



Making sense of sexbots: an inductive thematic analysis on Reddit

Master's thesis submitted to obtain the degree of Research Master in
Philosophy

Laurent Voet (01615131)

2021-2022

Promotor: Veerle Provoost

Word count: 10840

Word count with meta-level: 14462

Table of content

- Table of content2**
- Meta-level reflection4**
 - My choice of topic..... 4*
 - State of the art..... 5*
 - Audience 8*
 - Knowledge level and accessibility 8
 - Groups of interest..... 9
 - Possible journals 11*
- Abstract.....15**
- Introduction16**
- Method19**
 - Study site 19*
 - Data collection and sampling 20*
 - Data analysis 20*
 - Ethics 21*
- Results.....23**
 - Setting the scene 23*
 - Move over?..... 24*
 - The unreal girlfriend experience 29*
 - The sexual is political 32*
- Conclusion and discussion34**
 - Discussion and further research 36*
 - A found manosphere 38
 - Incels and sexbots 41
 - Making sense of sexbots: clashing perspectives 42

Epilogue.....45
Bibliography47

Meta-level reflection

My choice of topic

Sexuality and technology are historically intertwined phenomena which raises questions about the nature of our sexuality, and our relationship with sexual technologies (Gordo-López & Cleminson, 2004; Ornella, 2009). Art, media, technology in general have a close relationship with our sexual experience. Our engagement with sex-oriented technology has been a matter of enhancing sexual appeal, sexual activity or pleasure or compensating for sexual partners (Roussi, 2021). Technosexual objects, practices and procedures include biotechnology, drug manufacturing, surgeries, toys, virtual reality, etc.. We are currently living in an age of 'digisexuality', where our sexuality is increasingly mediated by technologies such as teledildonics, dating apps, sexuality-oriented websites and social media of all kinds, VR-experiences and the like (McArthur & Twist, 2017). Sexbots are the latest development in this growing tendency of technosexualization. This growing technology of sexbots pushes us even further in our considerations of sexual technologies. Sexbots are a new qualitative shift in sexual technologies. I think they form the ultimate materialization of our dominant understandings of human sexuality, the body and gender. With their customization and different charactersettings (AI), they invite for an intensive relationship. These technologies contribute to a transformation of our perception of the purpose and meaning of "(having) sex". Not only the separation of sexual reproduction and sexual pleasure is being enhanced, but it also leads to a transformation and redefinition of our understandings of sexuality itself (Sigusch, 1998; Ornella, 2009).

Although for many sexbots may be a banal technology that does not require any real philosophical reflection, I am convinced that the designs and uses of sexbots are connected with our understandings of ourselves as sexual beings, gender relations, sexual and gender identity, sexual politics and social relations (which is also displayed in the analysis of the themes of this research). In the meantime, I am familiar with much of the academic literature on sexbots, and I wanted to explore the richness of sense-making about the phenomenon of sexbots. Sexbots are read as objects with meaning and their 'reading' is linked to the different

conceptual frameworks that exist about it (see state of the art). According to me, a decisive element in the discussion about sexbots is to let different people in different positions speak about the subject that see this phenomenon from different positions (users, non-users, producers, etc., more about this in the epilogue). Because it is a recent phenomenon that is often linked with a certain stigma or feelings of shame, I wanted to use the online context as a source for this research.

The relationship between technology and sexuality, and how we understand ourselves and these objects, is worth exploring if we want to have a broad approach concerning the ethics of sexbots. The technology is still in its infancy which means that it is better to think about it now than when it is too late. This indicates a certain urgency of the research. Specific to empirical ethics, the domain from which this research departs, is to link the found results, intuitions, and attitudes to normative frameworks and to assess the interaction between the two. Empirical ethics and its rich arsenal of methods is the ideal domain for a closer examination of the different meanings that people give to sexbots. Eventually, I want to understand how people make sense of sexbots.

