

# Attachment and Sex with Robots: An Assessment from Mental Health Perspective

## *Robotlarla Bağlanma ve Cinsellik: Ruh Sağlığı Bakış Açısından Bir Değerlendirme*

Ümit Morsünbül

### Öz

Robot teknolojisinin çok hızlı ilerlediği günümüzde robotların insan yaşamındaki yeri ve derecesi büyük tartışmalara yol açmaktadır. Robotla birlikte yaşamak, robotla evlenmek istemek ve robotla cinsel ilişki konularında ruh sağlığı uzmanlarının bakış açısı büyük önem taşımaktadır. Bu gözden geçirme çalışmasında robotların bebek, çocuk, yaşlı bakımında kullanılması ve robotlarla yakınlık, bağlanma ve cinsellik konusu ruh sağlığı bakış açısından incelenmiştir.

**Anahtar sözcükler:** Robot, bağlanma, cinsellik.

### Abstract

Nowadays, when robot technology advances very quickly, the place and level of robot in human life lead to great debate. The perspective of mental health experts about living with robot, wanting to marry with robot, and sex with robot is very important. In this review, the literature about using robot in infant, child, elderly care and intimacy, attachment and sex with robots tried to investigate from perspective of mental health.

**Key words:** Robot, attachment, sex.

**THE STORY** of Pygmalion from Greek mythology refers to a story that one can fall in love with and be happy with an object he has made. The fact that man is in love with his own object, that he lives with it, and even that he has sex with it raises the issue of humanoid robots that are often discussed nowadays. Since the beginning of the 2000s, this issue has become popular, many films have been made in the cinema and the series industry. For example Lars and Real Girl (Gillespie 2007), Meaning of Robots (Lanski 2012), My Sex Robot (Massot 2011), Her (Jones 2013), Ex Machine (Garland 2015), Westworld (Nolan 2016).

Robots have not only become fiction in series and cinema films, but they have become concrete subjects in our daily lives. Robots are used in many parts of our living space. The robot used in the cleaning area was Rambo, the fun robot pleo, the Kitycat robot designed as a pet, the baby Alive robot as a baby robot, the therapy robot designed to be used as a post-traumatic individual, Paro, the roxxx (female robot) and rocky

(Male robot) designed as a sexual partner (Sullins 2012, Richards et al. 2017).

Once upon a time there was a sculptor named Pygmalion on the island of Cyprus. This guy's in love with his profession. The only pleasure in life was to take care of these lifeless dumb sculptures. He chose to live alone away from people. He wouldn't interfere with people, he wouldn't talk to them, and he wouldn't worry. He would spend time with them from morning to evening, make new sculptures and tell them about their troubles. One day the sculptor made a woman statue of ivory. This sculpture was so beautiful that it was so impressive that Pygmalion fell in love with his own sculpture. He loved her with all his heart, but he couldn't return the love of this strange sculptor because the statue was lifeless. One day, while Pygmalion loved and stroked this beautiful statue, Aphrodite suffered this poor man and died of a statue made of dead Ivory. Pygmalion was stunned when he saw the statue come alive and returned to him. It was a miracle that the statue he fell in love with was revived. From that day on, Pygmalion lived a very happy life with the woman he loved. Moreover, he was no longer running away from people (Greek mythology 2017).

Today, where robot technology is advancing very rapidly, the location and degree of robots in human life are leading to great controversy. One side of this discussion is the mental health professionals. The perspective of mental health experts is of great importance in the fields of living with the robot, wanting to marry the robot, and sexual relations with the robot. In this review, the literature on the use of robots in infant, child, elder care and the closeness, attachment and sexuality of robots was examined from a mental health perspective.

## Robot Concept and Development of Robotics

The concept of robot comes from robota, which means the slave, worker in Czech language. Joseph Capec described the automates in his short story of Opilec in 1917. Four years later, when his brother Karel Capec wrote Rossum's Universal Robots, the robot Word and robots began to enter the interest of the popular World (Hockstein et al. 2007). When we look at Webster's Dictionary, the robot defines the word "robot" as a machine that looks like a human being who can perform various complex actions like human beings and can be guided by automatic control (Merriam-Webster 2017). When we look at the Turkish language dictionary, the robot word is defined as the automatic tool that can carry out various tasks with magnetism to perform a specific job and someone who does business with the orders of someone else, who can not use his own mind and will (Turk Dil Kurumu 2017). When we look at the definition of two separate dictionaries, the concept of robot basically refers to machines that can perform tasks that man can do. This definition brings to mind the concept of anthropomorphism, which means attributing human characteristics to other beings, objects (Sullins 2006).

