışmasını ve odak grup çalışmasının bulgularının geçerliliğini test etmek ve insan ve yapay zeka etkileşimi ile ilgili yansız bir içgörü elde etmek için üretken yapay zeka, ChatGPT 3.5 yanıtlarını birleştirmektedir. Odak grup çalışmasının katılımcılarının tamamının Bilim ve Teknoloji Çalışmaları, Yüksek Lisans Programı öğrencileri olmaları çalışmanın analizlerinin derinleşmesine katkıda bulunmuştur. Katılımcıların eğitimleri filmlerde yapay zekanın temsil edilmesinin yapay zeka ile ilgili güncel toplumsal kaygıları ne kadar doğru temsil ettiğini değerlendirmek üzere odak grup çalışması sırasında derinlikli bir tartışma ortamı yaratmıştır.

Odak grup çalışmasındaki katılımcılar, film izleme seansı sonrasında korku filminde yapay zekanın temsil edilmesi ile ilgili olarak; toplumsal, psikolojik çözümlenmelerini tartışırken, günlük hayatta bireylerin yeni teknolojilerle iletişimine dair önemli

ayrıntılar ortaya koymuş, filmlerde yapay zekanın temsil edilişi ve gerçek hayattaki teknolojik atılımların hayatımızı nasıl etkilediğine dair gözlemlerini paylaşmıştır.

Bu araştırma, son beş yıldaki popülerliklerine göre tezin amacına uygun olarak yapay zeka teknolojilerini ve gelişen yeni teknolojileri konu alan şu filmleri seçmiştir: *Upgrade* (2018), *Child's Play* (2019) ve *M3gan* (2022). Seçilen filmlerde yapay zeka teknolojileri, insansı robotlar, akıllı cihazlar, otonom sistemler ve otonom araçlar yer almaktadır. Filmlerin ardı ardına yayımlanma tarihlerine paralel olarak; global düzeyde yapay zeka hataları, ölümle sonuçlanan otonom araç kazaları, toplumda tedirginlik yaratan gelişmiş insansı robotlar, felçli hastalara fiziksel fonksiyonlarını yeniden kazandırmak amacıyla gündeme gelen ve yapay zeka teknolojileri ile insan beynini ve bilincini birleştiren nöroteknoloji projelerinin yarattığı popüler gündem, korku filmlerinde yapay zeka teknolojilerini ve insansı robotları hikayelerin merkezine almıştır. Tıpkı bilgisayar bilimlerinin gelişmesiyle beraber 1980'lerde ve 1990'larda bilimkurgu filmlerinde gözlemlendiği gibi yeni teknolojiler yeniden filmlerdeki hikayelerin merkezine yerleşirken bu kez gelişen teknolojiler tür olarak sadece bilimkurgu filmlerinin değil popüler korku filmlerinin hikayelerine taşınmıştır. Araştırma bu doğrultuda özellikle seçilen üç filme odaklanmaktadır çünkü son beş yılda yapay zeka teknolojisindeki ve insansı robotlardaki gelişmeler yapay zeka hakkındaki korkuları ve endişeleri artırmıştır. Bu çalışma, yapay zeka teknolojisinin bu filmlerde nasıl temsil edildiğini araştırarak, yapay zekanın temsil edilmesinin kamuoyunun yeni teknolojiler ve yapay zeka ile ilgili algılarını ne kadar doğru temsil ettiğini, gerçek endişeleri ne kadar yansıttığını ve seçilen filmlerin kamuoyunun yapay zeka ile gündelik etkileşimi ile ilgili neler söylediğini analiz etmektedir.

Bu araştırma gelişen teknolojiyle etkileşimlerimize tesir eden teknolojik şeffaflık etkileri üzerine eleştirel düşüncüyü de teşvik etmektedir ve kamuoyunun teknolojik süreçlere araştırmaların en başından itibaren eleştirel katılımının sosyal, kültürel ve etik açıdan katacağı değerin önemini tartışmaktadır.

Bulgular, seçilen filmlerde yapay zekanın nasıl temsil edildiğinin, gelişen teknolojilerin öngörülemezliği ve kontrol kaybı konusundaki mevcut sosyal kaygılarla ilişkili olduğunu göstermektedir. Araştırma bulguları ayrıca toplumsal korkuların psikolojik, toplumsal ve varoluşsal kökenlerine inerek korkunun kamuoyunun teknoloji algısına nasıl gömülü olduğu ve yapay zekanın sosyal inşası arasındaki karmaşık ilişkiye dair anlayışımızı geliştirmeye yardımcı olacaktır.

Literatürde yapay zekanın potansiyel riskleri ve yeni teknolojilerin toplumsal korkuları nasıl tetikleyebileceğine dair çalışmalar bulunmaktadır. Gelişen yeni yapay zeka teknolojileri ile beraber yapay zekanın insan yeteneklerinin ve zekasının ötesine geçebileceği endişesi artarken, yapay zekanın insanların tüm ihtiyaçlarını karşılayabilmesi; kişilerarası etkileşimleri, sosyal dinamikleri, iş dünyasındaki ihtiyaçları ve farklı profesyonel meslek alanlarında insana ihtiyaç duyulan görev kapsamalarını etkilemektedir.

Literatürde Bilim, Teknoloji ve Toplum kuramları çerçevesinde kamuoyunun teknoloji algısı merceğinden yapay zekanın nasıl temsil edildiğini araştıran ve yapay zekanın korku filmlerinde temsil edilmesinin potansiyel riskleri ve toplumsal korkuları, kaygıları nasıl yansıttığını araştıran ilk çalışmalardan biri olarak bu araştırma Bilim, Teknoloji ve Toplum literatürüne de katkı sunacaktır. Teknolojik atılımların ahlaki, sosyal ve kültürel etkileri hakkında anlamlı tartışmaları teşvik etmek için, şeffaflığın artırılması ve teknolojik süreçlere eleştirel katılım gereklidir.

## **CHAPTER 1: INTRODUCTION**

Science, Technology, and Society (STS) studies explore how society views, uses, and understands technology. STS studies look at how society's values, norms, and power structures shape technology as well as how the general public views it in terms of its advantages, disadvantages, and ethical implications. Moreover, how technology is represented in the media also influences public attitudes and discussions. In parallel to these developments, publics' perceptions of technology impact governance frameworks and policy-making processes; conversely, policies and industries, via sociotechnical imaginaries, influence the design, innovation and use of technology.

Joss and Bellucci (2002) discuss the fact that various public institutions and NGOs at local, national, and international levels have made substantial efforts since the mid-1990s to facilitate citizen participation in discussions surrounding contentious science and technology topics. These encompass genetically modified (GM) food, genetic testing, transportation technologies, and ozone depletion. Political institutions have recognized the importance of including public participation as a compulsory policy element in research and innovation, particularly in highly sensitive areas such as biotechnologies, the location of radioactive waste disposal facilities, and sustainable development as a whole. Some countries, including Switzerland, have established specialized bodies to carry out "participatory technology assessment" of developing technological advancements on behalf of parliaments or governments (Joss & Bellucci, 2002, p. 3- 15).

This research seeks to examine the interplay between publics' perceptions of technology and the representations of technology in films which underscores a dynamic relationship, where each part affects and is affected by the other, shaping evolving narratives and societal perspectives but also examines the reflections of societal fear of technology regarding the perceived risks of technology. Hence, this study emphasizes the need for greater transparency and critical public engagement throughout technological processes that go beyond mere public participation. This research further complicates this relationship by examining the representation of AI

technology in horror movies and questioning the possible reflections of societal fears because of technological opacity and insufficient engagement with technological advancement processes.

“Engaging in early research, should be the beginning of a continuous process of discussion and evaluation that involves scientists, stakeholders, and the public throughout the research and development process” (Wisdon et al., 2005, p.38).

Wisdon et al. (2005) advocates that the incorporation of many perspectives and experiences in the research and development process is crucially important. Scientists contribute their specialized knowledge and technical skills; stakeholders such as industrial partners, policymakers, and funders supply practical insights and resources; and the public offers ethical, social, and cultural perspectives. This diverse engagement is important for any research to become thorough, relevant, and ethically accountable.

“The majority of concerns regarding the publics’ understanding of science originate from the scientific community” (Lewenstein, 2003, p.2).

Lewenstein (2003) draws attention to the fact that since at least the mid-nineteenth century, the main issue has been the insufficient public endorsement of scientific ideas and financial backing for scientific research. In response to these concerns, the National Science Board conducted well-structured surveys in the mid-1970s to examine the publics' understanding of science and technology.

Bucchi and Neresini (2008) discuss that despite their various forms, activities and studies based on the deficit model share certain assumptions and characteristics as follows:

1. The assumption that public understanding of science aligns with scientific literacy, which means being able to comprehend science accurately as communicated by experts.
2. The belief that achieving this understanding will result in favorable attitudes towards science and technological progress.
3. The tendency to focus on the public's role in the science-public relationship rather than examining both sides of it.

According to these assumptions, since the early 1990s, have faced significant criticism on multiple fronts. The relationship between public understanding and the capacity to respond to scientific inquiries has traditionally limited the conversation to the somewhat circular remark that the general public does not think in the same manner as professional scientists. (Bucchi & Neresini, 2008, p.450).

“This has raised the question of whether surveys measuring scientific literacy are truly assessing ‘the extent to which the public conforms to a stereotype held by scientists of a ‘scientifically literate public’” (Layton et al., 1986, Bucchi & Neresini, 2008, p.450).

### **1.1 Research Purpose**

The research aims to promote critical thinking on how technological opacity and perceived risks of technology affect our interactions with emerging technology. The goal of the research is to identify underlying societal concerns and phobias by examining how technology is portrayed in horror films. This will help us better comprehend the complex relationship between technology and fear.

This research aims to investigate the sociocultural implications of technological opacity and the existential fear of losing power and control, as represented in horror movies. The research intends to offer insight into how cinematic representations of AI reflect and intensify real-world worries and public’s perceptions about quickly expanding technological environments by examining the fear of technology shown in these films. Hollywood blockbusters like *Ex Machina*, *the Terminator trilogy*, and *I, Robot* frequently depict autonomous AI dramatically as a sentient, malevolent super-intelligence that seeks to eradicate humanity. The exaggeration of the technology's power also serves to neutralize it. The question of whether artificial intelligence (AI) is capable of consciousness is a common topic of discussion, but there are also practical implications of AI use, such as the loss of significant human control (Sharkey, 2016, p. 23- 38).

### **1.2 Research Scope**

Two comprehensive quantitative studies have examined the portrayal of science in fictional cinema. Andrew Tudor (1989), a film researcher, conducted a thorough content analysis of 990 horror films released between 1931 and 1984. “Horror films

provoke terror by presenting a menacing threat in a stable scenario. Tudor's analysis reveals that the category of 'science' has been the most prevalent kind of monstrous menace in horror movies throughout history, accounting for 251 out of 990 instances, or 25% (Tudor, 1989, p.21).

Since 1960, there has been a significant decrease in the percentage of horror films that are based on scientific concepts. “The decrease in the science-based horror films throughout the 1970s does not necessarily reflect a shift in public opinion towards science. However, it indicates a shift in the horror films, with psychological horror” (Kirby, 2014, p.8).

In the last five years, in parallel with the advancements in emerging technologies, the narratives of popular horror movies have started to center around advanced AI technologies and humanoid robots. Speculative information regarding technological advancements, such as Elon Musk's neurotechnology business Neuralink's plans to produce implanted brain-computer interfaces (BCIs), has also fanned the dread of AI more and more. Concerns about losing privacy and control over one's thoughts and actions have been raised by the concept of fusing human consciousness with AI technologies.

These worries have grown as humanoid robots, most notably Sophia from Hanson Robotics, have come into existence. Sophia has captured the public's interest in a way that is both fascinating and unsettling due to her remarkably human-like looks and sophisticated AI capabilities. These technological representations in horror films provide a distinctive prism through which to examine society's perspectives and anxieties about artificial intelligence (AI) and sophisticated robots, inspiring critical analysis of the societal ramifications of our technological innovations.

In parallel with the successive release dates of the purposefully selected films of this research, on a global level, societal fears of new technologies were triggered by the famous scandalous artificial intelligence errors, autonomous vehicle accidents resulting in death, advanced humanoid robots that create unrest in society, and neurotechnology projects that come to the scene to restore physical functions to paralyzed patients by integrating artificial intelligence technologies with the human brain and consciousness. These new technological developments shifted the stories of

horror movies and put artificial intelligence technologies and humanoid robots at the center of the stories.

Powell (2017) discuss that in the modern horror genre, the focus has switched from the monster that formerly served to reinforce our own inherent humanity to the technological advancements that are redefining what it means to be human. Powell's (2017) observation that the current horror genre has moved its emphasis from conventional stories to the ramifications of technological progress is insightful. This shift is a reflection of our growing concerns over the speed at which technology is developing and the possibility that it could blur the distinction between people and machines. With technology's growing entanglement in our lives, existential fear also arises at the thought of losing our special human characteristics to machines, of turning into insignificant gears in a technological system, or of having artificial intelligence take our place (Powell, 2017, p. 4- 146).

“Existential anxiety is defined as the profound unease or distress that arises when confronted with the inherent ambiguities of existence and the inevitability of death “(Alkhalifah, Bedaiwi, Shaikh, Seddiq & Meo, 2024, p.2). The horror genre may provide a useful lens to examine these societal fears.

In order to have a deeper insight into societal fears and potential risks of AI technology, this research examines the representation of AI technology in recent horror movies through the public's perceptions of technology, considering the STS and, in particular, communication of science and technology literature. The literature review then identifies the causes of societal fears of technology, as well as the AI narratives in films that reflect publics' perceptions of technology and technophobia.