State of the art

Sexbots¹ are humanoid robots with a certain level of AI and customizable personalities that are meant for sexual activity and pleasure (Danaher & McArthur, 2017). They form the summum of the materialization of ideas about gender and sexuality (Kubes, 2019). Sexbots are a new qualitative shift in sexual technologies. Through customization and different character settings (AI), they invite the user to form an intensive relationship. A typical example of this is the sexbot Harmony. Harmony is a sexbot made by the company Realbotix, in collaboration with three other companies, namely Abyss Creations/RealDoll, Daxtron Labs and NextOS. The goal behind the production of Harmony is to provide an interactive and functional robot that establishes a one-to-one relationship with humans. The user will be able to determine Harmony's appearance and personality within the options offered. The software

¹ <https://www.realdoll.com/realdoll-x/?tmclk=DLLb662d19f0905c21f53be3c882d0520a2>

behind Harmony aims to satisfy the user in both the short and long term, and to create a certain affinity between humans and the sexbot. Harmony takes advantage of the human's susceptibility to recognize human characteristics and behavior in things other than the human itself. Thus, the sexbot is equipped with facial expressions and behaviours that are intended to imitate humans (Coursey et al., 2019). The mission is to make more than a simple object available to users. The faces can be swapped, the object is described as "warm to the touch" and it is claimed that the sexbot has up to 50 automated sex positions. According to its creators, Harmony can perfectly imitate an orgasm (Sharkey et al., 2017). Harmony is not just a sexbot, but is also presented as a life partner. An app is provided for users to communicate with the AI behind Harmony. When the user is away from home, 'conversations' can be held with Harmony to build a bond. In this app, an avatar of the sexbot appears. Harmony gets to know the user and caters to their preferences. The sexbot can quote your favorite poetry, make jokes, and claim to have a favorite meal. Harmony also comes with eighteen different "personalities" to choose from (González-González et al., 2019). Another example is Roxxy. This sexbot is the product of the company Truecompanion.com. Roxxy also comes with different personalities to choose from, for example, the user can choose Frigid Farah, who imitates the behavior of someone who does not like to be touched in their sensitive areas. Young Yoko is another personality that belongs to Roxxy's standard package. It acts like, as it is called, a woman that is categorized as "barely 18" (Rasmusson, 2019). Such personalities are sources of concern regarding the moral permissibility of these designs. Some work has already been done on sexbots and the ways these might challenge or reinforce existing sexual practices, subjectivities and how this relates to dominant (heteronormative) gender-related power structures (Richardson, 2016; Sparrow, 2017; Danaher & McArthur, 2017; Frank & Nyholm, 2017; Cox-George & Bewley, 2018; Szczuka, 2019; Lancaster, 2021). This work mainly focusses on ethical questions related to the design and use of sexbots.

We find three main approaches in the current debate considering the ethics of the design and use of sexbots: instrumentalism, abolitionist feminism and a contextual view of technologies and humans. The *instrumental view* focusses on the utility and practical good of that sexbots. A representant of this way of thinking is Levy (2007). This instrumental view has often been criticized for only focusing on the utility and not on the embedded nature of these technologies in cultural frameworks of sexuality, gender, and oppression. A typical example

of the *abolitionist feminist* approach is Richardson's Campaign Against Sex Robots (2015) (recently rebranded as Campaign Against Porn Robots). She formulates a radical feminist critique on the negative impact these sexbots have on our physical and mental being due to their design. Although her campaign had a lot of impact on the debate, she is often criticized because of her wish to ban this technology based on normative definitions of sexuality and humanity (Klein & Lin, 2018). The *contextual approach*, which can be found in the work of Danaher (2018), focusses on the different contexts and designs of sexbots. It draws on existing bioethical perspectives to provide (ethical) guidelines for the use of sexbots in a controlled environment as a social experiment and leaves more room for different interpretations of the technology (Danaher, 2018).

Sexbots seem to be a blank canvas on which people draw different meaning on (Devlin, 2018). Some qualitative and quantitative studies have displayed people's judgements, intuitions and attitudes towards the design and use of sexbots. A key study representing what people think about sexbots is the quantitative study by Scheutz and Arnold (2016). A remarkable result was that a recurring difference could be found between men and women in the answers concerning the suitable use of sexbots as well as the suitable form of sexbots. Another study examined views on sexbots of adult male sex offenders and non-offenders, and their perceptions of sexbots as sexual partners, and sexbots as a means to prevent sexual violence (Zara et al., 2021). The study indicated that sex offenders, compared to non-sex offenders, were less likely to believe that the use of sexbots could reduce the risk of future sexual violence. A third remarkable study used a qualitative approach to examine commonplace assumptions of participants among different communities in the United States of fluent English writers on futures with sex robots and discuss these from a critical design perspective with the use the Story Completion Method (SCM) (Troiano et al., 2020). Through thematic analysis the study pointed towards narratives of consumerist relationships between humans and sex robots, stories that described sex robots as highly efficient sex workers that (out)perform humans in routine sex activities, and narratives that explore sex robots as empathetic and sentient beings.