When we look at the history of robotics, we see that people are in constant effort to develop machines that have human characteristics. Robotics is a new field of research based on the relationship between psychology, biology, artificial intelligence and robotics technology. Even though Robotics is new, attempts to make machines that can do human work or have humanistic characteristics, or the idea of them goes back to Ancient Greece. Aristotle is one of the first to suggest ideas about machines that can do daily work for people (Pascal 2003, Basalla 2013).

When it comes to the seventeenth century, it is seen that the view of the mechanical spirit is dominant in the world of science, especially in psychological explanations.

The basic face of the mechanical spiritual view is revealed by clocks. Watches were technology wonders, just like today's computers. With the 17th century, clocks were produced in large numbers and sizes (Schultz and Schultz, 2001). By the 18th century, machines that play music automatically began to come to the fore. The self-playing pianos that play by itself without touching were seen as fascinating machines of the. In the early 1800s, machines came out of the entertainment area and basically started to move to production areas. The most famous of these are textile machines. Towards the end of the 18th century, Thomas Edison's famous talking toy dolls and Nikola Tesla's first remote control machines were seen as fundamental developments in this field (Pasca 2003, Basalla 2013). By the 1940s, the Westinghouse Electric Company produced the first robots working with the electric motor. The Elektra robot is dancing, counting to ten and smoking. Sparko, a robot dog, was able to walk and bark.. In 1941, Isaac Asimov, famous for his science fiction books, first used the concept of robotics. In his books, he has held important projections for the future by stating many times that the robot industry will rise rapidly. By 1962, the General Motors company used industrial robots for the first time on the production line. In 1968, the Stanford Research Institute developed the first mobile robot with visual capabilities. This robot, Shakey, was able to perform certain mental operations and react to its surroundings. In the same year, General Electric developed a walking truck that could be controlled manually. A year later, Stanford University researchers developed a robotic arm that can be controlled by an electrically operated computer (Pasca 2003, Basalla 2013).

Today, robots have become a part of our lives in many areas. Household robots used for domestic and recreational purposes, robot cars that can move by themselves without drivers, robot cops and robot soldiers who are willing to replace policemen and soldiers in the security area have become new destinations of robotics. In recent years, new robotics studies have been moving with the enthusiasm of two long-term engineering. The first is to produce machines that move automatically in complex and unstructured environments. The second is to be able to make machines with social behavioral ability and moral decision-making ability. This would be possible with great technological progress called large-scale artificial intelligence (Royakkers and Est 2015).

## **The Role of Robots in Human Development**

In "Her" movie directed by Spike Jones (2013), it is observed that the film responds greatly positively to questions about whether the operating system will be connected to a human being and whether the operating system will contribute to human life (Morsünbül 2017). When we get out of the movies and come back to life, robots were basically developed for use in the care of infants, children and the elderly.

### ***Robots and Old Age***

Important studies are being carried out for the use of robots in the care of elderly individuals. When we look at age distribution in America and Europe, it is seen that there is a great increase in the rate of elderly population. According to the European Commission Report (European Commission 2012), the population over 65 will increase to 30% in 2060 and the average life expectancy will increase to 84.6 in men and 89.1 in women. Older people need help, albeit in different forms. Some elderly individuals have the ability to survive mentally and physically, while others need help to survive

their daily lives. Some of them have trouble doing housework in the home or shopping outside the home and visiting other people (Sharkey and Sharkey 2012) and their care creates a great deal of pressure on the services that care for the elderly and leads to different ways of looking for them. The use of robots in the solution of this problem is thought to contribute to maintenance work. Carer robots used in elderly care are expected to perform basically three tasks. These are (1) helping the elderly or the elderly carers, (2) helping the elderly to monitor their behaviour and health, and (3) providing them with companionship or companionship (Sharkey and Sharkey 2012). There have been several attempts to accomplish some of these tasks. For example, the elevator robot RIBA II provides support for carers to remove and carry their patients. Developed by French Robosoft company, the robot named Kompai serves elderly individuals who live in their homes. Kompai has a touch screen and connects with the elderly person and his / her doctor via the internet. This robot understands commands. For example, she can leave the room, play music or prepare a shopping list when she wants to. Currently, the basic deficiency of the kompai is the inability to show emotions. However, the robot-developing company hopes that they will be able to add this capability in the future (Royyakers and Est 2015).