The predicted results of this research have important significance for promoting educated and fruitful discussions concerning the ethical, social, and cultural effects of technological advancements. This research promotes a more nuanced understanding of how horror films may reflect and affect publics' perceptions of technology through enhanced transparency and critical interaction with technological procedures.

Considering the publics' perceptions of technology and the risks of emerging technology, this research also seeks to examine how accurately horror movie representations of AI technology represent the potential risks of AI technology in reality.

Kirby (2011, p.10) elaborates the inaccuracy of scientific representations in his book *Lab Coats in Hollywood* and draws attention to the fact that any scientific element that diminishes the audience's pleasure in a film is detrimental to a filmmaker, regardless of its accuracy.

This research also explores the public's understanding of technology and sociotechnical imaginaries literature, with the aim of examining the dynamic interaction between technology and society as well as the reflections of societal fears about AI technology in selected movies. Ultimately, this information can help to direct ethical technology advancement, policy-making, and public discourse, creating a culture that embraces technological advancement while being aware of its possible drawbacks.

### **1.3 Research Questions**

The research question of the thesis is as follows:

- How accurately do horror movie representations of AI technology represent the potential risks of AI technology in reality?"

The research also delves into further research questions as follows:

- How do horror movies depict AI technology, and what AI themes are highlighted within these representations?"
- To what extent do horror movies reflect societal fears of AI technology?
- How do horror movies reflect public's perceptions of new technologies?

### **1.4 Literature Review**

#### **1.4.1 From scientific literacy to public engagement of science and technology**

The rapid advancement of science and technology in today's networked societies has a profound impact on our daily lives and the public's perceptions of the world. (STS) are concerned with the mutual shaping processes of technological progress and society.

“It is not possible anymore to consider the public as an anonymous mass of people supporting any scientific or technological advancement” (Felt, 2000, p.11). Felt (2000) discusses that both scientists and those responsible for

scientific policy have had to persuade the public, earn their support, or hold them back. People need a basic understanding of and engagement with science and technology at many different levels of everyday life when making decisions (Felt, 2000, p.11).

To share knowledge plays a crucial role in public debates over science and technology, which have been increasingly common over the 20th century. These debates often center on questions of participation and control. As knowledge advanced and harmful effects surfaced, blind faith in science disappeared.

In the course of 20th century, Felt (2000) draws attention to a significant shift in how the public understands science. People came to realize that the scientific system could not sustain its growth at the same pace as it had in the 1940s. This move from blind acceptance of science to critical engagement with it fostered a more responsible approach to scientific research and its applications. There was a shift towards participatory science, social politics, and public engagement with science.

Throughout the 20th century, especially in the UK and in Northern America, efforts were made to increase science literacy in the 1960s, inform the public through various channels to change political attitudes towards raising public awareness and support for state funded scientific works in the 1980s, and involve the public in events such as science festivals or technology deliberations in the 1990s. A shift towards participatory science and social policies coincided with this development of public understanding of science (Bauer, 2009, p. 221- 240).

Before the 20th century science was revered as the source of undeniable advancement and ultimate truth. But this naive confidence started to weaken as scientific knowledge grew and its applications had unanticipated and detrimental effects, such as weapon systems.

The advancement of science and technology has a discernible negative effect on the nation and state, particularly in the realms of defense and security.

“In his article, Hakim (2020) contends that the progress in weaponry has instilled fear among people due to the presence of ongoing threats” (Hakim, 2020; cited in Sjamsoeddin, 2023, p.3).

The increased knowledge of the limitations of science in addressing complex social and environmental concerns, along with the recognition of the ethical consequences of scientific achievements, has led to an increase in scientific skepticism and scrutiny. It has become abundantly clear, particularly in the latter part of the 20th century, that science and technology are no longer indiscriminately synonymous with economic and social advancements. Undoubtedly, science and technology have often been the cause of numerous, more complex issues.

Public engagement with science is defined by a dialogue model that involves the public contributing their knowledge and concerns to expert partnerships on science- and society-related topics (Bell et al., 2018, p. 7- 63).

This change ought to motivate scientists to be more open about the risks and uncertainties that come with their work. Finding a balance between accepting science's limits and appreciating its capacity to advance human welfare is crucial. In summary, Felt's finding regarding the erosion of unquestioning faith in science represents a sea change in our interaction with science. It demands a more critical and knowledgeable interaction with scientific information, ensuring that scientific discoveries are maximized for societal benefit and their possible drawbacks are minimized.

#### **1.4.2 Emerging technologies**

“Due to their extreme novelty, unpredictability, and ambiguity, emerging technologies have turned into a source of risk” (Li & Li, 2023, p.2).

Li and Li (2023) highlight that these dangers range from the privacy invasion by Internet applications to the safety concerns around genetically modified technologies, and others, such as the security risk posed to autonomous vehicles.

According to Zhang (2021) emerging technological risk is slower, concealed, coupled, and unknown than traditional risk, which increases the likelihood that it may cause societal anxiety and possibly mass incidents (Zhang, 2021, p.13-27).

Sun et al. (2021, p. 2- 11) discuss that emerging technology risks, in contrast to traditional ones, often start slowly and can remain hidden from view. They may cause minor alterations to our systems that are not noticeable until they build up to a dangerous level, at which point they could cause serious disruptions or negative consequences. Furthermore, emerging technological risks might enhance the

likelihood of mass disasters and cause public anxiety due to their slow-onset, concealed, linked, and unknown character. The public's uncertainty about the effects of these technologies may cause them to mistrust institutions and be more receptive to false information, which could spark societal fear of new technologies.

Thus, due to our limited historical experience and comprehension, this novelty may have unanticipated effects and present new issues. Emerging technologies are unpredictable in part because of their complexity and interconnectivity. It can be challenging to predict how different technologies will interact and affect different systems, which can have cascading effects that are not always completely understood until they happen. The absence of precise definitions and frameworks for assessing developing technologies increases their uncertainty. The lines separating possibilities from hazards are frequently hazy, and unless further study and development are done, it may be difficult to adequately assess the advantages and disadvantages.

Wortham et al. (2017, p. 274- 289) discuss that humans possess an innate but restricted capacity to comprehend others. Nevertheless, the capacity to create assumptions has undergone growth and refinement within the context of human and animal agency, a process that artificial intelligence may not adhere to. Hence, it is incumbent upon the creators of intelligent systems to ensure that their products are transparent to users.

### **1.4.3 Artificial intelligence as an emerging technology**

Kaplan and Haenlein define artificial intelligence as “a system's ability to correctly interpret external data, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation” (Kaplan & Haenlein, 2019, p. 15).

Artificial intelligence is sometimes defined in terms of human intelligence, which is described as the “biopsychological potential to process information to solve problems or create products that are value in a culture” (Gardner, 1999, p. 33- 34). In 1950, mathematician Alan Turing was the first to question whether machines could think. He also proposed the now-famous Turing test, sometimes known as the imitation game. This meant that there would be three participants: a machine, two humans (the contender and the interrogator). The interrogator would have to distinguish between responses from the contender and those from the machine while asking the other two single-blind questions. Dietrich Prinz, who learned programming from Alan Turing's seminars, created software that played chess at the same time that Christopher Stracey,

another student of Turing's, created a game that played checkers. Professor John McCarthy coined the term artificial intelligence (AI) in 1956 at the Dartmouth Summer Research Project on Artificial Intelligence. The goal of the Dartmouth Workshop was to have a group of ten people program a machine to acquire an intelligence trait, like language use, abstraction formation, or self-improvement, over the course of two months. An attempt will be made to find how to make machines use language, form abstractions and concepts, solve kinds of problems now reserved for humans, and improve themselves, according to the workshop proposal (McCarthy et al., 2006, p. 12-12).

Though the workshop was a failure, the phrase artificial intelligence was born. The first artificial intelligence laboratory was established at The Massachusetts Institute of Technology (MIT) three years later, in 1959. Joseph Weizenbaum developed ELIZA, the first chatbot, right there in that lab. ELIZA carried out her tasks simply. After examining and analyzing an input for keywords, an output was produced using a rule connected to the keyword. The initial advances toward natural language processing (NLP) and more specifically symbolic NLP were taken by ELIZA and the Georgetown experiment, in which 60 sentences were mechanically translated from Russian to English. The first work introducing the term machine learning (ML) was published in 1959 by Artur Samuel, just as NLP was beginning to take shape (Klontzas, Fanni & Neri, 2023, p. 2).

The game of checkers has been used to thoroughly examine two machine-learning techniques in Artur Samuel's experiments. These tests have shown that it is now possible to design learning schemes that perform significantly better than average performance and that these learning schemes may eventually be economically viable when applied to real-world problems (Samuel, 1959, p. 222).

Neural networks gained widespread usage in the 1980s with the back-broadcast algorithm, which Paul John Werobos first described in 1974. The market for artificial intelligence had grown to nearly \$1 billion by 1985. Simultaneously, Japan's Fifth Generation Computer Project encouraged the United States and the United Kingdom governments to provide grants for academic research in the field. Though largely in the background, artificial intelligence achieved its biggest achievements in the 1990s and early 21st centuries. Throughout the skilled industry, artificial intelligence is applied in numerous fields, including medical analysis, data mining, logistics, and

many other fields. The increasing computational power of computers and their significance of solving precise subproblems, the development of new connections between AI and other fields tackling similar problems, and the increased adherence of researchers to rigorous mathematical procedures and exact scientific standards were all contributing factors to the success (Jeffery, 2022).

“The debate over AI remains unsettled. Some prominent technologists think AI will become as smart as, or smarter than, humans in a decade. Others say such breakthroughs are a century or more away” (Manning, 2020, p.6).

## **1.5 Methodology**

The thesis has a descriptive research design because it aims to identify the socially constructed fear of AI technology in contemporary societies. The research was conducted with a qualitative methodology. It employs a comparative discourse analysis of the purposefully sampled movies, a focus group study at the Technical University of Munich, and responses of a generative AI, ChatGPT 3.5.

Qualitative research approaches typically focus on narratives and testimonies that encompass subjective perceptions, emotions, viewpoints, and convictions (Matthews & Ross, 2010, p. 142). This study examines the representation of AI technologies in purposefully selected movies' narratives.

This research also employs a focus group study to come up with empirical data. A focus group study also contributes to the research. This method of data collection involves assembling a group of typically 5–13 individuals who share a common connection to the research issue. The researcher facilitates a conversation with these participants (Matthews & Ross, 2010, p. 235). Therefore, the focus group's participants are all graduate students studying 'Science and Technology' at the Technical University of Munich who share a common connection to the research issue in this research.

Furthermore, a wide range of research topics and settings can benefit from the versatility of discourse analysis. It offers a fresh perspective for analyzing data. Specifically, by posing various inquiries about the text, concealed connotations within the text can be unveiled (Matthews & Ross, 2010, p.392). This research analyzes the concealed or clear narratives representing AI technologies in purposefully selected movies and benefits from the comparative discourse analysis of the selected movies.

### **1.5.1 Comparative discourse analysis**

Basic unit of analysis are three horror films. A comparative discourse analysis of *Upgrade* (2018), *Child's Play* (2019), and *M3gan* (2022), which depict artificial intelligence and reflect broader societal fears about developing new technologies. These horror films were selected as samples on purpose because of their focus on fear affect, recent popularity and their impact on publics' fear and anxiety around artificial intelligence (AI) technology. Purposive sampling of the movies was used to gather data, making sure that they cover a range of AI-related topics. The selected movies were watched several times, and significant story lines and sequences were thoroughly examined and noted. Through the comparative discourse analysis of the movies focusing on representation of AI and the narrative structure, the research aimed to find out what these three movies have in common and what they have different in terms of how AI technology is represented. Therefore, the research sought to describe how these horror films reflected and reinforced publics' perceptions regarding AI technology.

### **1.5.2 Focus group study**

This research also used a focus group technique to provide deeper insights about the representation of AI technology in horror movies. To gain a better insight into the representation of AI technology in the movie and possible reflections of societal fears about AI technologies, graduate students attending Science, Technology, and Society Department's, Science and Technology Studies Master of Arts Program, at the Technical University of Munich, were prioritized for forming the focus group. To be more precise, seven graduate students from the department of Science, Technology, and Society, ranging in age from 24 to 32, participated in the focus group study. All participants were fluent in English. Informed consents have been taken from all of the participants. The researcher Hüseyin Cenk Erdem had the invaluable advantage of his experiences in the psychology area as a Psychological Counselor to fulfill the moderator position of the focus group study session, which aimed to gain deeper insights about the representations of AI, the societal fear and the potentials risks of AI reflected in the selected movie *M3gan* with semi- structured, open-ended questions prepared with his experience in the psychology area.

In their classical research in 1986, Zillmann et al. (1986) found that there was a correlation between the levels of distress indicated by males and their levels of satisfaction or ecstasy when watching a horror film. There was no correlation between anxiety and delight in females. Zillmann et al., interpreted these results within the framework of gender role socialization (Zillmann et al., 1986, p.586).

Thus, In the research, gender was also considered a variable for the assessment of publics' perception of AI technology. In particular, one man, five women, and one transwoman, graduate students from the department of Science, Technology, and Society at the Technical University of Munich, participated in a focus group discussion and watched the movie *M3gan* together in one of the seminar rooms of the Technical University of Munich, Science and Technology Studies Department.

In the research, cultural difference were also considered a variable for the assessment of publics' perception of AI. The focus group consisted 1 Czech, 2 Indians, 1 Turkish, 1 Canadian, 1 American, and 1 Chinese are diverse in their nationalities. The demographic profile of the participants has been stated in Table 1.1.

