



Virtual Sex: Good, Bad or Ugly?

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Abstract. Computers have created a new world which enables people to have different experiences that may not be available or appropriate to have in the real world. Sexual activities are also a part this. Nowadays, sex relationships between humans and robots are set to become commonplace. The advances of new technologies need to be taken into account for new progress. It is not uncommon from the first neurophysiological evidence of humans' ability to empathise with robots. Sex robots are going to be more focused in robotic industry in case of how they look and what rolls that can play. This study attempts to critically review the characters and characteristics of cutting edge ideas of virtual sex in real and virtual environments to provide researchers with backgrounds on what is going on in the future of sexual human needs. We have tried to find out advances, advantages and disadvantages sex with robots and virtual objects in different aspects. Most importantly, in this investigation we tried to find appropriate answers for some of the highlighted questions against virtual sex.

1 Introduction

Undoubtedly, the favor of robots' developments cannot be connivance in different parts of humans' life [1, 2] especially in dangerous and dirty assignments or even in teaching and learning religion [3, 4]. The history of robots goes back to the middle ages when they were being used for impressing peasant worshippers to believe almighty power [5]. Currently, many different tasks are recorded which are not possible to be carried out without the use of robots. Sex robot (sexbot) [6] is one of the advances that in some circumstances may be considered to be included in these impossible things. However, many people do not want to think on these new aspects due to traditional and religious believes.

Some people, especially religious people, believe that sex is different from other needs. Some others say sex is the same type of need as food, water, or shelter; a basic human need and desire. For instance, Loebner [7] said: "I pay for sex because that is the only way I can get sex. I am not ashamed of paying for sex. I pay for food. I pay for clothing. I pay for shelter. Why should I not also pay for sex? Paying for sex does not diminish the pleasure I derive from it".

Asimov [8] in the book of “I, Robot”, discussed about the relationship between human and robots. The book is almost a fiction book and Asimov was not sure whether the trends would happen or not. Sex robot was predicted before the commercial release to the general public. In *Veronica 2030*, a movie that produced in 1999, a female robot is designed to be used for sexual pleasure for human. The robot is named Julia and when she came back from 2030 to 1998, she was converted to a lingerie model [9].

Yeoman and Mars [9] engaged sex with tourism. They believe there is a direct relationship between tourism, men, and sex. They highlighted some countries and cities such as Thailand, China, Las Vegas, and Amsterdam to deal with the most sexual experiences in 2030 [10]. Yeoman showed evident that when people travel, they will be engaged with love, romance, and sex.

The subject of sex with robots is discussed for more than a decade [9, 11–13]. Currently many companies are producing different types of humanlike robots for the target of sex [14]. The proven evident of Christensen [15] who said that people will have sex with robot in the coming 5 years. However, we need to know that it is not only because of the ability of computer that can create realistic virtual sex, it is because of what human like these days. The lifestyle leads some humans to go through with this technology. A simple comparison between different lifestyles in Japan and Malaysia will reveal that a small number of people in Malaysia like virtual sex, while it is a high demand of Japanese industry. Sherry Turkle, in the book of “The Second Self” [16] pointed that “it is not about what the computer will be like in the future, it is what we will be like”.

“Love with robots will be as normal as love with other humans” said Levy [11, 17]. This relationship with robots offers a practical testing to the uncomfortable users to have experience before progressing to human-to-human relationship. This is not the highlighted point as there are many other benefits; such as controlling different types of diseases that we are currently facing which are predicted to increase in the future.