Using robots in elderly care is criticized for causing some psychological and ethical negativities. The main criticism in this regard is what is understood by the concept of "care". Is the concept of care just helping the patient to lift, feed and walk, or are they building a mutual relationship, empathy and warmth at the same time? The current technological advances show that robots can not reveal a reciprocal relationship, empathy or warmth in caring. Another fundamental criticism is the reduction in the ability of elderly people to communicate directly with people, with more intensive use of robots in elderly care. The intensive use of robots in the field of care will distract the caring people from the people. However, the frequent use of robots removes the caregiver from the subject position and places it in the object position. In terms of ethics, the most important problem is that robots are used in the field of care, where information about the care takers is stored, where they can be used, or by whom. The main criticism in this regard is that the information obtained can be used in the negative way (Co-eckelbergh 2012, Royakkers and Est 2015).

### ***Robots and Childhood***

Robots can be used for both elderly care and infant and child care In the field of robot use in infant and child care, great efforts are being made to protect children from physical harm, to have children have fun and to get children close to robots. These efforts have become particularly fascinating for parents working in South Korea and Japan. There is a great expectation that the efforts in this direction will take place over a period of 10-15 years and robots can be used to a great extent in both baby and child care (Sharkey and Sharkey 2010).

Many research shows that children love robots and love to spend time with them. Hello Kitty Robot is one of the robots that children spend the most time and have the highest sales rate. When you look at the introduction of the website, the introduction is as follows. "It's a great robot for parents who don't have much time to be with their kids." Hello Kitty is able to recognize faces and voices by recording them in memory and calling them with their names. Since there are cameras in the face area, he can

follow his facial movements while talking to the child. The ability to speak and follow the actions of the person he / she is talking to can cause children to think of it as human. Sharkey and Sharkey (2010) interpret the comments of parents using Hello Kitty as follows;

“Robot Kitty is like another parent for our child in our house. He speaks very gently to my child. Robot Kitty even started talking to my child's accent in a short time. Robot Kitty is spending time to sleep with my child. He watches television with him, watches him in the bathroom, and he listens to my child reading the book. He's a great robot. My son Max even calls her mother Kitty. Thanks Robot Kitty.”

A parent's interpretation above shows that the Hello Kitty robot considers the child not only as a human being, but also in a similar way to the parent. Anthropomorphism, which means attributing human characteristics to other beings and objects, appears immediately in certain situations in both adults and children. Piaget indicated that children between two and six years of age were in pre-operational period. Piaget argued that animism and artificialism are the two basic parts of the perspective of the children in the pre-operational stage. Artificialism refers to the belief that a person created or caused by natural phenomena. For example, a five-year-old child considers the sun to be a fire by someone burning matches (Gander and Gardiner 1998). Animism is the belief that inanimate beings have animated qualities (thoughts, desires, emotions and intentions). According to Piaget, magic thought is often seen especially in early childhood, as young children load their human goals into physical events or objects (Berk 2015). According to Sharkey and Sharkey (2010), the characteristics of thinking that children have during this period have been enhanced by the features of speech, touch, face and emotion recognition in robots. They stated that companies that produce robots for children abuse these characteristics of children for consumption purposes. When in studies (Berk 2015) with children from three to five years of age, children have been asked about objects and animals on their features of location, talking, thinking, seeing, and feeling, they associated these characteristics with animals but not with objects. In addition, they did not associate such biological features with robots that act like humans. Unlike adults, however, children of this age said that robots had perceptual and psychological capacities such as seeing, thinking and remembering (Berk 2015). In a study by Melson et al. (2009) comparing robotic dogs with robot dogs, children stated that the live dog has a higher physical, mental and social status than the robot dog. However, most of the children who participated in the study showed that they thought the robot dog was alive and communicated with him as if they were alive. These children have been shown to think that the robot dog can think, social and moral elements can be. As a result, it can be said that children are more likely to think of robots as a human being and to relate to him as a human being than adults, and that by the end of the preschool period children tend to think of robots as alive.

As stated earlier, robots are used to protect children from physical damage and to have children have fun with child care. One of the most important reasons parents use robot carers is to ensure the safety of children when they are alone at home or in their rooms and to protect them from any physical harm. For example, Papero (personal partner robot) carer robot transmits the child's situation to the parent's computer or phone screen through cameras located in the eye area. In this way, parents can track whether or not children are safe. Robot carers are mainly used for entertainment and

proximity purposes. For example, the Sony-produced aibo robot Dog allows children to have fun and to connect with them. The biggest debate about the use of carer robots in child care is whether there is any connection between the robot carer and the child, and, more importantly, how healthy this link is in psychological terms (Sharkey and Sharkey 2010).