I think that these studies stress the importance to elaborate on how sexbots are both perceived and understood as tools/sexual technology in different contexts and groups. The

ongoing research about the perspectives concerning sexbots displays a gap concerning the use of online discussions. Online discourses contain an alternative source for knowledge and possible answers because of the possibility of anonymity and the possibility to debate with strangers about topics that are value-loaded (Maxwell et al., 2020; Proferes et al., 2021). The anonymity on the internet can be an accelerant of less socially desirable comments (Maxwell et al., 2020). Furthermore, online boards offer researchers the possibility to observe closed and ongoing discussions without interfering (Proferes et al., 2021). Because the subject is quite new, ambiguous and for some people obscure, forums (Reddit) can be used to perform an inductive thematic analysis of what people (morally) think about sexbots. The use of an internet forum like Reddit can turn out to be a rich source to expand the current research, as it allows us to examine discussions in their online flow (Proferes et al., 2021).

Audience

Knowledge level and accessibility

The discussion concerning sexbots is of a recent date. This means that there is a big chance that the readers of the article will not be fully familiar with the subject. The introduction of the article gives a brief but necessary summary about the scholarly debate. The article can be interesting for people who have a certain knowledge on the subject and people who are new to it. This is because the research that is displayed in this article doesn't need a deep understanding of the concepts used in the scholarly debate and that the research that the audience will read is of a complementary nature. The inductive thematic analysis broadens the focus of the debate about sexbots. The results of how people make sense of the technological object can be understood on its own without the reader knowing about what the exact debate is about. Only when the results are linked to the normative framework, some knowledge might be needed on the feminist stances on sexbots. I feel that the framework (the dialogue between Richardson and Kubes) that I used is clear enough to interest and hold people that are not familiar with the content. The different views in the feminist debate are defined and the arguments of each position are given in response to each other. The narrative of these stances should be easy to grasp for academic audiences.

Groups of interest

Besides this broad estimation on the 'average' reader, different people in different subdomains of philosophy can learn from this research each for their own reasons that I will present here. The intended audience is everyone who wants to learn about the discussion on sexbots and anyone who that wants to understand how this sexual technology is interpreted by people. Because of the method that is being used and the research context (an inductive thematic analysis on an online discussion board), people who are not interested in the phenomenon of sexbots might find this research helpful to guide them in the relatively new but promising use of online comments as a source of scientific knowledge (for empirical ethics). People in the domain of internet studies, social media studies, empirical ethics and the like can value the used method and place it in the growing tendency of using online discussion board or Reddit as specific example for scientific ends. Recently, several empirical studies and thematic analyses are being done with the use of online forums (Gauthier et al., 2022; Maxwell et al., 2020; Sharma et al. 2017). Especially the use of Reddit as a source to understand specific debates, intuitions, positions, and arguments put forth by non-expert members/lay persons has become a new method in studies that want to use online discussion platforms as a main source.

As a result of using a relatively new approach, users of this new method still debate on possible ethical issues concerning privacy, and practical issues such as how to define the relation between commenters and comments and which guidelines should be followed on choosing the right online discussion board. Several elements of these discussions are also displayed through this article (Proferes et al., 2021). To conclude, a certain part of the intended and possible audience of this article can be interested even if the content of the research is not close to their hearts. The used method and the discussions linked to it provide the article also to be published in journals that are more concerned about the method's associated problems.