Levy [11] is the father of this idea that love and sex with robots will be usual in some coming years. Levy presented ten factors that are the source of love and sex. Then he tried to explore each in detail and highlight the contribution of robots in duplicating these feelings and emotions exactly in the manner that users like. He also answered the people who believe that this idea is kinky and is not going to happen in future. He replied to them, it is already in hands that some people have sex with inanimate or semi-animate devices. We should agree with Levy these days as many people are requesting sex robots now. It may be hard to be realized by some people that, even in 2001, in US 12.5 million vibrators were sold. It was more than 10 million only for women in 2007 while in 2008 more than 50 million women purchased sexual devices in US [12, 18] and also based on a report by Pearson [19] UK market is over 1 bn in 2015 [19, 20]. 6% increasing yearly sex toy industry [19] is another evident to emphasis Levy idea. Levy focused on the final stage that if robots can cover all human desired as well as expressing the feeling like the one that humans have, or maybe better, the societies’ laws must accept this entity and people can freely take the robot spouse in the society. This is the place that Levy emphasis on his metaphysical statement.

Sullins [13] does not agree with Levy [12] and censured that, in the meantime, we must consider that even if we accept that the growing use of computer technology in everyday life increases exponentially and with the use of sex robots is increasing dramatically, we must admit that the love will not be understood by computers, even if significant progress is made in Artificial Intelligence (AI). Choi [21] gave some reasons such as similarities, knowledge, and programmability that why people fall in love. Furthermore, Turner mentioned that loving by another person is the main reason [22]. It needs to be mentioned that, as evidenced by many politics and societies, many people can not accept the right of Homosexual, so how can they accept a marriage of human with robots. Sullins expected that many people and societies especially religious people will be against this idea. There is evidence which is presented by Amuda and Tijani [23] which need to be discussed in this study too.

Amuda and Tijani [23] presented many religious laws against the use of a sexbot. They believe that this technology will not be accepted by any of the religious people as the showed evident suggests. Underestimating sexbot marriage is out of people minds especially for religious people but they mentioned that if sexbot is inevitable in the case of capability of moral reasoning by robots, religious traditions should have to take some new religious rules into account but they refused to present the regulations, said McBride [3]. McBride's belief has a capability to be discussed as he explored that if robots are not secure of the sin of fornication, religious people will be agreed to marry robots. McBride believes that the future of robots with capability of moral reasoning and android behavior will be engaged not only in all societies but also in religious communities too. He also proposed some regulations for robots to be used for marriage. For instance, baptism of robots before marriage in factory or even undergo at a church is one of the solutions. He definitely agrees with presenting new regulations but religious communities believe that religious regulations can be defined only by God (Islamic Believe). In this regard Arkin [24] said that illegality of something does not mean no body will try it. He also strongly agreed that in 2050 marriage with robots would be usual. Based on the freedom thinking and previous background of Massachusetts people who are more liberal, Levy predicted that Massachusetts will be the first place that will marry with robots [25]. Producing a human-like robotic head which is named Kismet with many advances to be humanoid in MIT Lab in Massachusetts supercharges Arkin idea [26]. Pearson [19] is one of the futurologists who predicted that in 2030 the majority of people will have some sort of virtual sex.

According to a study of Nicholas Epley in US [27], during anthropomorphise something, we start giving value and worthy of moral care to the subjects. Feeling Empathy and freethinking are the correspondence outcome of this anthropomorphise. According to another research study from the same researcher [28] anthropomorphise around the world, has some advantages, especially for those who are alone, to find the social connection. In this regard, Levy [25] introduces some other benefits of sex robots which can be used by shy people which find it difficult for them to have a relationship with a human or for who have

unpleasant personality or psychological problems. “Lars and the Real Girl”, is a movie produced in 2007 which shows that Lars falls in love with Bianca which was an accidentally purchased doll. Craig Gillespie the director of the movie shows that how a doll can help the loneliness and shyness of Lars [29]. Although the movie was not successful in commercialisation, it nominated for the Academy Award for Best Original Screenplay. The main reason behind unsuccessfulness of the movie was the mindset of people which discourage others, watching the movie due to not only religious background but also society ethical mentalities against the idea of falling in love with a doll.