Attachment is defined as strong emotional ties that people develop towards those they consider important to them. This tendency to create an emotional bond and the need to express it is a system of attachment that is necessary and developmentally functional in order for newborns to survive. Explanations about childhood attachment are largely based on the work of Ainsworth. Ainsworth and colleagues have examined the ways of binding in the laboratory environment in order to demonstrate the differences between secure and insecure attachment. As a result of these studies, four types of binding sequences are defined. Children classified as secure are eager to explore the environment when they are with their carers. In the absence of the caregiver, there is little anxiety reaction. When the caretaker returns to the room, they come in close contact with the caretaker and return to investigate the environment. Children classified as anxious-unstable do not investigate the environment too much. They are very worried about the lack of caregivers and do not settle easily on their return. They are involved in dual reactions involving resentment and resilience, which is accompanied by intimacy and contact with their caregivers. As long as the children who are classified as avoidant are separated from their caregivers, they show very little stress reaction and refuse to be close to caregivers. When they meet with the caregivers, they move away from their caregivers and lead their attention. Finally, the children, who are classified as unresolved, are disorganized and confused. In laboratory work these children appear dazed, confused and fearful. Children who fall into this category exhibit fear reactions against both their surroundings and caregivers (Morsünbül and Çok 2011, Santrock 2011).

Some features of caregiver robots enable the child to perceive and connect the robot as human. Touch is one of the important items of inter-human relations. Some robots made for children (eg QRIO robot, PaPeRo Robot) can react variously when touched by sensors placed in different parts of their body. For example, when the QRIO robot is touched, it starts laughing. This causes children to be more interested in robotics and spend longer time (Tanaka et al. 2007). Another item that strengthens bonding between the robot and the child is the spoken language. Caretaker robots both make it easier to connect with a certain level of speech and understanding. For example, IBobi, produced by Yujin Robotics, has a vocabulary of 1000 words that allows you to react at a simple level. Another feature that robots have is face recognition, which strengthens associations. Some maintenance robots (eg RUBY robot) can store a certain number of faces in their memory and call the child by separating the child from the other children. All of these features allow the connection between child and robot to be easier and stronger (Sharkey and Sharkey 2010, Royakkers and Est 2015).

According to attachment theory, in order to be able to establish a secure connection between the child and the caregiver, the caregiver needs to be responsive to the needs of the child and be consistent in meeting these needs. Besides these, caregivers need to approach the child with affection and sensitivity (Morsünbül and Çok 2011). The basic question is whether robots can be a caretaker to securely connect as a carer. The idea

that the presence of a good program of care in robots will ensure secure connection, should be approached prudently. It is doubtful that the caregiver robot will be able to understand all the needs of the child or to reflect on the level of emotional attachment in relation to it.

One of the main arguments of researchers who support the use of robots in child care is that it is more useful to spend time with the robot than to remain alone. It is thought that it would be better for the child to have a robot with which he or she will spend time with pleasure rather than leaving his or her children alone in front of the television for hours. Another opinion is that it is healthier for children who do not have any parents to spend time with carer robots rather than being exposed to inadequate care in nursing homes. A study with Romanian orphans showed that children growing in orphanage with inadequate care are lagging behind in many areas of development. This study has shown us that meeting the basic needs of children is not enough for healthy attachment (Nelson et al. 2007). A classic research by Harry Harlow provides explanations on this topic. In the Harlow study, baby monkeys separated from their mothers immediately after birth and created a situation where they would live with caregivers for six months. One of the caretaker mothers was made of fabric and the other was made of cloth. The half of the baby monkeys was fed by the mother made of wire and the other half by mothers made of fabric. It is periodically calculated when the baby monkey spends both on the wire or fabric mother. They spent more time with the mother of the baby monkeys fabric regardless of which mother had fed them. When Harlow frightens the monkeys, those raised by the fabric mother rush to their mothers and stick to them. Those who were raised by the mother of the wire did not do it. This study has shown that feeding or caring alone does not provide secure connection by itself. Based on Harlow's work, it would be more beneficial for children to spend a lot of time with a caregiver robot if they spend too little time with few people (Sharkey and Sharkey 2010, Royakkers and Est 2015).