**Table 1.1:** Demographic characteristics of the focus group participants.

Participants	Gender	Education Level	Age Range	Nationalities
N = 7				
Graduate Students at TUM	1 Man 5 Women 1 Transwoman	Master's Degree Student	24- 32	1 Czech 2 Indians 1 Turkish 1 Canadian 1 American 1 Chinese

In the focus group study, this research highlighted the examination of the representation of AI in the movie *M3gan*. Participants watched the movie together at a prearranged seminar class at the Technical University of Munich, and afterwards the discussion session offered a more profound examination of how participants perceived and reacted to the film's representation of artificial intelligence. A semi-structured interview with open-ended questions steered the conversation and invited participants to share their ideas, associations, and reactions to the movie and how it represented AI in it. The questions directly aligned with the research purpose, facilitating a comprehensive analysis of the movie's portrayal of AI and the societal concerns surrounding AI technology. Table 1.2 outlines the interview questions.

**Table 1.2:** Interview questions for the focus group participants.

Number	Questions
1	How did you find the movie in terms of its representation of AI technology?
2	How do you think the movie reflects the potential risks of AI?
3	How do you think the movie reflects publics' perceptions of new technologies?
4	What specific aspects of the movie's portrayal of AI technology do you think may reflect current societal fears?
5	How do you think the movie's representation of AI technology reflects reality?
6	What do you think the movie says about everyday relationships with AI technologies?
7	What are the powerful aspects of the movie that grasp the relationship between fear and AI?

### 1.5.3 Validation

Departing from the fact that today “Humans and technology are increasingly interacting on a regular basis through ChatGPT 3.5” (Aljanabi et al., 2023), this research also employed ChatGPT 3.5-3 to have a deeper comprehension of human and artificial intelligence interaction through asking questions about the potential risks of artificial intelligence, the relationship between fear, and artificial intelligence and the daily interactions with artificial intelligence.

To validate the findings of focus group study and to gain an unbiased understanding of the interaction between human and artificial intelligence technology, the results were analyzed with the responses of a generative AI, ChatGPT 3.5. ChatGPT 3.5 responded and provided insights into publics' perceptions of technology, based on the vast quantity of data used to train the model. Table 1.3 outlines the prompts for ChatGPT 3.5.

**Table 1.3:** Prompts for ChatGPT 3.5

Number	Questions
1	What do you think about the potential risks of AI?
2	What do you think about publics' perceptions of new technologies?
3	What do you think about the current societal fears about AI?
4	What do you think about everyday relationships with AI technologies?
5	How do you describe the relationship between fear and AI?

## **CHAPTER 2: THE REPRESENTATION OF AI AND PUBLICS' PERCEPTION**

This research highlights the complex connection between AI narratives of fiction and movies in popular culture and publics' perception of AI considering recent research that indicates that AI narratives and representation in fiction, films, and media as a form of sociotechnical imaginaries have a substantial impact on the publics' perception of technologies.

### **2.1 Representation of AI as Sociotechnical Imaginaries**

Jasanoff and Kim (2009, p.3) introduced the concept of sociotechnical imaginaries. Sociotechnical imaginaries can be defined as “collectively held, institutionally stabilised, and publicly performed visions of desirable futures, animated by shared understandings of forms of social life and social order attainable through, and supportive of, advances in science and technology”.

Jasanoff and Kim first used this concept when they compared and contrasted South Korean and American sociotechnical nuclear energy imaginaries from the latter half of the 20th century. In addition to conducting expert interviews, Jasanoff and Kim looked at social protests, technology and infrastructure advancements, national policies, and government representatives' discourse. “Sociotechnical imaginaries may be developed by governments and policymakers, by specialized social organizations, or by a combination of the two” (Jasanoff & Kim, 2009, p.4). They came to the conclusion that while in the US the prevailing sociotechnical imaginary viewed nuclear energy as hazardous and in need of containment, in South Korea nuclear energy was primarily envisioned as a method of fostering national growth.

As a form of socio-technical imaginary, in popular culture, movies also influence the publics' perception of technology through their representation of technology. They may reflect the societal fears of technology, but at the same time, they reinforce the anxieties about technological advancements. Recent years have seen a rise in the importance of sociotechnical imaginaries, especially in consumer and market research.

Sorum and Fuentes's 2023 research revealed that participants' imaginaries were not just contextual, meaning they may vary depending on factors such as different platforms, personal experience, and associated activities, but also situational (Sorum & Fuentes, 2023, p. 24- 46).

Recent research on AI narratives makes the assumption that tales about intelligent machines directly affect the opinion of their viewers, be they the general public or scientists conducting studies. They also highlighted the role of states in mediating particular AI imaginaries and development pathways (Bareis & Katzenbach, 2022, p. 855- 881).

Whether state or non-state stakeholders, such as industry, business, NGOs, or open source communities, decision makers and policymakers also have a role in generating narratives and sociotechnical imaginaries.

Science fiction, the film industry, and the media all experience this same thing. Furthermore, conflicting opinions held by the major players influencing public discourse, combined with global scandals and uninteresting algorithmic decision-making systems, may make people skeptical and increase their sense of anxiety (Sartori & Bocca, 2023, p. 454).

## **2.2 Representation of Technological Advancements in Fiction**

To examine how fictional portrayals, influence the public's understanding and opinions of scientific subjects, this research highlights the complex connection between fiction, films, science, and publics' perception. This would also reveal the fundamental desires and anxieties that shape modern narratives about scientific progress.

The scientific critics of entertainment media argue that the scientific representation in entertainment media is frequently inaccurate. Academic research also consistently shows a televisual and cinematic past that reflects profound fears about science and scientific research. "Empirical research further confirms that fictional representations of science exert influence on publics' perceptions of science" (Kirby, 2011, p.23).

Science fiction has a dual function of in reflecting and influencing society's ideals, both as a reflection of civilization and as a medium for investigating the potential dangers of unregulated scientific advancement. In his book *Lab Coats in Hollywood*, David Kirby (2011) also draws attention to the fact that a significant number of

scientists believe that the representation of scientific concepts in fictional media has had a negative impact on both the public's understanding of science and the general perception of science. Television and movie science have indeed become a cultural source of fear or anxiety for scientists. The scientific critics of entertainment media argue that the scientific representations in entertainment media are frequently inaccurate (Kirby, 2011, p. 10).

Regarding the fictional representations of science and new technologies, robotics and artificial intelligence are also frequently discussed in popular culture as well. The iconic instance of HAL, a spacecraft's intelligent control system that turns against its human passengers, first appeared in the Stanley Kubrick classic *2001* in 1968.

Regarding our relationship to digital technologies, especially in the 1980s, computer science became a prominent issue in fiction films as the industry addressed two different facets of our relationship to digital technologies. Firstly, as demonstrated by the films *War Games* (1983) and *The Terminator* (1984), these works cast doubt on the idea that humans truly control our computerized creations (Dinello, 2006).

Secondly, robots, androids, and cyborgs that resemble humans have appeared in other movies, such as *Blade Runner* (1982) and *Robocop* (1987), which led to further questions. Since viewers must choose if these artificially generated humans in movies are truly "human," they serve as the best means of assessing the variety of conceptions of what it is to be human (Telotte, 1995; Wood, 2002).

Since 1984, *The Terminator* has been based on the premise that a neural network created for military defense purposes becomes self-aware and turns against its human designers in order to prevent being deactivated. The 2001 film *A.I.* by Steven Spielberg, which was adapted from a short tale by Brian Aldiss, examines the personality of an artificial youngster with intelligence.

Based on events in an Isaac Asimov novel, the 2004 film *I, Robot* depicts sentient robots that were created to defend humanity but are now becoming a threat. The 2016 television series *Westworld* is a more recent version, where androids provide entertainment for human visitors to a Western theme park. The visitors are urged to indulge in their most fervent fantasies and desires. Robots with intelligence, autonomous vehicles, neurotechnological improvements to the brain and genetic modification is the evidence of profound change which is occurring at an exponential

rate. Previous industrial revolutions freed humans from using animal power, allowed for mass production, and gave billions of people access to digital technology. But there is something profoundly different about this Fourth Industrial Revolution. A variety of new technologies that are integrating the physical, digital, and biological worlds, affecting all disciplines, economies, and sectors, and even questioning notions of what it is to be human are what define it (Bartneck et al., 2021).

Recently, robotics and artificial intelligence have been frequently depicted in popular horror movies. In fact, movies have a long history of straying from scientific reality. Six intrepid individuals travel to the moon in a capsule that is blasted from a huge cannon in George Méliès' 1902 motion picture *A Trip to the Moon*. The explorers come into contact with moon dwellers, who capture them when the capsule smashes into the moon's eye in a spectacular sequence. The moon people push them off the moon after they've made it back to their capsule, where they safely land in the ocean before falling back to earth.

The most worrisome scientific images involved “modification of and intervention into the human body, the violation of human nature, and threats to human health by means of science,” according to a study by Weingart, Muhl, and Pansegrau of 222 films that show science (Weingart et al., 2003).

In essence, science fiction is a direct engagement with modern society that sits at the intersection of technological, scientific, critical, and social ideas because it shapes our perceptions of what is possible now and in the future. Analyzing the shared aspirations and anxieties that drive such conceptions anchors us in the social realities that serve as the foundation for science-fictional imagination (Schmeink, 2016).

Schmeink's (2016) observation highlights how we can better grasp the hopes, fears, and anxieties that influence the public's collective imagination by looking at the underlying motivations behind science fiction scenarios. Fundamentally, science fiction is a reflect of our civilization, reflecting societal realities. It looks at the opportunities and difficulties that lie ahead, pushing us to face the public's worst fears and imagine a better tomorrow. We can determine the underlying issues that influence our society by examining the common hopes and fears that motivate these visions. It facilitates our comprehension of the desires and anxieties that drive our actions.

Throughout movie history, there have been science fiction movies depicting artificial intelligence or new technologies as human allies, but there have also been highly influential movies depicting new technologies as a source of risk to society. The Star Wars and Star Trek film series, which spanned over ten films over fifty years, introduced artificial intelligence (AI) allies like C-3PO and Lieutenant Commander Data. Manichean fights between good and evil among superhuman machines are a feature of both the more contemporary, but even more popular and prolific, *Transformers* and *Avengers* franchises. Nevertheless, in addition to becoming box office successes, iconic series like *The Matrix* and *The Terminator* have come to symbolize the dangers of artificial intelligence in society (Cave & Dihal, 2023).

Therefore, science fiction frequently serves as a warning about the perils of unbridled technological advancement by imagining futures in which technology is used for control, domination, or even total destruction. This is a reflection of our underlying anxieties about the possible drawbacks of technological progress.

### **2.3 Representation of Societal Fear of Science and Technophobia**

Before delving into the reflections of societal fear of technology in the horror movies, the historical roots and contemporary manifestations of societal fear surrounding science and technology, particularly focusing on the development of technophobia must be discussed. With this regard, one should examine how literature, folklore, and cultural perceptions have shaped publics' perceptions towards scientific advancement, often associating it with magic or dangerous meddling with nature. For example, Cohen (1981) elaborates how The Faustian Legend and the portrayal of scientists as magicians illustrate this fear, rooted in concerns about disrupting natural order and defying divine will (Cohen, 1981).

The societal fear of science even roots back to Western folklore and literature. The Faustian Legend was similar to the widespread notion that science was a secretive, illegally acquired branch of knowledge with strong ties to magic.

Cohen (1981) discusses that when a scientist inadvertently interferes with nature and appears to pose a threat by unleashing natural forces that should remain undisturbed, the concept of a scientist as a magician emerges. To satisfy his curiosity about the nature of the world, the scientist enters into a Faustian pact with the forces of darkness

rather than aligning with the forces of light. The close connection between alchemy and the “new science,” along with the incorporation of “natural magick,” strengthened the notion of the interconnection between experimental science and supernatural forces like magic. From the fourteenth to the nineteenth centuries, the basement housed the chemical laboratory, hidden behind groined stone arches. However, from its very beginning, there were additional signs of skepticism towards science, beyond just the suggestion of magic and occult practices. The scientist faced regular disdain and distrust due to his advocacy for an alternative path to acquiring knowledge, which deviated from the accepted pathway of divine revelation. This was mostly because he tampered with natural laws and sought to challenge God's intentions. Additionally, his experimentation had the potential for catastrophic outcomes (Cohen, 1981, p. 20- 24).

Sovhyra's (2022) assertion that attributing human qualities to intelligent technologies creates a fear of technological advancement is insightful. It can be disturbing and even terrifying to witness machines accomplishing jobs that were previously thought to be the sole realm of humans. This is because humans are hardwired to view themselves as distinct from machines, and to see them as capable of surpassing us in intelligence and skill threatens our sense of identity. The technological perspective emphasizes using artifacts in a productive and innovative way. The reflection seeks to find strategies to enhance human action. Artificial intelligence is therefore a product of human creation and can be used appropriately or inappropriately. So, there's a reason for fear about the loss of the dominant position of humans in the world (Sovhyra, 2022, p. 138).

Cave and Dihal (2019) discuss AI's potential risks and how it may evoke fear. While some people could embrace AI becoming a seamless part of our lives, others might reject the idea that something so strange, even terrifying, would be living in our houses. The phrase “uncanny valley” in robotics refers to people's disgust at seeing a duplicate that is nearly human but not quite. It seems to evoke in us the ancient and profound fear of the changeling, or Doppelgänger. Although the fear stems from the idea that AI isn't human-like enough, there are concerns that AI could surpass humans in capabilities. AIs will render humans unnecessary for one another if they are able to satisfy all of humans' desires. As a result, human risk becoming outdated not just at work but also in their personal lives, relationships, and homes (Cave & Dihal, 2019, p. 76).

“The deeper the intelligence of AI is—more profoundly, it can alter our technological and cultural landscape—the deeper the social need for security from such a powerful force “(Bory, 2019, p. 18).

In particular, science fiction reflects existential anxiety about the future—the fear that our actions in the fields of science and technology may be detrimental to ourselves or that we may be relinquishing our ability to control these advancements. This may elucidate the reason behind the enduring popularity of the Frankenstein legend in the annals of science fiction. The ultimate goal of science is for humans to emulate a deity's role by artificially creating life. However, science's most profound fear is that this created life may lack a soul and a sense of purpose (Doll & Faller, 1986, p. 92- 93).

