

# Social Robot's Benefits and Harms

Emirhan Kaya

<sup>1</sup> Haliç University – 21051350137@ogr.halic.edu.tr

**Abstract:** With the rapid development of artificial intelligence technology robots have become a part of our lives. Social robots are types of robots that are created for social activities and purposes. This study aims to find the advantages and disadvantages of social robots for patients, elderly people, and children. The author noticed that social robots should be specialized for the field that wants to take benefit of social robots. Every group has its own needs. Also, Advantages and disadvantages may be affected by area and group of people.

**Keywords:** social robots; healthcare; artificial intelligence

## 1. Introduction

In the last century, the importance of robots in our lives has increased. Human technologies have gotten better since humans learned to exploit machines. Based on that “The first works devoted to the connection between human intelligence and machines occurred in the middle of the twentieth century.” (Shourmasti et al., 2021). We can say that the first communication between humans and machines dates back to the mid-21st century. With the development of machine technology, robots have been a big part of mechanization. Therefore robots have gained popularity in some types of fields such as the healthcare industry, education, and elderly person care. These kinds of robots are called social robots. As an example “social robots can help with long-term healthcare services, such as rehabilitation or school attendance (González-González et al., 2021).

As a result, robots are the result of a mechanization. Also, they become more and more important in our lives every day. Furthermore, robots might be effective in some areas.

Many questions should be answered. We will try to find an answer to these questions.

## 2. Materials and Methods

This article includes articles involving social robots for patients, the elderly, and children published after 2015. Research areas are computer science, robotic technologies, artificial intelligence, and social robots' advantages and disadvantages. Some statistics are used to support the article. Language (English).

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### 3. Findings

#### 3.1 General

According to Oliver Korn (2019), The ability to interact and work with humans is a characteristic of collaborative robots. However, if this interaction and work activity is more characterized by social interaction until it becomes the key role, then we are dealing with a social robot, also called a socially interactive robot. (Korn, n.d.). Robots can reach the right result faster than humans. Artificial intelligence is found the best solution or answer in a few seconds (based on daily problems for patients, elderly people, and children).

#### 3.2 Advantages

##### a. Patients with social robots

The usage of social robots has serious advantages for the healthcare industry. Social robots can reduce the density of these kinds of organizations. In the healthcare industry, social robots can require continuous hospitality more easily.

##### b. Elderly people with social robots

Elderly people can benefit from these robot technologies for solving some of their problems. These problems are fall risk, social isolation, and depression. Additionally, robots can help elderly people by reminding taking medications.

##### c. Children with social robots

Robots can help children in their social life by treating them like friends. Also, robots can treat them like teachers which is beneficial for educational life.

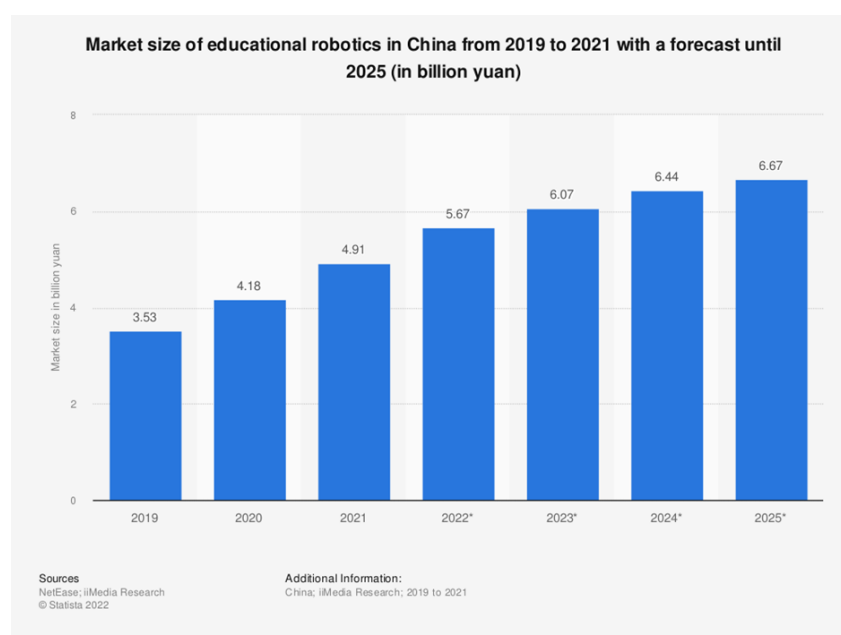


Figure 1.

The statistics of educational robotics in China are presented below.

The market size of educational robotics is increasing in China since 2019. Also, it is expected to continue to rise.

### 3.3 Disadvantages

#### a. Ethical Problems

Social robots' emotions are just a simulation. Robots are created by humans for a purpose. For example, robots that are created for elderly caring and patient caring are customized for that area. They make decisions and react by using their algorithms which are not as natural as humans.

#### b. Patients with social robots

One of the ethical problems is robots simulating their all emotions. From the point of view of patients, this process might make feel them unrealistic.

#### c. Elderly people with social robots

"Only a few were willing to learn new digital skills or opted in to benefit the learning programs for the elderly and those were mainly women." (Betlej, 2022) . It may be necessary to have some knowledge to take advantage of social robots. However, learning new skills and using those skills in the real life is something hard to do for elderly people because of their ages.

#### d. Children with social robots

According to (González-González et al., 2021) some researchers believe testing social robots with children patients is not ethical. Testing social robots with children patients might cause psychological problems for children patients.

## 4. Discussion

Artificial intelligence has taken a big part in our industries such as healthcare and education. We can say that social robots are a branch of artificial intelligence.

*Q1: How does artificial intelligence make decisions?*

Artificial Intelligence uses algorithms for making calculations or making decisions. These algorithms are created by humans for some purposes.

Social robots have their decision-making algorithms. These algorithms may resemble people's decision-making mechanisms. However, the opposite of it may happen. Social robots can simulate human emotions by using their algorithms.

*Q2: Are these feelings real?*

Everything that social robots think is created by algorithms that are created by humans. That means these feelings are not real. Also, they are not feeling anything. They just do their jobs.

Making emotions by using algorithms might cause a problem for patients. Patients might feel unnatural and isolated because of the social robots. Also, some social robots may need some information to use them, but elderly people may not be able to

learn or may not want to learn. These kinds of problems can vary from situation to situation. As a result, social robots should be customized according to the person who will use them.

Additionally, we have found some benefits of social robots such as educating children and caring for patients. If we look in more detail social robots can be good assistance for children, patients, and elderly people. These people need guidance and social robots are the best option for this job. For example, elderly people cannot know the time they should take medicine. In this case, if they have a social robot, social robots can remind this to elderly people. Furthermore, social robots can be good teachers. They can be a good tool under parental control. We can't control the caretakers all the time, but the robots act according to their algorithms. This is one of the most important advantages of using social robots for education.

## 5. Conclusions

Social robots will take more place in our lives and industries. However, there are still ethical problems with the personal use of social robots. Personal robots can be expandable to some specific areas such as healthcare, education, and assistance services for elderly people and patients. If we look at the field by one by social robots are a significant tool, especially for patients and elderly people. Furthermore, social robots should be customized for personal purposes. As a result, for sure we will benefit greatly from social robots.

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