A sexual relationship between human and robots is one of the top challenging subjects to be accepted by society. It is not the first time that humans have fallen in love with something else which society deems inappropriate. In the positive aspect, falling in love with technology has its own advantages especially when the AI is involved. In this case the partner can learn from the user and mimics whatever he/she likes. The computer can listen to the user and react in a way that makes the user happy. There is no argument except the time that user likes to have it. Undoubtedly marital bliss will be achieved. The user has freedom to act without worry about any conditional affection. Last but not least is for those who are uncomfortable in sexual relationship to have a partner, or to have a partner that is desired. In the negative aspect, unhappiness of God may be enough to reject having a virtual partner. However, there are many reasons behind this idea. For instance, the weakening of family and social relationships on the one hand and the unfounded love relationships on the other.

2 Advances in Sexbot

Pepper robots [30] are one of the successful humanlike robots which can read human emotions and can live with human but one of the rules regarding to these kinds of robots is that there is no sex for Pepper robots and any indecent act of sexual purpose will break the ownership contract.

A sex psychologist, Dr Helen Driscoll said that intimate relationship between humans and robots due to spending much time on virtual realities such as games and social media might even improve mental health too [31]. This is one of the idea which most of the people are not agreed upon [32].

Many people are empathising with humanoid robots in the regular manner that they may empathise with the real partners. Scientists such as [13,33] believe that this empathy requires prosocial behaviors which must be prosocial by both humans and robots. Implication of human feelings in robots is another concern which AI will address this problem but no religion believe that. Now some researchers believe that AI sex robots or dolls could contribute in the sexual relationship between opposite sex or same sex, while some others believe that it is not true [34].

Hanson Robotics and Hiroshi Ishiguro Laboratories are two of the highlighted companies and laboratories developing humanoid robots [35]. Hanson [36] developed a realistic robot called Sophia who has cameras in her eyes and using a

specific algorithm which makes accurate eye contact and recognise an individual person following its face. A lovely conversation between users and Sophia is also one of the interesting part of this research. Another feature is related to the realistic skin and emotions. Patented silicon is used to create a flexible and humanlike skin, which can emulate more than 62 facial expressions. Finally, voice recognition technology is also taken into consideration to be able to speak. These all are respectable in term of advances in technology but they are still lack the loving from others and the survival of the generation of humanity.

One of the top most features that sex robots are aiming to use is for AI to be able to mimic and even improving their sexual experience which can be preferable compare to the real partners [31].

Lovotic is presented by [37] which refers to the research of love between human and robots. The first stage was deep understanding of humans' physics, emotion and physiology to be applied on robots. Moreover, reacting like a human being was also taken into consideration. Artificial Endocrine System, Affective State Transition and Probabilistic Love Assembly are the new consideration of Artificial Intelligence on Lovotic.

The progress of delivering tactile components of virtual sex through Internet is somehow remarkable, but an accurate and realistic delivering components of different parts of body for both men and women is hardly under investigation. Definitely, it will not take much time that humans will be able to touch and have the pleasure with a partner from long-distance through the Internet, indistinguishable with face to face interactions. However, much research have been developed in this regard.

3 Sex Dolls

The most advanced country in sex doll is Japan [9]. Japan and South Korea are the most highlighted countries which rent-a-doll market has blown the Human Sex Worker market wide open. This is because of their lifestyle which has been revealed along the history. No restricted religion in this countries may be the other reason which is going to happen in many other countries in near future.

The first handcraft sex doll made of silicon was created by McMullen and sold out with \$3,500 in 1997. It was accurate and equipped with fully skeleton and attractions. The doll was shown in more than 20 TV shows in 2014.

Roxxy [38] was the first sex robot [33] which was presented to the world in 2010 in AVN Adult Entertainment Expo in Las Vegas but with lack of ability to think. "She can't vacuum, she can't cook, but she can do almost anything else, if you know what I mean," Hines [39]. She could hear, speak, sleep and even feels touches using advances of AI.

Marketing sex [40] is a new industry which many companies investing huge amount of money on it. Child sex dolls are also another type of dolls which aims for pedophiles. A Japanese company named Trottla is producing these kind of dolls. Many people are against this technology [41,42] and complained to the Japan government to prohibit the production and sale of these artefacts as a

serious issue. This is while the company claims that it is for therapeutic purposes and we are helping people who are engaged with pedophiles, while there is no therapeutic programme with the product, said Richardson [43].