Besides the intended audience which would focus on the method rather than the content of sexbots, there is also the intended and possible audience of people who are interested in sexbots (since it complements a scarce pool of research done on how people feel and think about sexbots) or haven't seen a direct link between their field of interest and the sexual technology. As indicated in choice of topic and as seen in the results of this article, sexbots are

sexual technologies that lend their way of being read by people linked to assumptions about sexuality, love, politics, gender, and social relations. Sexbots are interpreted by people who implicitly or explicitly hold certain beliefs about these elements. Studies on the philosophy of technology and its (sexual) relation with people, feminism, sexuality/sexology, ethics (of technology/sexuality), psychology of human-robot intimacy and gender studies that have 'technologies of gender' and the mediatization of gender displays as its focus are all fields that can be interlinked to studies on sexbots. By showing these links, I also want to show that the discussions on sexbots is not something minor, peculiar, or strange, but that it should grasp the attention of a bigger audience than that exists now.

Possible journals

The list below contains four possible journals for submitting this thesis. The order represents preference and priority. My criteria were resemblances in content, method, and research site. This means that the journals presented below either published papers on sexbots, inductive thematic analysis on websites or more specifically on Reddit. Since I aligned the analysis of my thesis to findings on incel (involuntary celibate) discourses, journals who combined subjects on incel culture and Reddit were also taken into consideration.

Name	Publisher	Scope	Articles	Website	Impact factor
International Journal of Social Robotics	Springer	This journal contains a broad spectrum of papers on robotics in social contexts. The journal covers papers on design, ethics, politics, ethics, attitudes towards robotics and the like. As the articles in the next column indicate, the subject of sexbots combined with the listed focusses is not strange to this journal.	<ul style="list-style-type: none"> - Sexbots as Synthetic Companions: Comparing Attitudes of Official Sex Offenders and Non-Offenders: https://link.springer.com/article/10.1007/s12369-021-00797-3 - Foundations of Erobotics: https://link.springer.com/article/10.1007/s12369-020-00706-0 - Robots, Rape, and Representation: https://link.springer.com/article/10.1007/s12369-017-0413-z 	https://www.springer.com/journal/12369/	5.126

Social Media + Society	SAGE	<p>The journal focusses on studies on social media and their impact on society, our thinking and behaviour. Reddit has been a great source to many of the papers found published by this journal. The effects of Reddit on misogyny and the discussion of using Reddit as a research site to investigate manospheres is often discussed. My thesis shows an alignment with this relatively new method of using Reddit. The first article in the next column also shows an ongoing discussion on what guidelines there should be used concerning the ethics of this method based on what earlier researched have done.</p>	<ul style="list-style-type: none"> - Studying Reddit: A Systematic Overview of Disciplines, Approaches, Methods, and Ethics: https://journals.sagepub.com/doi/full/10.1177/20563051211019004 - Reddit’s Veil of Anonymity: Predictors of engagement and participation in media environments with hostile reputations: https://journals.sagepub.com/doi/full/10.1177/2056305118810216 - “She Thinks of Him as a Machine”: On the Entanglements of Neoliberal Ideology and Misogynist Cybercrime: https://journals.sagepub.com/doi/full/10.1177/2056305119872953 	<p>https://journals.sagepub.com/home/sms</p>	4.636
Paladyn, Journal of	De Gruyter	<p>Paladyn covers a wide range of subjects linked to robotics, going from cognition,</p>	<ul style="list-style-type: none"> - The moral case for sexbots: https://www.degruyter.com/j 	<p>https://www.degruyter.com/j</p>	2.567

Behavioral Robotics		attitudes, human-robot interaction, and machine learning to the ethics of development. The articles in the next column indicate the philosophical and psychological interest in sexbots presented in this journal. The third article is an empirical study on how people feel when their partner would use a sexbot. This kind of empirical research aligns with the inductive thematic analysis done for this thesis. The focus on what people think and feel, rather than only focusing on the scholarly debate, shows a great resemblance with the goal of my thesis.	<p>m/document/doi/10.1515/pjbr-2020-0031/html</p> <p>- Love(rs) in the making: Moral subjectivity in the face of sexbots: https://www.degruyter.com/document/doi/10.1515/pjbr-2020-0016/html</p> <p>- Jealousy 4.0? An empirical study on jealousy-related discomfort of women evoked by other women and gynoid robots: https://www.degruyter.com/document/doi/10.1515/pjbr-2018-0023/html</p>	ournal/key/pjbr/html	
Sexuality & Culture	Springer	The journal Sexuality & Culture offers an international forum for analysis of ethical, cultural, psychological, social, and political issues related to sexual relationships and sexual behavior. Their publications cover discussions on sexuality and sexual relationships, harassment, pornography, sexual technologies, and the ethics of sexuality. Next to this philosophical focus they also welcome papers of an empirical nature showing attitudes, sentiments, and behaviour on changing sexual norms. The paper in the next column also contains a	<p>- “A Short Story of a Lonely Guy”: A Qualitative Thematic Analysis of Involuntary Celibacy Using Reddit: https://link.springer.com/article/10.1007/s12119-020-09724-6</p>	https://www.springer.com/journal/12119	1.278