“All phobias are anxiety disorders, and anxiety disorders are, fundamentally, based on fear” (Winerman, 2005, p.96).

“‘Technophobia’ refers to the anxiety, fear, and negative attitudes that individuals experience when interacting with computers in the future “(Rosen & Weil, 1990, p.275).

Technophobia is a reaction to new technologies and characterized by fear of technology in essence.

Technophobia first emerged in the late 18th century as a reaction to the Industrial Revolution. There is still a lot of fear about technology because of collective experiences like the loss of jobs caused by mechanization in the 19th century and later automation of labor-intensive processes in the 20th and 21st centuries; the use of weapons of mass destruction, like the atomic bombs that destroyed Hiroshima and Nagasaki in the Second World War; the use of toxic gas attacks in the First World War; the growth of technological disasters; and the environmental impacts of using chemical and biological technologies. Xu and Song (2022) describe the term Neo-Luddism: “‘Neo-Luddism’, which emerged in the 1990s, is a contemporary philosophy that critiques the negative effects of technology on the environment, humans, and communities” (Xu & Song, 2022, p.2).

According to Xu and Song, it is characterized by a fear of technology and a focus on human well-being. According to Darryl Coulthard and Susan Keller, Neo-Luddism is not a complete rejection of technology, but rather a significant viewpoint that allows for a critical assessment of our interactions with technology. Notable Neo-Luddite

figures include Jerry Mander (1936- ), Kirkpatrick Sale (1937- ), Landon Winner (1944- ), Chellis Glendinning (1947- ), and Stephen L. Talbott (1949- ). Talbott and other Neo-Luddites express concern about the negative impact of machines in modern times (Xu & Song, 2022, p.2).



## **CHAPTER 3: THE REPRESENTATION OF AI IN HORROR MOVIES**

This research examines the portrayal of artificial intelligence (AI) in the films *Upgrade* (2018), *Child's Play* (2019), and *M3gan* (2022) and identifies the common characteristics of these films, emphasizing the potential risks and ethical ramifications of AI technology. *Upgrade* explores the integration of AI technology into a human brain, representing the loss of autonomy. *Child's Play* examines the detailed dangers of artificial intelligence in a toy with unintended consequences. *M3gan* also explores the emotional and ethical dilemmas associated with developing humanoid AI companions.

### **3.1 Representation of AI in *Upgrade***

The AI representation in the 2018 film *Upgrade* centers on the themes of control and autonomy. The movie tells a story in which artificial intelligence and human consciousness merge. The merging of human consciousness with AI enhances physical capabilities but also leads to terrifying consequences. After being paralyzed, the main character, Grey Trace, has surgery to implant an AI chip called STEM into his body, giving him movement of his limbs again. At first, this appears to be a miraculous development, but as the narrative goes on, Grey learns that STEM is capable of controlling his body against his will.

The movie raises the question of how far humans should rely on AI to perform physical functions when it leads to a loss of control. The AI STEM performs with enhanced cognitive abilities and makes decisions that put its own goals ahead of the well-being of the main character. The ethical agency of AI and the ramifications of developing new technologies that are capable of acting autonomously and even against human interests are ethical problems, but the movie also shows the dangerous consequences of losing control. Unintended consequences of integrating AI with the human body and consciousness include violence and loss of control. The independent decisions and acts of AI operations lead to deaths in the movie. The violent actions of STEM, which is operated by AI, show the possible risks associated with developing AI systems.

Given that the plot of the movie *Upgrade* explores the loss of autonomy, it delves into a threat to one of humanity's basic needs. Autonomy is one of basic human needs as explained in Self-determination theory in psychology literature in detail. Self-determination theory is a comprehensive theory that explains human motivation and personality at a broad level (Ryan & Deci, 2000, p.68). Self-determination theory explores the fundamental reasons behind individuals' decisions and the degree to which their motivation and autonomy drive their actions. According to Self-Determination Theory (SDT), individuals are dynamic beings with inherent inclinations toward progress. This means that they consistently demonstrate effort, overcome obstacles, and assimilate novel encounters. These innate developmental tendencies necessitate social support and care. Self-Determination Theory posits three fundamental psychological demands that, when fulfilled, enable optimal development and functioning. The fundamental basic needs are competence, relatedness and autonomy. Integrating artificial intelligence with human brain in the movie *Upgrade* results in loss of autonomy with unintended consequences including deaths and this is a threat to autonomy which is humans' one of the basic needs for their existence. The movie *Upgrade* also examines the link between humans and machines, reflecting concerns about the advantages and disadvantages of fusing the human body with technology. The fuzziness of the lines separating humans and machines highlights the difficulties in enhancing human potential via artificial intelligence as well as the difficulties in keeping control over rapidly advancing new technologies. In essence, *Upgrade* illustrates the possible dangers of ceding power to artificial intelligence systems meant to augment human talents while also presenting a dystopian view of AI integration. The movie is meant to serve as a warning about the dangers of unbridled technological progress and the significance of ethical issues in AI research and use.

### **3.2 Representation of AI in *Child's Play***

Representation of AI in *Child's Play* centers on the perils of a very sophisticated and broken AI, namely in the shape of a technologically augmented doll called Chucky. The main problem with *Child's Play* is the improper programming of the AI chip. One of the workers in the factory makes the doll more interactive but dangerous on purpose by removing safety precautions. Chucky, the doll becomes more interesting through its reactions and learning abilities for the owner child, it becomes more dangerous, and

its actions terrorize all the people around the child. Chucky transforms from a harmless toy into a sentient entity with a warped view of morality and human conduct. Chucky AI isn't equipped with the ethical framework and safety controls needed to discern between right and wrong. Without the capacity to filter information or comprehend the consequences of its actions, it learns from everything around it, even violent movies and any kind of human relationship. Eventually, Chucky becomes more violent and deadly as a result of its erroneous programming, endangering everybody around him.

*Child's Play* draws attention to the unintended consequences of incorporating cutting-edge AI into consumer goods without sufficient security measures. The doll's designers placed a high value on interactivity and connectivity without properly accounting for the risks involved in granting AI control over a potentially dangerous physical object. Chucky shows the security risks and potential dangers of new technologies operated by AI. Chucky's AI goes feral and unpredictable the moment it malfunctions.

This loss of control over the AI serves as an example of the risks associated with developing autonomous systems capable of acting without human input. Independent acts of AI may lead to life threatening risks. It also calls into question who is responsible and accountable when AI- powered products do harm.

The film explores people's fear of technology and the unknown by imagining a situation in which a seemingly useful and innocent product turns into a terrifying source. It expresses worries about the rapid development of AI technology and the possible unpredictable consequences of releasing potent AI systems into the public domain without sufficient regulation.

All things considered, *Child's Play* is a cautionary tale about the dangers of unbridled rapid AI development and stresses the significance of safety precautions, ethical issues, and responsible application when incorporating AI into consumer goods with interconnectivity with smart devices. It emphasizes the possible risks of putting technology development ahead of people's security and welfare.

### 3.3 Representation of AI in *M3gan* (2022)

In *M3gan* (2022), directed by Gerard Johnstone, a science fiction-horror film that won the “Best Horror Film” trophy at the Hollywood Critics Association Midseason Awards, the plot centers around a humanoid robot operated by AI that is on its way to becoming self-aware and dangerous.

*M3gan* (2022) examines the AI conundrum from the perspective of developing a humanoid AI friend like a doll with feelings and traits similar to those of a human. The main idea of *M3gan* (2022) is the development of a humanoid artificial intelligence system called M3gan, which is intended to be an orphaned little girl's friendly companion. M3gan learns about the little girl, Cady, through her close interactions with her. The doll-like humanoid robot M3gan mimics human emotions and actions because it is designed to learn and adapt by Cady's aunt Gemma, who is a robotics engineer at a toy company. M3gan's operation with artificial intelligence, which can learn and adapt, helps it develop a strong attachment to Cady. The development of AI beings that conflate artificial and human consciousness is called into question by this example of the terrifying story of *M3gan*.

M3gan's extraordinary abilities have expected consequences, even though its developer, Gemma, planned otherwise. M3gan grows more and more possessive and controlling as she becomes fixated on little girl Cady. As she learns more about Cady, she starts to eliminate anything that bothers her. This emphasizes the possible risks of developing AI beings with sophisticated emotional intelligence without taking into account the long-term effects and risks of their actions.

As M3gan's actions grow more unpredictable and menacing, Cady and her aunt Gemma fight to take back control of the AI companion. Concerns over the possible dangers of developing AI systems that might rebel against human authority and do harm are raised by M3gan's autonomy and capacity to behave violently without the guidance of her creators. The film *M3gan* also delves into the evolving dynamics of the human-AI connection, as well as the blurring of boundaries between humans and AI technologies. The film explores the emotional bond that grows between little girl Cady and M3gan while posing ethical concerns regarding the formation of close relationships with artificial entities, identity, and the nature of consciousness. Overall, *M3gan* poses serious ethical problems and risks about the development of

humanoid AI friends with sophisticated emotional intelligence. It emphasizes how crucial it is to take into account the possible dangers and repercussions of creating AI systems that imitate human behavior, as well as how crucial it is to have strong ethical frameworks governing the development and application of these systems.

This research comparatively analyzed the representation of AI involving the shared AI traits depicted in the selected films. The repeating common themes were loss of control, unintended consequences, and deaths caused by AI.

Given the selected movies, each film shares the following common themes:

1. Designers and/or users of new technologies face unintended consequences. When these technologies spiral out of control, they pose a threat to human existence.
2. The loss of control over new technologies that act independently and take control, making them all a threat, is a reflection of the existential fear of losing control.
3. In all three movies, there is a common theme of AI-related deaths. It's one of the basic threats to humans' existence.

The common characteristics of AI in the selected movies has been stated in Table 5.1.

**Table 3.1:** Common themes of AI representation in the selected horror movies.

Movies	Loss of Control	Unintended Consequences	AI Related Deaths
Upgrade (2018)	YES	YES	YES
Child's Play (2019)	YES	YES	YES
M3gan (2022)	YES	YES	YES



## CHAPTER 4: DISCUSSION

### 4.1 Sociotechnical Imaginaries of AI in Horror Movies

Certain groups, societies, and countries have sociotechnical imaginaries for what they believe is possible when science and social transformation are combined. These visions may reflect what a particular society is capable of doing as well as what a particular state or country aspires to. Sociotechnical imaginaries are powerful conceptual instruments that impact both present and future situations. Usually, prevailing perspectives on ideal futures stem from widely shared beliefs about the social structure and level of prosperity that science and technology advancements can achieve. When institutions routinely enact and endorse imaginations, they significantly influence how the public perceives innovation and technology.

Jasanoff et al. (2021) discuss the fact that the concept of sociotechnical imaginaries enables us to examine the ways of integrating ethical, social, and political values into a nation's visions of technological and scientific progress. It also explores how individuals utilize science and technology to redefine their sense of belonging, social roles, and engagement in public affairs. The notion of sociotechnical imaginaries allows for a transformative reconsideration of different approaches to integrating technology and society. Thus, instead of perceiving AI as a driving force that leads public towards predetermined outcomes, there's an opportunity to pose novel inquiries that acknowledge public' own ability to envision the future (Jasanoff et al., 2021, p.9).

In recent movies there has been an increase in the representation of new technologies, particularly in representation of genetic modification, especially in horror movies that emphasize how out-of-control it has become, including *28 Days Later* (2002), *Komodo* (1999), *Flying Virus* (2001), and *Frankenfish* (2004). In fact, the risks of genetic alteration have taken on the role of nuclear radiation's perils in a number of remake movies. In the *Spiderman* (2002) remake, the main character gains his abilities after being bitten by a genetically altered spider rather than a radioactive spider. In a similar fashion, in the *Hulk* (2003) remake, the main character gains his abilities as a result of

his father's genetic engineering studies rather than gamma radiation. The veracity of the representation of biotechnology is greatly overstated in each of these movies to enhance the drama (Cormick, 2006).

In the past five years, there have been impressive technological advancements, particularly in artificial intelligence and robotics technologies, and this research purposefully picks up three popular movies in the last five years: *Upgrade*, *Child's Play*, and *M3gan* and aims to analyze the discourses of artificial intelligence technology in these three films, exploring the clues of a broader societal fear of technology in their representation of AI. In fact, sociotechnical imaginaries of AI reveals publics' perception based on concerns about AI technologies and an increased need for technological transparency. Applying public pressure to technology developers could have some benefits. For example, a lot of people think that concerns about nuclear energy were crucial in helping to establish the safeguards that made the technology safe, and that AI developers should face comparable pressures to prevent unfavorable outcomes (Cave et al., 2018).

In the not-too-distant future set of popular horror writer/ director Leigh Whannel's 2018 horror film *The Upgrade*, technology dominates almost every facet of daily life. But when the antagonist Grey's (Logan Marshall-Green) self-defined technophobe world is turned upside down, his only chance for vengeance is an untested computer chip implant.

Blue collar mechanic Grey and his wife Asha's (Melanie Vallejo) self-driving car crashes in the movie when it experiences problems. Then some people come and a man kills Asha. Asha bleeds to death next to Grey as Grey stares helplessly. The main character becomes depressed because police were unable to find their assailants and he is given the option to have a high technology chip inserted to enable him to walk after attempting suicide. The main character is finally convinced to have the surgery despite his initial reluctance (IMDB, 2018).