Considering the rapid development of robot technology, robot caregivers will have a big share in childcare in the future. With the development of robots that meet the needs of most children, children will begin to spend more time with robots than with humans. In this case, the greatest disadvantage to be encountered in terms of attachment is reactive attachment disorder. The most important symptom of reactive attachment disorder is significant deterioration in the life of the baby or young child in many areas, and inappropriate social relationships according to developmental periods. In addition, frequent changes in the primary caregiver or prevention of the child's basic needs, social and emotional needs, are included in the criteria of impairment to prevent the establishment of permanent bonding. Children who showed this disturbance were also found to have more insecure or avoiding attachment patterns (Soysal et al. 2009). Given the explanations about reactive attachment disorder, long-term use of the child with the robot caretaker may also cause this, and the child is permanently left alone and deprived of basic care support (a thesis that supports the use of the caretaker robots) may cause children to experience this disorder. (Sharkey ve Sharkey 2010).

## **Robots and Sexuality**

With the introduction of technology into human life, there are many changes in the field of sexuality as well as in the field of life. Joel Snell is the first researcher to point

out that people can have sex with robots. Snell used the concept "sexbots" for sex robots (Snell 1997). David Levy, the author of the book *Loving and Sexuality with Robots*, states that by 2050 the human-robot relationship will become a normal state. For example, in the famous "Red Light Street" in Amsterdam, it is predicted that by 2050 sex robots will start to work instead of human female sex workers (Levy 2007). Japan stands out as the most important of the countries that are the pioneers in robot design and production. Japan is among the leading countries in producing sex robots and using them in different service areas. For example, Doll no Mori in Tokyo opened a robot escort service 24/24 (Richards et al. 2017). The effects of sex robots are not limited to just Japan. Companies involved in robot technology in many countries are investing heavily in this field.

In 2010, the first sex robots were sold. Roxxy is the first female robot and Rocky is the first male robot. When these robots are designed, great efforts have been made to make them look like human beings. For example, Roxxy is approximately 170 cm in length and weighs 55 kg. The robot has a synthetic skin that resembles human skin and an artificial intelligence that allows the owner to learn what he likes and dislikes. In addition to these features, Roxxy makes simple conversations with the person he / she is with and shows his / her feelings and love in limited program. Looking at the website of the company that produces the robot (truecompanion.com), it seems that the price is 9,995 dollars. The website of the company that produces the robot states the following about Roxxy;

We produce the "RoxxyTrueCompanion" robot for you. Roxxy knows your name, what you do not like. She can communicate with you. She can be your dear friend by showing you her love. She can talk to you, listen to you, and feel your touch. It could even be an orgasm! (Truecompanion 2017).

Douglas Hines, the owner of the company, stated that they received about 4000 pre-orders from the Adult Entertainment Expo (Roxxy), where they were introduced for the first time (Cheok et al. 2017). In addition to sex robots, companies are trying to develop products that are largely smartphone based (Kissinger, Mini-surrogate, XOXO, etc.). For example, "Kissinger" allows people living away from each other to experience a kissing feeling thanks to an apparatus placed in the mobile phone. Researchers who have developed Kissinger say that kissing has a crucial role in human relationships. When people are kissed / kissed, they feel respect, happiness, romantic feelings, sexual nudity. Regular physical contacts, such as kissing, have a key precaution in maintaining the closeness of human relationships (Cheok et al. 2017).

Despite the development of different products, the main interest is on sex robots. The basic motivation here is how to develop relationships between people and robots. The concept of lovotics is used in order to make a connection between people and robots. The concept of Lovotics was proposed by Hooman Samani (Cheok et al. 2017). Lovotics is a multidisciplinary research area that uses the basic concepts of robotics, artificial intelligence, physiology, psychology, biology, anthropology, neuroscience, social sciences, computer science and engineering (Lovotics 2017). After industrial robots, service robots and social robots, Lovotics represent a new generation of robots that can both fall in love with a person and fall in love with a person. The artificial intelligence of Lovotics robots consists of three parts. The artificial endocrine system that contains the physiological bases of love, the probabilistic love assembly that is the



psychological foundation of being in love, and finally, the affective state transition based on human emotions. Physiological units of Lovotics robots consist of artificial emotional hormones such as dopamine, serotonin, endorphin and oxytocin. Artificial biological hormones such as melatonin, epinephrine, orexin and leptin are used to create and change blood pressure, body temperature and desire. The probable love association, the psychological unit of Lovotics robots, calculates the possible parameters of love between humans and robots. These are parameters such as affinity, similarity, repeated exposure / interview, attractiveness, attachment, mutual liking, satisfaction, privacy, attractiveness. Rich information about the emotional and mental state of individuals can be understood from their facial expressions, voice and gestures. The Lovotics robot's emotional state transition unit enables the robot to correctly analyze behavior at the moment (Lovotics 2017)