		<p>thematic analysis on Reddit, focused on incels. Especially the first theme in my thesis as the discussion part focuses on this phenomenon. A great resemblance can be found concerning content and method. I also believe that this journal hasn't published enough about the human relationship with sexbots. This could broaden their focus on what counts as a sexual relationship.</p>			
--	--	---	--	--	--

Abstract

The phenomenon of sexbots has lately been receiving increasing academic attention. The forms and uses of this humanoid sexual technology with AI have been analyzed and discussed by philosophers, sexologists, ethicists, and legal experts. Ethical debates about possible designs and uses receive the most attention in academic discussions. Quantitative and qualitative studies on how people outside this context look at and think about sexbots are scarce. Especially research with the online context as a research site seems to be missing. This research site, however, can be a fruitful one to explore people's (moral) attitudes, arguments, and intuitions. An inductive thematic analysis on online discussions about sexbots was carried out on three different subreddits on Reddit. Three themes were constructed. Themes include the assumed role of sexbots as seen from incel ideology, reasonings on hypothetical experiences of using a sexbot, and the use and meaning of sexbots in a context of political and sexual identity. The language in the discussions indicated a dominant male heteronormative perspective. Although similar elements to the scholarly debate like the use of sexbots to channel sexual misconduct or making analogies between the believed effects of the use of sexbots and pornography occurred, differences to the debate occurred in the themes of the hypothetical tendency to use a sexbot, and the indications on how it could change our definitions of 'having sex'. These elements point toward a research gap in the academic discourse. Finally, the themes were aligned with the feminist discussion on sexbots. Richardon's call for a ban and Kubes' queer reading of sexbots were linked to our analysis. Further research could include exploring multiple online research sites to complement or contrast the indicated male heteronormative perspective with other perspectives (LGBTQAI+, ...) on the phenomenon of sexbots.

Introduction

The discussion concerning sexbots is becoming increasingly popular within various fields of philosophy and science (González-González et al., 2021). Questions concerning the phenomenon of these humanoid robots with AI (Cheek & Zhang, 2019), meant for sexual activity and pleasure, concern the fields of technology, ethics, and sexuality (Kubes, 2019). Also, the medical world, especially the studies involved in the use of sexbots for therapeutic purposes, does not leave the subject untouched (Sharkey et al., 2017; Carvalho et al., 2018). Furthermore, legal issues concerning the regulations of (child)sexbots are also at the center of the academic debate (Danaher, 2019). In these fields questions mainly concern the usefulness of sexbots for purposes that can be described as (morally) good. Apart from the utilitarian nature of these questions on the possible good effects of sexbots as (medical) tool, there are also authors who are concerned with what these sexbots represent as a technology that is imbedded in modern gender and power relations (Richardson, 2015; Sparrow, 2017; Kubes, 2019). The medical, legal, and ethical debates are often intertwined in discussions where possible regulations of the production or designs of sexbots are scrutinized.

The current debate on the ethics of the design and use of sexbots can be divided in three main approaches: an instrumentalist-utility, an abolitionist feminism, and a contextual approach. The main focus of the *instrumental-utility view* is the utility for humans from going to plain pleasure to medical or social usages (therapy, elderly people, loneliness, ...) and efficacy of these tools (Peeters & Haselager, 2019). A representant of this reasoning is Levy (2012), who claims that sexbots can be of good use for multiple purposes like love, affection, and sexuality but also to combat illegal prostitution. This view is often met with critique. Accordingly, it doesn't acknowledge the patriarchal, historical and cultural contexts where sexbots fit in (Devlin, 2018; Peeters & Haselager, 2019). The *abolitionist feminist* approach condemns the designs and uses of sexbots as a whole, and advocates for a total ban on their production. Richardson's *Campaign Against Sex Robots* (2015) (recently rebranded as *Campaign Against Porn Robots*) is the leading example of this approach. She formulates a radical feminist critique on the negative impact these sexbots have (Richardson, 2015). According to her, they represent a long history of the objectification of women. Based on her concepts on the relation between technology, sexuality and morality, she believes sexbots cause a lack of authentic