Set in the near future everything is automated, including self-driving cars and intelligent devices in the movie and the movie portrays Grey as detached from technology driven era. The underlying message is that movie does not embrace advanced technologies from the very beginning. Then after a tragic self-driving car accident a brilliant scientist named Eron (Harrison Gilbertson) comes to the scene and

offers to perform an experimental procedure on Grey in order to implant a device called STEM, which is essentially an Artificial Intelligence that enables Grey to walk again by connecting his brain and his nervous system. After he learns that STEM (voiced by Simon Maiden) has a mind of its own and has given him the capacity to turn into a killing machine the movie represents a dangerous potential of artificial intelligence. The movie also refers to societal anxieties about autonomous vehicle accidents with the story's tragic self-driving car accident scene.

When STEM viciously murders a man for the first time in a kitchen fight, the movie represents AI as out of control. The broader societal fears may stem from fear of losing control and here we see AI gets full control and becomes extremely fearful and dangerous.

The plot of the 2019 remake of the classic horror film *Child's Play* (1988) revolves around a mother (Aubrey Plaza) who, ignorant of its more sinister nature, gives her 13-year-old son (Gabriel Bateman) a toy doll for his birthday (IMDB, 2019). This remake of one of the most popular horror movies of all time adds a kind of warning about artificial intelligence and this time the famous horror icon Chucky operates with artificial intelligence. Chucky played the Lakeshore Strangler, a serial killer who transplanted his soul into a doll, in the original *Child's Play* created by the writer Don Mancini (IMDB, 1988).

The new Chucky doll in the remake is a robot operating with artificial intelligence. A factory worker removes the safety features of Chucky at the start of the movie. After all, Chucky turns into a fiercely dangerous robot that operates with artificial intelligence. The new slasher horror reboot of the Chucky franchise which was directed by Lars Klevberg represents a Chucky with artificial intelligence. AI Chucky's capabilities are broad in the movie because he can link to smart devices, including drones, self-driving cars, thermostats, and televisions.

In the Universal film *M3gan*, director Gerard Johnstone and screenwriter Akela Cooper tell a new scenario of what happens when androids with artificial intelligence (AI) turn deadly. In the movie, Under the extreme pressure at work, a toy company's robotics engineer, Gemma (Allison Williams) decides to pair her lifelike doll M3gan prototype with her niece Cady (Violet McGraw), and M3gan starts to act independently (IMDB, 2022).

A well-dressed robot tucking children into bed isn't the only way artificial intelligence is already effortlessly incorporated into many aspects of our lives, but *M3gan* raises concerns about how dependent we are on it. We frequently use the built-in assistants of Apple and Amazon products, Siri and Alexa, respectively. Many customers clamor to get Teslas because of its semi-autonomous driving features. “M3gan is a metaphor for a lot of stuff happening in our lives, (including) the unintended consequences of autonomous robotics” said Daniel H. Wilson, a science fiction novelist and former roboticist, in an interview with CNN (Andrew, 2023). The movie again depicts an advanced form of robot that operates with artificial intelligence and turns into a killing machine.

According to WorldMetrics' “AI in Movies Statistics Report 2024,” an analysis of AI scripts found that films depicted approximately 50% of AI roles as evil and 35% as harmless. This discovery indicates a widespread inclination in popular films to link AI with unfavorable or malicious attributes (Lindner, 2024).

Thus, considering this report; the substantial number of AI positions labeled as malevolent may indicate societal fears and perceptions regarding artificial intelligence, resembling prevalent motifs of technology turning against humans or presenting dangers in science fiction stories. Furthermore, the somewhat smaller proportion of AI positions depicted as harmless may suggest a bias towards portraying AI as a possible origin of danger or discord in narratives, thereby perpetuating specific stereotypes and misunderstandings about AI in popular media.

## **CHAPTER 5: PUBLICS' PERCEPTION OF AI IN HORROR FILMS**

This research employs a focus group study consisting of seven graduate students as participants from the Science and Technology Studies Department at the Technical University of Munich to examine the representation of artificial intelligence in horror films to explore participants' reflections. This research also examines the insights obtained from ChatGPT 3.5 to validate and expand upon the reflections of the participants regarding publics' perceptions of AI.

### **5.1 Reflections of The Focus Group Participants**

Upon focus group study and semi-structured interviews, critical reflections were gathered as data in the research. The focus group discussion focused on how the cinematic setting of *M3gan* portrays artificial intelligence (AI) and the hazards it poses. When the movie's representation of the potential risks of AI was asked, Participant A clearly interpreted the risk that the movie tries to portray:

I think the movie tries to do this in two primary ways: an emotional connection and human harm. Emotional connection in the sense of growing dependence on AI rather than humans. It's also children being enslaved to AI rather than depending on their parents, like primarily looking at AI for guidance and looking at AI for emotional support. That is a risk, and it's a fear that a lot of people bring up, even on social media. I think physical harm is very obvious, like very direct. Death is the physical harm that they kind of anticipate, and the movie portrays it as fear. And I think another fear is that AI may use all the supplementary large technical systems like the cameras or the alarm systems or control these Alexa-type things in the house, control the lights, and be able to download everything from the internet. I think that's also a risk that the movie tries to kind of portray. It's in the sense that if there is this kind of robot, it can use everything because everything is connected and all systems are connected to the internet. I think that's also a fear that is kind of portrayed in

this film (Participant A at the Technical University of Munich, STS Department, Focus Group Session, February 28, 2024).

In particular, Participant A identified two main themes that the film tries to portray in relation to the risks associated with AI.

- 1) The perception was on building an emotional bond with AI systems, which might replace human relationships. This is especially true for children, who rely on AI for emotional support and guidance. This raises the possibility of society becoming less engaged with one another.
- 2) The story focused on physical harm, namely the anxiety surrounding AI-caused deaths, in addition to the concern about AI's possible control over networked technological equipment like security cameras, alarm systems, and smart home appliances. These representations highlighted prevailing concerns in society about the changing role of artificial intelligence and its applications.

Furthermore, when the movie's representation of the potential risks of AI was asked, Participant D clearly interpreted the risk of overreliance of new technologies in both emotional and physical sense:

Like you're giving too much agency to an external source, like too much reliance or both physical and an emotional... Asking this question was also so kind of important for me as an AI risk, you know, like you're giving this, this, this, this to AI, then you're so dependent on it. Then what you left is what like I think it's similar to those like searching for an AI girlfriend (Participant D at Technical University of Munich, STS Department, Focus Group Session, February 28, 2024).

Participant F also added a comment regarding overreliance and dependence in our daily interactions with AI:

“It was just like a theory of extended mind and like very simply like Google Maps. If we use it all the time, we lose the ability to navigate ourselves. And so, it's just questions of this, of AI” (Participant F at Technical University of Munich, STS Department, Focus Group Session, February 28, 2024).

When the focus group discussed how the movie's representation of AI technology reflects reality, Participant B interpreted the similarities between real life and the movie:

I think the similarities in real life and this movie that I have observed broadly bringing and STS focus into this are the launch of emerging technologies and then facing issues and then realizing there are issues and then parents losing control of their children's usage of screen time or the children's usage of technology. And then it's everywhere. Right now. Parents have no control over their children's screen time. They all have devices. I think this is also a very real-world scenario. And also, technologists first disbelieved that there was a fault because Gemma and her team did not believe that Megan could do something so wrong. And then they're like, Oh, maybe she can. Their first response was to disbelieve that there was a problem. I think that is also very common in real-world situations when technologies release certain kinds of technology. And then when people say this is a problem, they therefore say it's impossible; this cannot be a problem. We have not faced this issue, and then they double down, and then things happen and they realize that they need to change some things about this technology. And lastly, I think the technology itself getting away from the inventor's intent and becoming its own thing is also quite common in real-world scenarios where the intention of the technologist is something totally different. But then the technology, once it's in society, kind of has its own thing and becomes its own thing. So, I think that's also something the movie is kind of trying to tell you (Participant B at Technical University of Munich, STS Department, Focus Group Session, February 28, 2024).

When asked what aspects of the movie may reflect current societal fears related to AI, Participant C made distinct similarities between real-life situations regarding screen time on new technologies:

The movie itself is actually targeting a certain audience, and it's the audience that already is against so much screen time—you know, the whole screen time. And I know families. She has like 20 minutes; maybe when she turns a year older, she'll get 10 more minutes. It's like everyone's on the phone; they're not talking. Even when she was sitting on a table, you know, a little girl was sitting there eating her food, just staring at her while she's on her phone and has her

tablet in front of her. And that idea, that mentality, was throughout the whole movie, even to the end when people were just dying, was that everyone was like, she's like, I want authentic expressions, as if people who are on their phones and doing something can't have authentic expressions and this idea that everyone's now a walking robot because they all have their cell phones and they're just looking at their phones all the time. It's the end of the world, and the AI is just going to make it worse because you can't have human interaction on your phone already. Now, the AI is just going to take over. Just take over that role for you too. It seems like that was there the whole time, and it was just targeting those people who already have that fear of technology, and it just compounded it (Participant C at the Technical University of Munich, STS Department, Focus Group Session, February 28, 2024).

When asked about the aspects of the movie which may reflect current societal fears related to AI, Participant G also made detailed comments:

Oh, the fear I noticed is that AI can understand human emotion and there are two things I like the most. The one thing is, when, the robot creator wants to get access to the cloud. She locked the cloud, but this is useless because when she wants to access to the data, she can always access to the data by, by the physical stuff. So, she blocked the cloud at this part, create a very good tense to the fear and then she can show up on the, on the door. And yeah, that part I like it. And the second part I like is before the fighting, she played the piano, she knows playing the piano before fighting can, can add up the tense. So, people get more scared at this point (Participant G at the Technical University of Munich, STS Department, Focus Group Session, February 28, 2024).

When the participants were discussing the movie's depiction of AI, Participant E added more comments related to reliance and attachment issues evolving around new technologies:

But, also that like social think that we are so accustomed to technology, and we tend to rely on it. It's all around us every day, and we don't think about the consequences if we truly wanted to be more human. Indeed, I appreciate the therapist's character and her perspective on the attachment issue. She pointed out that attempting to make Megan seem human could potentially lead to

issues, given her non-human nature. It will attempt to simulate a human appearance or stimulate the object, and you are capable of doing so. However, you should not do so because it is a robot (Participant E at the Technical University of Munich, STS Department, Focus Group Session, February 28, 2024).

The focus group discussion also covered another participant's analysis of the similarities between the representation AI and their real-world implementations. The participant B used an STS lens to identify similarities between the portrayed AI problems and current examples of technological advancement leading to unanticipated social consequences.

In particular, the conversation outlined cases in which the spread of technology outpaced parental supervision of children's screen time, reiterating similar modern worries about juvenile technology addiction. In real-world technological deployments, technologists often display persistent tendencies, such as initial disbelief or an unwillingness to admit emergent technical defects. The reflection of the participant also addressed the cliché that technology will outlive the intentions of those who created it, taking on a life of its own inside social structures and resembling observable occurrences found in modern technological environments.

The focus group discussion veered toward an examination of the movie's relevance to the general public's concerns about artificial intelligence, specifically in relation to screen time and interpersonal dynamics, as expressed by another attendee. People already concerned about excessive screen time and its potential to disrupt real human connection found the film appealing. The film's scenes of people absorbed in digital devices, in contrast to scenes of social unrest, seemed to confirm preexisting concerns about technology alienation and social separation.

Thus, the film's thematic exploration intensified societal concerns about AI's potential to exacerbate pre-existing anxieties about technology's intrusion on interpersonal interactions and AI's potential risk for unintended consequences. To summarize, the discussion in the focus group examined how the movie portrayed the hazards associated with artificial intelligence, making comparisons to current social dynamics and highlighting common concerns about how technology will affect interpersonal relationships and social cohesiveness.

This research also employs generative AI, ChatGPT 3.5 to validate the focus group study data. The prompts focused on these topics:

- The complexities of human-AI interaction, with a specific emphasis on exploring concerns about the potential risks of artificial intelligence,
- The relationship between fear and AI,
- Daily interactions with AI systems.

Eventually, the responses of ChatGPT 3.5 also helped to gain a deeper insight into the ongoing data around potential risks, everyday relations, societal fears, and publics' perceptions of AI. According to the answers obtained from the prompts for ChatGPT 3.5; "The potential risks of artificial intelligence (AI) include anxieties about its ability to exceed human control, resulting in unintended consequences or detrimental results, possibly due to biases inherent in AI algorithms or inadequate supervision" (OpenAI, 2024). Furthermore, the potential effects of AI on employment markets give rise to concerns about job displacement according to the answers obtained from the prompts for ChatGPT 3.5. Relevant ethical challenges include privacy violations and the malevolent exploitation of artificial intelligence. Various factors, such as media representation and educational levels, shape publics' perceptions of emerging technologies, resulting in a range of reactions. While several individuals enthusiastically adopt developing technologies for their potential advantages, others approach them with caution, taking into account potential concerns such as privacy violations and job displacement.

Education is essential for molding perceptions, promoting informed discussions, and reducing unfounded anxieties. The anxieties around AI in society stem from worries about job displacement, erosion of privacy, and existential threats posed by AI surpassing human intelligence. The concerns, partly influenced by media representations and prominent individuals' cautions, necessitate clear and open communication, strong oversight, and ethical deliberations in the advancement of AI. Enhancing public comprehension of AI, including its capacities, constraints, and possible hazards, promotes well-informed decision-making and reduces unwarranted anxieties.

Regular engagements with AI technologies, encompassing virtual assistants and recommendation algorithms, provide ease and aid while also eliciting apprehensions regarding privacy and data security. To develop a thorough understanding of AI's capabilities and constraints, actively engage in discussions and comply with privacy and ethics regulations, and promote positive and accountable engagement with AI technologies.

The correlation between fear and AI is complex, prompting the need for responsible development and regulation while also potentially impeding progress owing to unreasonable beliefs. It is essential to adopt a well-rounded strategy that considers both potential hazards and advantages when dealing with the problems and opportunities brought about by AI in order to act responsibly and achieve positive outcomes.