Fembots [44] is known as a “call girl” service, which was presented by a Japanese company to reduce the cost having a partner compared with a real human. This company was very successful, in its own target market, which in one month could cover the cost of the company. Huge commercial success of Malebots shows the using of robots for women was no less than men. Here, we should realize where the world is going to be anchored. It is while many socialist people believe that women have sex for love but men may for pleasure [9, 45]. The gap between these ideas are going to be wider and wider. Should people change their mindset or should technology stop going the wrong way? This is a causal question we asked among 80 Malaysian students and find that 100% agree to not use technology in this way. It is while this question is answered with 64% positive among international students in Malaysia. The results may also reflect the lifestyle of different nationalities in a same country.

4 Hiring Sex Dolls

It is normal for any production in the early generation to be quite high in cost. In these cases hiring is usual. The same goes to the very high cost of the early generation of sex dolls [46]. People in Japan prefer to rent dolls instead of purchase due to economy issues. Alice, Ai, Mayu and Tina were some of the famous dolls who were successful in the sex doll hiring market. Membership of a sex doll club is also taken into account [47, 48].

The Japanese are not the only people looking for sex dolls and renting of them. Now many other people accepted the sex dolls and rental ones too. For instance, Siumi Le Chic and Mistress Luna are available in London [49] with the price of one month living cost per hour.

5 Virtual Sex

Virtual Reality is currently a very widespread technology in different fields [50]. Virtual reality is part of everyday life now. It can be imagined a day not so distant in the future, with courtesy of virtual reality in any single part of daily life. Sex is also a pleasure which is certain parts of the human life and VR are now trying to cover this [51]. A rapid increase of Augmented Reality technology [52, 53] addresses some demands of people in this regard too.

Tenga [54] a Japanese company produced a Mixed Reality haptic device equipped with an Oculus device to generate a suit sex device to have an experience on a sexual game called “Sexy Beach”. Some sensors in different parts of body make the user impulse during the usage time.

“Second Life” is an online game, which allows users to have virtual sex with any other users freely. It was developed by Linden Lab [55] in 2003. As the game is open source the quality and quantity of the game is increasing by users [56].

6 Good, Bad or Ugly?

Currently, hiring storages for bearing children is one of the advancements of having technology partners. One of the future needs is having children between two same sex lovers using new technologies. Offering practical testing and having the pleasure with virtual humans for those who are not comfortable to have a relationship with a real partner, may be counted as one of the other advantages of virtual sex. Of course, virtual sex for pedophiles reduces the crime, which happens by psychiatric disordered people. This may also be good for adultery and self-motivated (masturbation), which causes different types of diseases that currently we are facing and predicted to increase in the future. These are some of the positive aspects of using technology for sexual desires.

The recent developments in new technology adds a new tier on the cyber relationships [57]. Some sex doll producer companies believe that sex dolls help people who have sexual problems to prevent them doing crimes. For example, Trotlla, which produce child-like dolls, claims that these types of dolls are for helping pedophiles and consequently reduce the crime that we face with these type of people.

Buying sex is due to many reasons such as lifestyles, demographics, and other motivations. It is not directly to the restriction of the governments. In South Africa, Sweden, Afghanistan, India and so on, the highest rate of crime is the crime of rape [58].

Not only religion abandons sex with non-humans, but also there are many societies who are also do not agree with sex and marriage with non-humans. This is while many psychologists and communities are agreed with a mixed bag for humanity using sexbots. Arkin [25] asked that do you think if pedophiles are possible to have sex with child-robots, they will go to a real child? Regarding to this matter, we can refer to Brey [59] discussion who reviewed Levy [60] argument against virtual child porn does not mean that it harms children indirectly, but it may ultimately harm women who suffer from inequality eroticize in sexual relationships, while Sandin [61] with an empirical support argued that virtual child porn is directly against children and it is outlawed. Arkin believes that this technology will reduce the sexual criminal severely. Levy [25] also said that human prostitution will be reduced by keeping robots for sex, while Levy himself revealed that, of course sex with robots may increase the jealousy in families. Levy added something that need to be judged by the readers of this article. He said that, who knows! maybe in future instead women saying, Darling I have a headache, not tonight. They will say Darling I have a headache please use your robot!