Studies on people's attitudes about being in love with robots or having sex with them are beginning to increase. MIT Technology Review conducted a survey of people's attitudes towards robots. According to the results of the survey, 19% of respondents said they could fall in love with a robot, while 45% said No and 36% said Maybe. To the question of whether robots can fall in love with a human, 36% of respondents answered yes, 23% no, and 41% maybe (Cheek et al. 2017).

In a study examining whether there is a gender difference in sex with the robot, it has been found that men tend to be more likely to be with a robot in the future than women. This may be the basis for explaining why companies that produce sex robots concentrate more on women's robots (Scheutz and Arnold 2016).

In a study by Huffington Post and YouGov, it was asked whether it would be cheating for someone to sleep with a robot. 42% of respondents answered yes to this question, 31% answered no. The rest of the participants stated that they were hesitant. The results of these studies can be interpreted as not too negative about people being involved with robots (Cheek et al. 2017). However, it can be understood that being with robots will open the door for problems. Today, problems with being with robots have begun to be discussed in legal terms. Discussions continue as to whether or not being with the robot will be cheating, whether it will be taken as a divorce reason, or how sanctions will be imposed on robots in such a case (Scheutz and Arnold 2016, Cheek et al. 2017,).

The main question behind these studies is why people want to be with robots instead of being with another person. This question also raises a question about what sexuality is or how it should be. Sexual interest, love, desire, pleasure and reproduction can be defined as intellectual, emotional, behavioural and social interaction (Cumurcu et al. 2012). Sexuality is one of the most personal areas of life. Each of us is sexual beings with preferences and fantasies that surprise us or even shock us from time to time. Usually these are part of an active sexual life. The definition of what is normal or desired in human sexual behavior varies according to time and place. But when our fantasies or desires start to affect ourselves or others in an undesirable or harmful way, they are labeled as abnormal (Kring et al. 2015). When we look at the Diagnostic and Statistical Manual of Mental Disorders (APA 2013), there are three topics related to sexuality. Sexual dysfunctions, paraphilia disorders, and gender dysphoria. Being with the robot under these headings does not correspond to any sexual problems according to DSM 5. When we ask why people want to be with robots again, we need to think

about the benefits of being with robots with variables that enable people to want to be with robots. It is thought that sex with robots will contribute to solving the problem in many areas. First, it is believed that women are used as sex slaves and that women's trade in this direction will bring a great solution. The use of robots in place of sex worker women is also one of the greatest benefits. The embarrassment, pain, emotional and physical trauma that sex worker women often experience will not be experienced by robots. More importantly, it is believed that it will bring a great solution to sexually transmitted diseases (Levy 2007, 2009). It is stated that it can be used in pediatric cases in children's robots which are child-like as well as adult-looking robots. It is suggested that children's robots may be used as methadone in the treatment of pedophilia, which is used for drug or substance dependence. There are great reactions to the use of child robots in pedophiles. The basic basis of this is that sexuality that can be experienced with children's robots will further reinforce the pedophilia. So far, it has not been legally limited to being with child robots in any country. In this regard, studies have recently been initiated by the European Commission (Royakers and Est 2015).

When we ask the question, why do people want to be with robots, the most basic answer is the search for sexual arousal and sexual fantasies. Unlike other living things, people use a range of mental processes such as images and sexual fantasies in sexual behavior. Most people have stated that sexual fantasies are used during sexual activity, masturbating, or in daytime dreams (Nutter and Condron 1983). The most important feature of sexual fantasies is that people are motivated to make a certain sexual behavior. People's sexual fantasies about robots may be directing them to robots. Richards and their friends (2017) also found sexual fantasies as the greatest influence on their desire to be with robots. While more personal features are taken into consideration, reasons such as loneliness, lack of social skills, thinking that they are inadequate to interact with women or men can be effective as in internet addiction (Morsünbül 2014a, 2014b).