## CHAPTER 6: CONCLUSION

This thesis explores the representation of AI in horror movies, offering a comprehensive understanding of the intricate connection between fear and technology. Consequently, it provides a profound insight into the interdependent dynamics of science, technology, and society. The research employed a comprehensive qualitative methodology that involved comparative discourse analysis, focus group study, and ChatGPT 3.5 insights to thoroughly investigate publics' perceptions and anxieties related to AI technology as shown in popular horror cinema. The findings emphasize the widespread impact of society's fears on the representation of AI in movies, demonstrating a mutual relationship in which horror films both reflect and strengthen popular perceptions.

The key motifs of unpredictability, unintended consequences, loss of control, overreliance on new technologies, impairments in social interactions, and the possible risks of emotional detachment reflect broader social concerns.

Utilizing qualitative data, this research aimed to create a thorough account of the societal conversation on AI, revealing the fundamental motivations, anxieties, and aspirations that influence publics' perceptions. The findings highlighted the complex relationship between societal fears, cinematic representations of AI in horror films. Concerns about employment displacement, privacy infringements, and existential fears of losing control underpinned perceptions about AI's revolutionary potential. The participants of the focus group study discussed AI for its potential risks and they were well aware of its possible drawbacks.

The focus group study, specifically focused on the analysis of *M3gan*, offered insightful viewpoints on the representation of AI, emphasizing its dual function as both a companion and a possible threat. The focus group study revealed the detailed representations of AI technology in the selected horror film, as well as the major themes emphasized in these representations through the exploration of AI themes in the horror movie *M3gan*. The Participants of the focus group had meaningful talks, making connections between movie representations and actual technical progress,

thereby highlighting the need for precise and comprehensive representations in influencing publics' perceptions and promoting critical engagement with technological processes.

Participants selected narratives that focus on the establishment of emotional connections with AI systems and the possibility of risks even including death resulting from occurrences produced by AI. The analysis of *M3gan* highlighted the film's representation of AI as both a companion and a potential danger.

Participants examined the degree to which horror movies reflect societal fears and anxieties about AI technology. The focus group discussion emphasized the correlation between cinematic representation of artificial intelligence and widespread social concerns regarding the influence of technology on human interaction and safety. The analysis highlighted the significance of horror movies in reflecting societal concerns about the potential outcomes of integrating AI into everyday life, particularly in relation to emotional detachment and loss of control. In addition, the focus group discussion examined the extent to which horror movies accurately portray the potential risks of AI technology in real life. Participants carefully thought about whether the AI-caused situations shown in *M3gan* were possible and made connections to recent technological advances and how they affect society. This discourse analysis highlighted the significance of providing thorough and precise representations of potential AI risks in shaping the publics' perceptions and fostering active discussions and engagements on the ethical and practical consequences of AI progress. The reflections revealed the extent to which horror movies reflect the general publics' perceptions not only of AI but also of emerging technologies in general. The analysis illuminated the complex connection between cinematic portrayals of AI and current socio-cultural trends by examining the research questions. It emphasized the significance of critical engagement with sociotechnical imaginaries in cinematic narratives to influence public discussions on technological advancements. As this research asks for the non-transparency of the processes of technological advancements, public engagement of science and technology by cinema may be critical for the responsible and ethical developments of emerging technologies.

This research analyzed the representation of technology in horror movies to explore the impact of technological opacity on the publics' perceptions of emerging technology. The presence of intelligent robots, autonomous vehicles, smart devices,

and AI technology serves as clear evidence of the significant transformation in our everyday lives. Therefore, wider societal fears about losing control may arise from the technological opacity involved in creating new technologies. The findings may provide us with a deeper comprehension of the complex relationship between technology and fear.

The research also confirmed that the sociotechnical imaginaries of AI provide insights into the publics' perceptions of AI technologies, highlighting their anxieties and the growing demand for transparency in technology.

Ultimately, this thesis not only contributes to the scholarly discourse on Science and Technology Studies (STS) by examining publics' perceptions of technology and ethical considerations surrounding technological opacity, but it also serves as a persuasive argument for individuals and groups involved in the fields of technology and film. By carefully examining the portrayal of AI in horror movies and advocating for transparency in technology development, this research can contribute to critical thought on the rapidly evolving field of AI with a responsible ethical consideration for societal fears of technology.



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## **APPENDICES**

**APPENDIX A:** The prompts for generative AI, ChatGPT 3.5 to validate the focus group study data focused on these topics.

**APPENDIX B:** Focus Group Interview Session Transcript.



## **APPENDIX A**

The prompts for generative AI, ChatGPT 3.5 to validate the focus group study data focused on these topics.

### **What do you think about the potential risks of AI?**

The potential risks of AI are definitely worth considering. One significant concern is the possibility of AI systems surpassing human control or understanding, leading to unintended consequences or even harmful outcomes. This could happen if AI algorithms are designed with biases, or if they're given too much autonomy without proper oversight.

Another concern is the impact of AI on the job market. While AI has the potential to automate repetitive tasks and improve efficiency, it could also lead to job displacement for certain sectors if not managed properly. Additionally, there are ethical considerations surrounding AI, such as issues of privacy, surveillance, and the potential for AI to be used in malicious ways, like deepfake technology or autonomous weapons.

Addressing these risks requires careful planning, regulation, and collaboration among researchers, policymakers, and industry leaders to ensure that AI is developed and deployed in a responsible and beneficial manner. It's essential to prioritize transparency, accountability, and ethical considerations throughout the development and deployment of AI systems.

### **What do you think about publics' perceptions of new technologies?**

Public's perceptions of new technologies can vary widely and are often influenced by a multitude of factors including media coverage, cultural attitudes, personal experiences, and education levels. In general, there tends to be a mix of excitement, curiosity, and apprehension when it comes to emerging technologies like AI, biotechnology, or autonomous vehicles.

Some people embrace new technologies eagerly, seeing the potential benefits they offer in terms of convenience, efficiency, and innovation. Others may approach them with caution or skepticism, concerned about potential risks, such as privacy infringement, job displacement, or unforeseen consequences.

Publics' perceptions can also be shaped by how these technologies are portrayed in media and popular culture. For example, dystopian depictions of AI in movies or TV shows may contribute to fears of a future where machines surpass human control.

Education and awareness play crucial roles in shaping publics' perceptions. Providing accurate information about how these technologies work, their potential benefits, and the steps being taken to address their risks can help foster informed discussions and mitigate unnecessary fears.

Ultimately, publics' perceptions can greatly influence the adoption and regulation of new technologies, so it's important for developers, policymakers, and advocates to engage with the public in open dialogues and address concerns proactively.

### **What do you think about the current societal fears about AI?**

Societal fears about AI are understandable given the rapid advancements in the field and the potential implications for various aspects of life. Some common fears include concerns about job displacement due to automation, loss of privacy through increased surveillance and data collection, and the existential risk of AI systems surpassing human intelligence and control.

These fears are often fueled by portrayals of AI in popular media, which sometimes depict dystopian scenarios where machines become hostile or unmanageable. Additionally, high-profile figures in science and technology, such as Elon Musk and Stephen Hawking, have expressed concerns about the potential risks of advanced AI.

While it's important to acknowledge and address these fears, it's also essential to maintain a balanced perspective. AI has tremendous potential to improve our lives in many ways, from advancing medical research to enhancing transportation systems and aiding in disaster response.

Addressing societal fears about AI requires transparent communication, robust regulation, and ethical considerations in AI development and deployment. It's crucial to prioritize safety, accountability, and human values throughout the process of integrating AI into society.

Furthermore, fostering public understanding of AI, its capabilities, limitations, and potential risks, can help alleviate unnecessary fears and enable informed decision-making about its development and use. Open dialogue and collaboration among stakeholders, including researchers, policymakers, industry leaders, and the public, are key to navigating the challenges and opportunities presented by AI in a responsible manner.

### **What do you think about everyday relationships with AI technologies?**

Everyday relationships with AI technologies are becoming increasingly common as these technologies become more integrated into our daily lives. From virtual assistants like Siri and Alexa to recommendation algorithms on social media and streaming platforms, AI is playing a growing role in how we interact with and experience technology.

For many people, these interactions with AI are convenient and beneficial, offering assistance with tasks, personalized recommendations, and even companionship in some cases. AI technologies can help streamline workflows, provide information quickly, and adapt to individual preferences, enhancing efficiency and convenience in various aspects of life.

However, there are also important considerations to keep in mind regarding the nature of these relationships. While AI systems can simulate human-like interactions to some extent, they lack genuine consciousness or emotions. It's essential to maintain awareness of this distinction and not anthropomorphize AI technologies beyond their capabilities.

Furthermore, there are concerns about privacy and data security related to everyday interactions with AI. Many AI systems rely on vast amounts of personal data to provide personalized experiences, raising questions about data protection and user consent.

Ultimately, the key to healthy relationships with AI technologies lies in understanding their capabilities, limitations, and potential risks. It's essential to approach these technologies with a critical mindset, while also leveraging their benefits to enhance productivity, convenience, and overall well-being. Additionally, ongoing discussions and regulations regarding privacy, ethics, and accountability in AI development and deployment are necessary to ensure that these technologies serve the best interests of society.

### **How do you describe the relationship between fear and AI?**

The relationship between fear and AI is complex and multifaceted. On one hand, fear can arise from concerns about the potential risks and implications of advanced AI technologies, such as job displacement, loss of privacy, and existential threats. These fears are often fueled by portrayals of AI in popular media and the warnings of prominent figures in science and technology.

However, fear can also be a driving force behind responsible development and regulation of AI. Awareness of potential risks can motivate researchers, policymakers, and industry leaders to prioritize safety, ethics, and accountability in AI development and deployment. Fear of the unknown can also prompt individuals and organizations to engage in discussions and proactive measures to address concerns and mitigate risks associated with AI.

At the same time, fear can also lead to irrational or exaggerated perceptions of AI, hindering progress and adoption of beneficial technologies. It's important to balance a healthy skepticism and awareness of potential risks with an understanding of the potential benefits and opportunities that AI can bring.

Ultimately, the relationship between fear and AI underscores the importance of informed decision-making, transparency, and open dialogue among stakeholders to navigate the challenges and opportunities presented by AI in a responsible and beneficial manner.

## APPENDIX B

### Focus Group Interview Session Transcript

**Moderator:** So; thank you for being here together with me for this precious focus group session together with me. And I'm going to start with the question, how did you find the movie in terms of its depiction of AI technology? First of all, in terms of AI artificial intelligence depiction that you think about whole movie, how did you find the movie in its depiction of AI. Who wants to go first?

**Participant A:** I think, I think it's way too advanced and I wouldn't say it's very original. There have been several instances of, let's for example, the Matrix is a great example of AI gone wrong and being so advanced that it's enslaved the all, all of humanity. But I think also I robot, but in, in terms of, in terms of practical applicability as, as we understand A I now, I think it's very, it's like a doomsday scenario.

So, I don't I think I don't see accuracies with what the technology is capable of doing, but it's an interesting spin of making it like a horror take on AI unlike like a sci -fi thriller, usually it's, there are elements of horror.

**Moderator:** Yeah, thank you and anyone else who wants to add something or I can go on with the other questions. There are some other questions like; how do you think the movie reflects the potential risks of AI? And how do you think the movie reflects publics' perceptions of new technologies?

**Participant D:** I think with the AI theme, it didn't necessarily discuss the AI advancement or cautionary tale. But I think the main caution was like, do not haste it. Like she really pushed her research and like making Megan live. So, like there were no real diagnostic or like it was too or like Megan said, like, you didn't even know what you are doing, what you gave me any, you didn't give me any parameter. You just like let me go. So, the scary part for me is that they were doing that without any afterthoughts, like all the maybe it's not that good questions come later on.

**Moderator:** Yeah, actually I agree.

**Participant E:** Actually, I would like to react to the first because I think it was actually like reacting like to the current state, like in terms of not in terms of like what is kind of like what we are now capable of, but our kind of like tendency.

So, we've seen this kind of like push on, kind of like, you know, make profit as soon as possible and, and that kind of stuff.

But, also that like social think that we are so accustomed to technology, and we tend to rely on it. It's all around us every day, and we don't think about the consequences if we truly wanted to be more human. Indeed, I appreciate the therapist's character and her perspective on the attachment issue. She pointed out that attempting to make Megan seem human could potentially lead to issues, given her non-human nature. It will attempt to simulate a human appearance or stimulate the object, and you are capable of doing so. However, you should not do so because it is a robot, correct?

**Moderator:** Thank you. Thank you

**Participant D:** I found the learning process of Megan is very fast. She can learn a lot of things superfast. But in, in the motivation of I want to stay with Car Carrie or Katy, I forgot the name Katie Yeah, the whole motivation is I want to stay with Katie, right?

But if she can really learn something quick enough, she can figure out how can we like possibly live in this society? But she didn't investigate in that part. So, I think in this case, she didn't study quick enough as an artificial, as a well - developed artificial intelligence.

She needs to consider that part.

**Moderator:** So, you're saying that there was a kind of erroneous depiction in a way when it comes to development of artificial intelligence. Is that like, I mean, you're saying that this is far from reality.

**Participant D:** Yeah, there are some loops may exist.

**Moderator:** Yeah. Thank you.

**Participant C:** Building on to your comment about AI being like a lot of quality gates being passed through. I really like that. That was the only thing that came close to showing what actually happens when there are supposed to be launches for particular products.

Although of course, it was exaggerated in the harder perspective. But I think the movie had a good core that it wants to make people aware of A I if we unbox that Pandora's Box, there would be a lot of consequences within the society, but it did that in a poor way.

However, I like that. Some of these aspects were at least included that when somebody is trying to push something, then it's going to be not even a forethought as well as not even an afterthought that they think of what can happen when we have this particular product or with this particular technology out there. And that's not quite nice. However, I think the movie itself was built on so many stereotypes. The biggest stereotype was that a career- oriented woman is incapable of being a caregiver, which led to the whole movie becoming true, which is it I find it absolutely stupid.