Brown et al. [62] based on a deep study reveal that using new technology directly effects adolescents to prevent different types of diseases and problems such as STDs, HIV, and pregnancy. Teens can learn how to face with real opposite sex and the sexual information sharing is functional and beneficial [63]. Reducing risky sexual behaviors is another advantage that can be taken into consideration [64].

On the other side, one of the issues that currently many different societies faced to, are the negative rate growth of population. The long-distance-relationship through Internet or even virtual sex is one of the highlighted reasons caused this issue. Human beings are vulnerable, whose survival depends on the activities that must be done to survive for themselves and their generations. Obviously there are different activities in human life, which some of them are easy and some are difficult. An example of easy activity can be refer to breathing and heart beating which there is no worries for them in an ordinary life. Other activities could be sometime difficult such as to get food, providing a place to live and staying free from cold and heat. One of these vital activities is the choice of spouse, the formation of a family and the birth of a child that takes place in the form of marriage. On the one hand, the need for a spouse and the pleasure of communicating with him/her. Other factors that make a person aware of all of the difficulties of marriage, is thinking of forming a family to love those pleasures and respond to the innate needs of a spouse. Children love to be loved and all these are for the human race to not be extinct [65].

Therefore, in confronting every need and pleasure that arises from the nature of men or women, one has to be confirmed is the priority, not only the satisfaction and enjoyment of the purpose. We eat foods, fruits and vegetables; but they are a prelude to being healthy not only to enjoy. Ignoring this matter does not make it possible for humans to meet the innate needs and enjoy the way to achieve the goal but not at any cost. Various sexual relations that are developed and promoted beyond the legal limits, are all in one common principle, and that is the central pleasure, disregard of the purpose of this innate need.

These are some reasons that religions are against technologies to be used in these directions. It is permissible and successful to achieve prosperity in the form of satisfying the innate needs only within the limits of what religion specifies or does not prohibit, but outside of this framework, in addition to the destructive effects of individual, they are forbidden in many societies.

Tabatabai [65] states that, we see that all peoples and nations at all ages have read this act as ugly and prostitute, in order to understand that this practice leads to the corruption of family, and the interruption of human generation due to lack of affection and the love is not reciprocated.

Love is a sacred concept and love for the family brings admiration from others, while love with robot is free from this praise. The family is one of the masterpieces of nature in which it is a bridge to the past and a bridge to the future. A home with a loyal couple is a perfect setting in which children can be raised in love and justice, where children's spiritual and physical needs can be met perfectly. Lack of this opportunity definitely effects on the new generations and cannot be addressed by new technology.

What is needed to be deeply thought of is that "And of His signs is that He created for you mates from among yourselves, so that you may find tranquility in them; and He planted love and compassion between you. In this, are signs for people who reflect" [66]. As mentioned earlier, love will not be understood by computers, even with significant progress with AI as love is beyond the definition.

Love is a concept, which is not definable by humans, let alone simulating of that. The literature behind love, spouse and friendship is literally significant which has not been taken into consideration in any of the presented tools.

7 Conclusion

Technology is growing dramatically and it is normally in the direction of human help. As can be seen on the progress of robots technology, it is not so far that they will fulfill almost all human's needs in future. Virtual sex and sex with robots will not be an issue in developed countries as they have accepted many other laws which are contradicted with religious laws.

In this paper we have tried to discuss the cutting edge research and most of the advances in virtual sex. Limitations of them which closely are matched with the idea behind religious people are also discussed. Based on our investigation, there is no doubt that producing sexual toys, dolls and virtual reality is increasing dramatically. But no answer for loving by others, interruption of human generation and social harms can be figured out yet.

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