## Conclusion

Although human-owned machinery attempts have been in place for a long time, the number of these enterprises and the amount of money invested in these enterprises have been increasing rapidly (Scheuts and Arnold 2016). Robots are used in many areas of human life. One of the pioneers in this field, Levy (2007), states that in the next 30 years, robots will be an integral part of human life and that life without robots cannot be thought of. According to Levy, in the years to come, people will largely try to eliminate their loneliness with robots, and even human-robot marriages will be a very ordinary situation. Some researchers point out that this is not a very realistic prediction. Given that the history of smart phones we use today is not so ancient and that these vehicles are an integral part of all aspects of our lives, it can be said that Levy's prediction may not be too far away.

Mental health professionals should carefully monitor these developments. Similar to the recently discussed and researched diagnosis of Internet addiction, in the coming years we can begin to talk about problems such as robot addiction, robot obsession, etc. It seems difficult to come to a certain conclusion that robots contribute positively or negatively to human life. Robot manufacturer companies have stated that they are trying to develop and produce robots to make human life easier and better. Experts who use robots in the field of care, sexuality or mental health also say that robots will contri-

bute greatly to human life (Cheok et al. 2017). Experts at the other end of the debate argue why we need robots when billions of people are standing on earth, and they say that the intense introduction of robots into human life would create a negative impact (Richardson 2016). It can be said that these discussions will last for many years when the technological-oriented lifestyle progresses at this rate.

In this review, developments regarding care, sexuality and closeness related to the use of robots in human life were tried to be explained. Studies on this subject are beginning to increase. This study should also be considered within this limitation. We need more work on how people look to robots, closeness and sexuality with them. Studies in this direction in Turkey are very limited. In particular, researchers working in the field of mental health will be able to make more accurate assessment of the issue.

## References

- APA (2013) *Diagnostic and Statistical Manual of Mental Disorders*, 5th ed. (DSM-5). Washington, DC, American Psychiatric Association.
- Basalla G (2013) *Teknolojinin Evrimi* (Translation Ed. C Soydemir). İstanbul, Doğu Batı Yayınları.
- Berk LE (2015) *Bebekler ve Çocuklar* (Translation Ed NI Erdoğan). Ankara, Nobel.
- Cheok AD, Karunanayaka K, Zhang EY (2017) Human-robot love and sex relationships. In *Robot Ethics: From Autonomous Cars to Artificial Intelligence*, (Eds P Lin, K Abney, R Jenkins):193-220. Oxford, Oxford University Press.
- Coeckelbergh M (2012) "How I learned to love the robot": Capabilities, information Technologies, and elderly care. In *Capability Approach, Technology and Design* (Eds I Oosterlaken, J van den Hoven):77-86. London, Springer.
- Cumurcu BE, Karlıdağ R, Almış BH (2012) Fiziksel engellilerde cinsellik. *Psikiyatride Güncel Yaklaşımlar*, 4:84-98.
- European Commission (2012) *The 2012 Ageing Report: economic and budgetary projections for the EU27 member states (2010-2060)*. Brussels, European Commission.
- Gander MJ, Gardiner HW (1998) *Çocuk ve Ergen Gelişimi* (Translation Ed B Onur). Ankara, İmge Kitabevi.
- Garland A (2015) (Producer). *Ex Machine* (Film).
- Gillespie C (2007) (Producer). *Lars and Real Girl* (Film).
- Greek Mythology (2007) *Pygmalion*. [www.yunanmitolojisi.blogspot.com.tr/2007/12/pygmalion.html](http://www.yunanmitolojisi.blogspot.com.tr/2007/12/pygmalion.html) (12 Kasım 2017'de ulaşıldı).
- Hockstein NG, Gourin CG, Faust RA, Terris DJ (2007) A history of robots: from science fiction to surgical robotics. *J Robot Surg*, 1:113-118.
- Jones S (2013) (Producer). *Her* (Film).
- Kring AM, Johnson SL, Davison G, Neale J (2015) *Anormal Psikolojisi* (Translation Ed M Şahin). Ankara, Nobel.
- Lenski M (2012) (Producer). *Meaning of Robots* (Film).
- Levy D (2007) *Love and Sex with Robots: The Evolution of Human-Robot Relationships*. New York, Harper Collins.
- Levy D (2009) Robot prostitutes as alternatives to human sex workers. ICRA 2007, 2007 IEEE International Conference on Robotics and Automation, 10-14 April 2007, Roma, Italy.
- Lovotics (2017) *Love+robotics*. [www.lovotics.com](http://www.lovotics.com) (Accessed 11.17.2017).
- Massot J (2011) (Producer). *My Sex Robot* (Film).
- Melson GF, Kahn PH, Beck AM, Friedman B (2009) Robotic pets in human lives; Implications for the human-animal bond and for human relationships with personified Technologies. *J Soc Issues*, 65:545-567.
- Merriam-Webster (2017) *English Dictionary*. [www.merriam-webster.com](http://www.merriam-webster.com) (Accessed 11.17.2017).
- Morsünbül Ü (2014a) Ergenlik döneminde internet bağımlılığı: Kimlik stilleri ve seçeneklerin saplantılı araştırılması ile ilişkileri. *Anadolu Psikiyatri Derg*, 15:77-83.
- Morsünbül Ü (2014b) İnternet bağımlılığının bağlanma stilleri, kişilik özellikleri, yalnızlık ve yaşam doyumu ile ilişkisi. *Journal of Human Science*, 11:357-372.
- Morsünbül Ü (2017) İnsanla iletişim sistemi arasında yakınlık, bağlanma ve aşk mümkün mü? *Aşk* (Her) filmi üzerinden bir inceleme. *Journal of Human Science*, 14:145-155.
- Morsünbül Ü, Çök F (2011) Bağlanma ve ilişkili değişkenler. *Psikiyatride Güncel Yaklaşımlar*, 3:553-570.
- Nelson CA, Zeanah CH, Fox NA, Marshall PJ, Smyke AT, Guthrie D (2007) Cognitive recovery in socially deprived young children: The Bucharest Early Intervention Project. *Science*, 318:1937-1940.
- Nolan J (2016) (Producer). *Westworld* (Dizi).
- Nutter DE, Codrom MK (1983) Sexual fantasy and activity patterns of females with inhibited sexual desire versus normal controls. *J Sex Marital Ther*, 9:276-282.
- Pasca C (2003) *History of Robotics*. Lecture Notes.
- Richards R, Coss C, Quinn J (2017) Exploration of relational factors and the likelihood of a sexual robotic experience. In *Love and Sex with Robots* (Eds AD Cheok, K Devlin, D Levy):97-103. London, Springer.
- Richardson K (2016) The asymmetrical relationship: parallels between prostitution and the development of sex robots. *ACM SIGCAS Computers and Society*, 45:290-293.
- Royakkers L, van Est R (2015) A literature review on new robotics: Automation from love to war. *Int J Soc Robot*, 7:549-570.
- Santrock JW (2011) *Yaşam Boyu Gelişim* (Translation Ed G Yüksel). Ankara, Nobel.
- Scheutz M, Arnold T (2016) Are we ready for sex robots? In the Eleventh ACM/IEEE International Conference on Human Robot Interactions, pp. 351-358.