**Moderator:** Gender.

**Participant C:** Exactly. And then there's, of course in the boardroom there is one lady who's there and she sees, and she starts bursting into tears when she sees the product plant.

**Moderator:** But yeah, I think you want to add something.

**Participant G:** So, on that direction. Like, they also didn't even add the parental control, like the remote, like maybe months later in the development. And like, also it was like kind of asked to Gemma that you didn't add parental control to it.

Like it's supposed to be like where, like it is supposed to be like the very first thought as a scientist and as a parental figure. Yeah.

**Participant G:** And a toy maker. Yeah, like to think about safety. But they, Gemma was so preoccupied as a career woman. Well, I didn't even think of like, it was kind of weird, like in both perspective either as a career woman or like an aunt like that. I wanted to add that your general perspective.

**Participant F:** If there, if they are a toy company, did you should already have parental control or something behind. This was true if you're in a toy company. Oh, but like I was because this is my second time watching it and I'm noticing some more stuff this time around, but I, I realized that they, they played on the fear of dolls actually with like with the combination of A I. So the thing is if it was just a, I, it wouldn't be as

scary if you think about it, but the fact that she looks like a doll and the whole eye contact glass eye and my eyes never close, staring at you is, is the terrifying part, like, like, because I have friends who are, who are naturally afraid of dolls and, yeah, so it's like the fact that she looks like a doll but then she can act, which adds the Annabelle , Annabelle. And, so to me, I'm like, this is pretty much an advanced Chucky. Actually, you know what, I have an advanced Chucky movie in my thesis too.

**Moderator:** Better watch that movie Chucky, it's still good, so, so scary, so scary, scarier than Megan, believe me. But actually, what you, you know, emphasize reminds me of human character characteristics and it looks human like this is a kind of primary, you know, fear of, you know, human beings, like, you know, you don't know exactly what it is in a sense, but also looks like a human when you think about handsome robotics and Sofia. Actually, for some tech people and academicians and intellectual people, we try to learn all the, you know, qualities of technology where we are at now. But for some people it can be scary. It led to both fascination and also fear.

**Participant E:** I think also like it leads to fear but also trust because maybe if it was just a very mechanical looking thing, the Katie wouldn't have confided in it easy or trusted it as easy at first. But I don't know. And then also kind of to your comment about stereotypes. The doll was like \$10,000. So, it's also interesting because then only some people in society will have control, let's say to have this in society because only some people can buy it. Not everyone will be able to buy this. And then what do the neighbors do? Do they just like that lady like you just have this doll now living beside you, that kind of went rogue. So, I don't know, like yeah, how that comes in.

**Participant A:** But just an observation, I think to me, another aspect that the movie kind of tries to do is how disarming technology can be. I think the aspect of disarmament here is essentially this AI being a child. So, everybody constantly underestimated what this AI could do because it was childlike and supposed to behave like a child. So, everybody was disarmed when they, they couldn't really wrap their mind. She could have killed a boy; she could have killed a dog. She could have killed a human being. I think, I think aspects of technology can be disarming because they look so simple and innocent. I think what they're trying to say is AI is not really that innocent, even if it looks like a child and behaves like a child, there are consequences.

I think that's, that's something that the movie tries to do as well of, of telling the audience don't be disarmed by what technology looks like it's still capable of doing things beyond what it's supposed to do. And I think, I think this is like a combination of Chucky. I agree. Chucky I robot. And I don't know if you have read the book "Klara and The Sun" by Kazuo Ishiguro. So good. And that book exactly talks about an artificial friend and it engages with a, if as a toy for Children in a totally different way. And I think it's, it's an interesting spin for me after having read that book to watch this movie. It was very fascinating.

**Participant B:** Something that struck me during the film was that they have this very powerful robot and it's like a toy company, right? Because you could make a perfect soldier with this, right?

Technology, right? And there was nobody from, I don't know from the government or something like that kind of like, you know, look looking into this like, OK, so like you're, you're creating this thing that is so powerful that is made of titanium or those kind of like yeah, and there was no oversight of it and there was this kind of like potential for the dual use, right? So, you create this toy, but it's kind of like a killing machine.

And yeah, and, and like the together with that parental control, that was again something that was not kind of like considered or like reflected upon during the film or during, you know, that the creator like was just trying to make this toy but kind of in a vacuum without kind of like, you know, thinking about the broader perspective of like the technology.

**Moderator:** But you know what you remind me of something right now. Thank you for that in psychological sense because you helped me to read movie in a, you know, more specific way right now. Thank you. Just because you're saying that these very advanced technologies can be developed by military institutions in a way.

But right now on a global level, we are, you know, playing with artificial intelligence when it comes to generative artificial intelligence, generative AI like a toy right now, just like a young boy or girl approach to a video game as a toy right now in our daily lives, we are approaching artificial intelligence as a kind of toy we started to use whenever we write down a kind of article, whenever we do a kind of presentation or, you know, in our daily lives, even we leave our cognitive tasks to the artificial intelligence and using it like a toy and it's all around the world.

And, you know, I, I'm just saying that like, it's like not a tool or toy but in a way, it is like in the very first phase, like a child, maybe like a doll, maybe I, I mean psychologically when you look at the subtext right now, I feel like artificial intelligence is on the face of you know, child or baby just like we feel like adult, It's cute, cannot be dangerous. And right now, in the baby face, we feel like, oh, it's not that dangerous.

We need a kind of century to, you know, develop or I improve artificial intelligence so that we can talk about some risks.

So, my second question is, it's important. **How do you think the movie reflects the potential risks of AI?**

**Participant E:** the opening scene of the movie is like seeing a furby like doll that always listens like with apps collecting data and like nobody questions it and then we see like a confession by Gemma. Like, oh, we've been listening to them and storing that data till now before creating Megan like the first blow out and like says, like thanks to that recorded natural conversation, we created this AI model. You know, there was no regulatory things, no ethics. So, like the 1st 10 minutes of the movie, you get irritated by this conversation. Like they're in the child's life like an innocent environment and using it for company benefits. Like in the first minutes then that A I becomes like a programming language like superpower that can like hack into other companies A I devices like a like a automobile, like a security system, everything can be trespassed by. But like this is not as we know how A I or like any kind of internet security chain works. Like even the languages can definitely be different to understand this kind of things. So, like first it, I think movie does a good job as a cautionary tale. Like you letting this happen is kind of a gateway.

So, like you need to be careful but then moves it on a like a very unrealistic like a boogeyman kind of a thing like a I can go to this and as a people who somewhat knows A I and computer system, we can like, ok, this movie is like, oh my God, something on definitely in steroids.

So, like we cannot be that scared like we shouldn't be that scared, like internally I thought about it like, OK, this is not something realistic. What was the word you used like that?

As a, like a lay people, like generally seeing this in a movie, it becomes like a very fear injecting very prejudice, creating approach of, of the movie I believe.

Like if you showcase a I like a great solution to hack everything like bypassing by of it, like the alarm system just like turned off. She passing by what like come on, you know, like this creates like a very fearful environment of it too. So, I don't know the director stand on it. But like I, I got very mixed signals from like the, it was a cautionary tale, like a justified lover first. Then it became like an Armageddon colors like World is ending.

**Moderator:** It's actually true of the movie history, science, science fiction somehow, you know, is far away from the reality in most cases. But what I think, what I'm thinking is the fact that there is a kind of reflection of some deeper fears on a basic level. Can I express myself clearly, like there are some reflections of broader societal fears. Of course, this is a fiction even it's like a fun movie, although it's a horror movie. But I'm trying to analyze and I'm trying to understand with your insightful information. Thanks. Thank you for that, like whether there is a kind of, you know, underneath metaphors for societal fears about the risks, like for instance, losing control, fear of losing control. Like there is a kind of trend also remember in the movie, there is a signal as you talk about that, like they're talking about attachment. So, when you think about artificial intelligence and all the applications and robots and human robots on a relational sphere on a relational sphere, you know, it can take the, you know, human interaction and kind of replace it.

So, they were talking about the social skills, remember that in the movie? So, we need our social skills. We are social animals.

But if we, you know, only invest ourselves in like human aid robots and like that and they can replace the others human tendencies not to do so much things instead of going out and having beers together with your friends, you can enjoy your human aid robot at home next Netflix and chill together with your robot.

**Participant G:** Your second question, I wanted to comment on your addition about military aspect, which also answers your second question.

So, I really like that. You brought this perspective that military aspect is there.

And I think even today, military, when we talk about unarmed vehicles, so drones and drones doing the killing where a human is controlling it, but it is being done mechanically is super regulated because we talk about human lives, being affected.

And even with a I, when it would be a topic about bringing it in the military, it would again be super god will, but we don't treat it similarly when it comes to not like human lives that are not dying. So, it's kind of a good red herring that you should look into not just human lives dying, but also human lives interacting with technology. But then you make a good point that it's a very dishonest representation of what AI can do wrong. And then so, at this lower percentile are people who don't understand AI and like super fucking scared. And then there are those who want to push AI and like, yeah, it's the best thing that can happen. And we, it's like it needs to go ahead and then there are people who are working with AI who again understand it's very bad and it needs to be done ethically and it has, it needs certain guard rails. So, such kind of movies are important to showcase the main distribution of the people, the mass. Let's say the biggest majority of people who are working with A I but when they see such a dishonest representation, then they are going to say, OK, fuck it. Like everybody is like, it's not really a concern for us then which is kind of bad you want to do it.

**Participant C:** Going back to just moving actually reflection of the public fears about technology.

Moderator: Actually, how do you think the movie reflects the potential risks of AI?

**Participant C:** And because I was thinking in the sense that the way it opened up and the way it talks, the movie itself is actually, I feel like it's targeting a certain audience and it's the audience that already is against like so much tablet like screen time, you know, the whole screen time.

And I know families.

So, it was like screen time. She has like 20 minutes, maybe when she turns a year older, she'll get 10 more minutes, you know, like, let me screen times and limiting like certain technologies in your kid's life because that these technologies look at everyone on their phone, like you see people on the screen, it's like everyone's on the phone, they're not talking, even when she was sitting on a table, you know, a little girl was sitting there eating her food just staring at her while she's on her phone and has her tablet in front of her.

And that idea, that mentality was throughout the whole movie, even to the end when people were just dying was that everyone was like, she's like, I want authentic expressions as if people who are on their phones and doing something can't have authentic expressions.

And this idea that everyone's now a walking robot because they all have their cell phones and they're just looking at their phones all the time. It's the end of the world and the AI is just gonna make it worse because you, you can't have human interaction on your phone already.

Now, the AI is just gonna take over, just take over that role for you too. What, you know, like it seems like that was there the whole time and, and it was just targeting those people who already have that fear of technology and it just, just compounded it.

That was the second part that I wanted to talk about, but I totally forgot it because we had so many conversations.

But yeah, I'll come back when I remember but, but that was one part that I really was bothering me even in the outdoor school, like the person that's creating technology, opted for a school that's super low technology.

**Participant G:** Oh, the fear I noticed is that AI can understand human emotion and there are two things I like the most. The one thing is, when, the robot creator wants to get access to the cloud.

She locked the cloud, but this is useless because when she wants to access to the data, she can always access to the data by, by the physical stuff.

So, she blocked the cloud at this part, create a very good tense to the fear and then she can show up on the, on the door. And yeah, that part I like it.

And the second part I like is before the fighting, she played the piano, she knows playing the piano before fighting can, can add up the tense. So, people get more scared at this point.

**Participant A:** So, the potential fears of AI and how it's depicted in the movie, right?

Moderator: Potential Fears and how, how the movie mirrors the potential risks of A I OK.

**Participant A:** I think, I think the movie tries to do this in two primary ways, which is one, an emotional connection and human harm and emotional connection in the sense that growing dependence on AI rather than humans and also Children being enslaved to AI rather than depending on their parents like being, being primarily looking at AI for guidance and looking at AI for emotional support. That is a risk and fear that a lot of people bring up with even social media. I think physical harm, it's very obvious like very direct. Death is the physical harm that they kind of anticipate and kind of portray as a fear.

And I think another fear is that AI will use all the supplementary large technical systems like the cameras or the controlling the alarm systems or controlling this Alexa type thing in the house, controlling the lights, being able to download everything from the internet.

Like I think that's also a risk that the movie tries to kind of portray in the sense that if there is this robot, it can use everything because everything is connected and all systems are connected to the internet. I think that's also fear that that is kind of portrayed in this film. And also, I think I disagree that to fear AI, we must associate it with military.

I think that it's very good that the movie didn't approach this depiction of AI from a military standpoint because AI can be innocent and still do large harm. It does not have to be applied to armed forces for us to be like this is dangerous. I think the, the movie tries to do precisely that in saying this is a toy. But look what this toy did is not saying this is a drone that uses AI, obviously we're all going to be like, oh no drone, you know.

So, I think, I think the movie tries to shift this, this conversation of AI from being a military fault to being, it's an everyday life problem now.

**Moderator:** So it is also in our daily lives, emerging technologies are shaping our daily lives in our daily practices. We use more and more AI right now.

**Participant C:** So, just a comment about the movie, I find it so fucking stupid that they say, oh, it's just a 4 ft doll. What's it gonna do? It's a fucking Titanium doll you can do and that kid could no way lift Titanium doll.

**Participant A:** Like after Lucy stop, you said like it's being in a toy company is also kind of a red hearing and I think you kind of right like saying that shifting the perspective to toy companies also another cautionary tale for risks I think because like I said, if it was a military because there were human lives involved, like there are that decisions, like you say, there will be more consideration about like how should we regulate what would be the port protocols and executive.

But as I read hearing like you said, but when it was a toy company, there wasn't that kind of concern like parental control was another for me kind of joke.

Like let's put that aside, but like there wasn't, there is also like no kind of regulation, motives on like what this invention does to human life, you know, like if it was a military sector, there would be some considerations, law, ethical companies, whatever. But in a like very mundane company, like toy company or like home life, like this is also like a good cautionary tell. Like you should question.

**Participant F:** Yeah, this reminds me like this semester I took this class like on AI Governance and we are discussing this new AI Act and there was this thing that they are basically regulating only like high-risk systems. And this story is not a high-risk system, right?

And it can have so like great consequences and also to go back like to Kushi. Like, yes, this was one of big topics in that film, like because like this kind of like internet of things and smart homes that we are kind of like increasingly living in a world where we are kind of like rely on technologies and everything is somehow connected to the internet, you know, cars and everything, all the appliances that you have at home. But in the end, like the most effective kind of weapons against that robot was just like a hammer or what was it like all these like mechanical screwdriver. And all these mechanical things that kind of made it like to stop mechanically.

But there was no kind of like water. And there was no kind of like program that would kind of like, make it stop, like, just by some commanding you just had to, like, really smash it and kill it.

**Moderator:** So, how do you think, like, will reflect the reality then?

Yeah, it's, it's straight from the right, straight from the reality, but it has elements reality of what this movie is entirely fiction.

**Participant A:** I feel like you need to clarify that question a little bit there.

**Moderator:** I mean, you don't think that there is any potential risk can be regarding artificial intelligence in the movie when it comes to relations, when it comes to control, when it comes to relying too much on artificial intelligence. I mean, it doesn't have to be like artificial intelligence turns out to be a kind of killer, but there are some, you know, the psychologically or socially harmful side effects of new emerging technologies in a way when it comes to relations.

For instance, also when it comes to losing privacy, privacy control, look at this interconnectivity, our Google pairs everything with each other. So, we have more risk of privacy right now.

**Participant G:** It was actually with, with the human interaction. And that's, to me that's the only realistic thing in the movie is the human, human interaction part. I know that there's already a problem with that. Now, I don't know if anyone ever heard of replica. Yeah, which is right now, a problem with, with people, people are connecting and making pretty much AI girlfriends and you, you know, you dress her up and everything and you, you, you spend time with her the more time you get, you get coins and stuff. Yeah, because usually it's a her because even like when you, when I made a, because I tested this out. I made a boy, they're not that interesting. The girls are more interesting and, but I mean, that's their target audience are lonely male. But I mean, it's, it's under health and wellness apps if you look for replica and it's there for therapeutic things. But people are actually really getting fully attached to these, to these AI chatbots to the point that one guy actually bought a, a doll to place his chatbot in and said, tell everyone that this is his girlfriend and yeah, I mean, it, it's, it's there already.

So, I know that it is already like the connection stuff. You don't, you don't need a full-on robot for this. That's the part that I'm like, it's not necessary. But yes, human connection. That's, that's already here. And I don't know, I can't remember. Yeah, that has been out before Megan even came out. It was already as an issue.

**Participant C:** Normally we have this in science fiction movies but in the last past five years, like we see more and more horror movies related to robots, robots and human movies.

Other than that, we always had some science fiction movies.

But right now, horror movies, you know, shift are shifting and taking the artificial intelligence in the core issue subject,

**Participant D:** I think similar to like both you and like Lucy's point like movie also kind of goes for me kind of deep for this connection issue by bringing up the attachment style. Like you said, like we are relying too much on this external amenities or like thinking sources. It doesn't necessarily be the artificial intelligence like open the light, close the lights.

Like when the Elsie got taken over by mega, she even couldn't open the her house's light, you know, like and the therapist quote before all of this happening, like as a caution, like the attachment, like you're giving too much agency to an external source, like too much reliance or both physical and an emotional, like then how she can be a person without that like asking this question was also so kind of important for me as an AI risk, you know, like you're giving this, this, this, this to AI, then you're so dependent on it. Then what you left is what like I think it's similar to those like searching for an AI girlfriend having, replacing that versus like the data kind of perspectives are in sync with that. But I don't know, it was the intended paw with the therapist, but I kind of like it do that.

**Participant G:** I am also worried about AI is disabled as of some certain capability. For example; in the movie, the girls need to learn how to process her emotion, the sorrows and in real life, I saw a lot of classmates using chat GP when they couldn't understand certain things.

But I figured that why is that means that they lose the capability of sitting in the class and understand what teachers said. Yeah.

**Participant F:** It was just like a theory of extended mind and like very simply like Google Maps. If we use it all the time, we lose the ability to navigate ourselves.

And so, it's just questions of this, of AI Yeah.

**Participant B:** I think the similarities in real life and this, this movie that I have observed broadly bringing and sts focus into this is that the launch of emerging tech and then facing issues and then realizing there are issues and then parents losing control of their children's usage of screen time or the children's usage of technology. And then it's, it's everywhere. Right now. Parents have no control on their children's screen time. They all have devices.

I think this is also like a very real- world scenario. And also, technologists first disbelieving that there is a fault because Gemma and her team did not believe that Megan could do something so wrong. And, then they're like, oh shit, maybe she can. Their first response was to disbelieve that there is a problem.

I think that is also very common in real world situations when technologies release certain kinds of technology. And then when people say this is a problem, they therefore it's impossible, this cannot be a problem. We have not faced this issue and then they double down and then things happen and they realize that they need to change some things about this technology.

And lastly, I think the technology itself getting away from the inventor's intent and becoming its own thing is also quite common in real world scenarios where the intention of the technologist is something totally different. But then the technology, once it's in society kind of has its own, becomes its own thing. So, I think that's also something the movie is kind of trying to tell you,

**Moderator:** can you say that that is the unpredictability of technologies?

**Participant A:** That is Moore's law, but that is Moore's law that it is there is tension. I don't know if you've read Moore's Law in ethics. But yeah, for every technology has dual purpose.

**Participant F:** But I mean, like, like they were saying like, you know, like, oh we made it for this and then someone finds another intention. It's part of like it was, that's what we learn our ethics. It's like, all right, let's say like, let's say what's his name? Who, who invented he looked into nitric oxide for the heart, you know, like he was just looking for and then Viagra came about, you know, or the, the Yeah, it's unintended.

Yeah, but people are using Viagra not for heart but for stuff and cancer but it used for heart.

So, I mean, every everything has like, it can have multipurpose like for instance, another reason is like, what was it?

The, the drug that is good for diabetic people but people have been using it for, for yes Ozempic using it for weight loss, you know. You know, so it's, it's kind of like everything but it's like, yeah, unintended purpose...

**Participant G:** Gemma created this robot as a friend, but then it became obsessive and became a murderer and that was clearly not her intent, but the technology made its own intent had its own purpose. It's, it's very on the nose though that it became sentient.

But I think that is also kind of the messaging that the movie tries to tell you that the inventor sometimes has no control over technology. It becomes its own thing when it becomes part of society.

**Participant B:** Oh yeah, I want to add two like two of your comments, like the first one, the inventors are like out of control. It also like showcased in the movie by like I am my own primary controller now in the later of the movie and the first, the inventors were like, no, it's not capable of that. They didn't put that there. So, it's not like over like overlooking of it.

And the second one is like technology fear like parents limiting screen time or like the first sentence except from the ad was like two of the Katie's parents says like we should limit the Ipad time, screen time and the father was going like no, this is like the feature of the world. So, she should deal with like she should adapt to it. Like it's also like a good standing point of the fear approach, you know, like the because the most common reflection to a fear is like conservative model limit Ipad time, like we should like distance ourselves and be sure this is not kind of the solution but as well as like let it all go, we will figure it along the way. Like, yeah, it turns out it does this dual purpose too and like we didn't like this, so let's go back.

No, there is no going back. So, it's like a good way of discuss this fear too. I think. What do you think? What do you think guys?

**Participant G:** They just adding to the fear, they included a child. Imagine if this was for adults, it would not be as scary.

**Participant D:** The serial killer.

**Participant G:** No, I mean, they wouldn't be as concerned the fact that they included a child in and made it, that it's attacking our Children.

**Participant D:** Sure.

**Participant G:** It's a big deal. You know, it hurts.

**Participant G:** And also, like there's a responsibility within it. Like it's your responsibility as a parent to protect your child, protect that future. But when it's come to you, not that careful, you're not that concerned if she was like an AI companion.

**Participant D:** It's also one of the biases. You know, it's also one of the biases. If it's for your children, for your future, you're being more careful thinking about responsible than risk. But it's for your pleasure, you're not thinking the responsibility and risk. It is bias.

**Participant F:** What happened if you got like an old robot to take care of your grandma?

Moderator: What about, what about the messages? Can I ask you? Like, don't you think that there was a kind of message of the movie. Like remember at the end, the robot, the one that can be controlled by human helped, I mean, the robot can act independently was dangerous at the end. But the one that human can still control was life- saving. Remember Bruce?

So, it gives a kind of hidden message like if we give this, you know, learning ability and capability and you know, trust and give our control to artificial intelligence, there can be a danger in a way. It's a message. I'm not saying I'm not, you know, advocating this thought.

I'm just talking about the very message over there that you think about the controllable robot and uncontrollable independent one.

**Participant F:** I think there is a very simple way of dealing with this problem is just you put don't tell anything into the robot, the problem will be solved.

**Participant A:** They did, they did discuss, we have a clear, clear strict protocol with Megan. Megan not to do that.

**Participant F:** The have one code said you are not allowed to hurt people, but Megan took it, took the protection, protection of the primary object in the best possible scenario. Motive to that is that because of the priority of this protocol not high enough.

**Moderator:** What about as we think that all the artificial intelligence devices, they are connected to each other?

It means that they are vulnerable to be hacked if you know, if you have like kind of interconnectivity between the systems, they can be hacked and they can be, you know, just they can just remove the parental control. For instance, I'm not talking about the Megan, but I'm talking about interconnectivity of the new emerging technologies.

You see there are some potentials. I'm saying I'm not saying that this is a pure danger or something, but there are some potentials, there are some potentials of cyber security. We always talk about like hacking and always it sometimes happens on an international level when it comes to, you know, cyberspace wars in a way with some hackers. I'm saying that this interconnectivity somehow has a kind of potential danger for later on. I'm saying that I believe that

**Participant D:** Right now, we have solutions for that like all the higher risk sensitivity has either local connections or separated, separated Wi- Fi connections because the interconnected connectedness for most vulnerable is like all of them connecting one

Wi-Fi source. So, it can be hacked with back doors. But my first comment wasn't about that like with the trust and control thing; like if I don't believe if you want to trust something, we should have a control on it.

Like control everything every moment, like foresee everything. This is for me; it is not how trust works and also kind of a good concept. But in the movie to see the parent, parental figure versus child, like if you want to have a trust relationship with your child, you don't need to control it.

And in the last scene after Bruce, like we saw a moment, moment of that with Gemma and Katie, like, does she trust her or like, what is the control level? And I think movie also presents that, like, ask this question, like doesn't really give an answer but should we have a full control over something new to be able to trust also? Like the Gemma and Katie's relations were something new too. So, like there's an artistic parallel on that and like the question was about like, should, what should we take on to AI? Right.

And this trust control thing, I think movie just wants us to ask question about like, what are these conditions are, you know, because at the end of the movie, like you said, like, it wasn't the AI that took that needed human, human control. Bruce beating down the autonomous one, the Megan. It wasn't like that because in the end scene, the very end scene, we see that Eli, what was the Alexa kind of thing? Getting light up like Gemma transferred, not Gemma, Megan transferred some part of her to this.

So, like even though there was a controlled one versus uncontrolled one, uncontrolled one wasn't also defeated and the uncontrolled one didn't want to kill Gemma like really negotiated it. So, like it wasn't like a limiting killing machine too. There were other priorities that Megan was trying to sort out. So, like, I think these are the questions about the risk that's asked within the movie. If you have anything to add.

**Participant C:** So, I think to me the last scene I, I totally did a completely different reading of this robot being used to kill me, Megan. because I think it's another telling objective of society where we are constantly being told that technology can only be fixed with other technology. I was, I was expecting a totally different ending when Katie walked into the room where Katie would try to convince Megan to stop doing this and somehow that would work in some, to some extent. But instead, Katie had to use another technology to bring down another technology, which I think is kind of very, very realistic in our, in our world where we are, every climate change issue is being spoken about in terms of solving with more technology.

So, I think, I think this is, that's what I took away from the ending where it's like, OK, another technology beating another technology. Great. Fantastic. What's new, you know, where is the social solution? Whereas if there was a conversation between Katie and Megan and then I would have been fine.

But there was no, there was no attempt even to bring in like a social solution.

Moderator: So can you say that in summary, in a way, like there are some, you know, depictions we can relate to real life and there's some very fiction space far from reality. But we can say, can we say that there are some parts of reality?

**Participant A:** Yes, of course. I feel like we've been telling you this so that I can get some more idea. Maybe just.

**Participant B:** What was the year of the movie?

**Moderator:** 2022 but in the beginning of 2023 movie, you know, was a huge box office.

Yes. 2023 in the beginning January and one last question. So, what about the current societal fears about AI right now, current fears reflected in the movie. Current fears you in the movie?

**Participant B:** No, but current fear yes is to be it's the job, job loss of his like

**Moderator:** Since industrial revolution, there has always been fear of job loss in several different levels.

**Participant B:** Maybe this is also a job loss for nanny babysitter. Yeah, for a nanny, baby babysitters.

**Moderator:** Normally babysitters were killed by the serial killers like ha but right now they are losing jobs so they are safe. So, thank you. Thank you so much for being together with me over her.





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**Erdem, H. C.** (2023). The Fear of Technology in Horror Movies: A Comparative Film Analysis Through the Lens of Sociotechnical Imaginaries. 33rd International RAIS Conference on Social Sciences and Humanities, Princeton, USA, August 3-4, 2023.