- Schultz DP, Schultz SE (2001) *Modern Psikoloji Tarihi* (Translation Ed Y Aslay). İstanbul, Kaknüs Yayınları.
- Sharkey A, Sharkey N (2010) The crying shame of robot nannies. *Interact Stud*, 11:161-190.
- Sharkey A, Sharkey N (2012) Granny and the robots: ethical issues in robot care for the elderly. *Ethics Inf Technol*, 14:27-40.
- Snell JC (1997) Impacts of robotic sex. *Futurist*, 31:32-36.
- Soysal AŞ, Özçelik A, Arhan E, İşeri E, Gücüyener K (2009) Bir olgu sunumu eşliğinde tepkisel bağlanma bozukluğunun gözden geçirilmesi. *Türkiye Klinikleri Pediatri Dergisi*, 18:248-252.
- Sullins JP (2006) When is a robot a moral agent? *Int Rev Inf Ethics*, 6:23-30.
- Sullins JP (2012) Robots, love and sex: the ethics of building a love machine. *IEEE Trans Affect Comput*, 3:398-409.
- Tanaka F, Cicourel A, Movellan JR (2007) Socialization between toddlers and robots at an early childhood education center. *Proc Natl Acad Sci U S A*, 194:17954-17958.
- Truecompanion (2017) World's first sex robot. [www.truecompanion.com](http://www.truecompanion.com) (Accessed 11.17.2017).
- Türk Dil Kurumu (2017) Güncel Türkçe Sözlük. [www.tdk.gov.tr](http://www.tdk.gov.tr) (Accessed 11.17.2017).

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**Ümit Morsünbül**, Aksaray University, Aksaray.

**Correspondence:** Ümit Morsünbül, Aksaray University Faculty of Education, Aksaray, Turkey.

E-mail: [morsunbulumit@gmail.com](mailto:morsunbulumit@gmail.com)

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