relations and sex, and the danger of the isolation of its users (Richardson, 2015; Klein & Lin, 2018). The *contextual* approach focusses on the different contexts and designs of sexbots. This view resists an a priori ban on sexbots, as found in the work of Danaher (2018). It draws on bioethical perspectives to provide ethical guidelines for the use and design of sexbots in a controlled environment as a social experiment. The focus of this approach lies on the question how the emergent technology of sexbots should be regulated instead of being banned as a whole (Danaher & McArthur, 2017).

To complement the scholarly debate, questions can be asked on how different groups of people, in non-academical contexts, reflect on the phenomenon of sexbots. Some qualitative and quantitative studies have displayed different insights concerning people's judgements, intuitions and attitudes towards the design and use of sexbots. A key study representing what people think about sexbots is the quantitative study by Scheutz and Arnold (2016). The aim of the questionnaire was to elicit people's attitudes and intuitions about sexbots as well as their attitudes and intuitions about the appropriate use of sexbots. Women found particular uses and forms of sexbots less appropriate or permissible than men. Men, for example, found sexbots more suitable than women to prevent cheating, to replace sex workers, to be used as educational materials, to employ them for invalids as well as sexual offenders for therapeutic purposes, to be used in unusual sexual practices such as sadistic sex, and to boost the user's self-confidence. This trend can also be found in the questions of suitability regarding the form of sexbots. For example, men feel that sexbots in the form of celebrities, deceased partners, and friends are more appropriate to use than women (Scheutz & Arnold, 2016).

These insights were complemented by a study that examined views on sexbots of adult male sex offenders and non-offenders, and their perceptions of sexbots as sexual partners, and sexbots as a means to prevent sexual violence (Zara et al., 2021). This involved a mixed methods design, including both interviews and questionnaires. The study indicated that sex offenders, compared to non-sex offenders, were less likely to believe that the use of sexbots could reduce the risk of future sexual violence. These findings are accompanied by the qualitative approach to examine commonplace assumptions of participants among different communities in the United States of fluent English writers on futures with sex robots with the use of the Story Completion Method (SCM) done by Troiano et al. (2020). Through a thematic

analysis the study pointed towards constructed narratives of consumerist relationships between humans and sex robots, stories that described sex robots as highly efficient sex workers that (out)perform humans in routine sex activities, and narratives that explore sex robots as empathetic and sentient beings. These different approaches demonstrate that there are many creative ways to explore elements of reasoning about sexbots from people in non-academical contexts.

These studies stress the importance of understanding how designs and uses of sexbots are perceived in different contexts and groups. The ongoing research displays a gap regarding the use of online discussions. To supplement these earlier mentioned studies, we used the context of online comments on discussion boards. Online discourses contain an alternative source for knowledge and possible answers because of the possibility of anonymity and the possibility to debate with strangers about topics that are value-loaded (Proferes et al., 2021). Although the continuity between online and offline contexts is often stressed, the anonymity can be an accelerant of less social desirability. Furthermore, online boards offer researchers the possibility to observe closed and ongoing discussions without interfering (Proferes et al., 2021). Because the subject is quite new, ambiguous and for some people obscure, forums (Reddit) can be used to perform an inductive thematic analysis of what people (morally) think about sexbots. The use of an internet forum like Reddit can turn out to be a rich source to expand the current research. Qualitative analysis of internet postings may help to systematize and codify needs, values, and preferences (Eysenbach & Till, 2001). For this study we analyzed the commenters' (moral) reasoning, intuitions, and argumentations in a collected data set (see method). The goal was to analyze and formulate *what (moral) themes, assumptions, attitudes, and understandings can be constructed out of an online discussion about the phenomenon of sexbots.*

Method

Study site

Recently, several empirical studies and thematic analyses are being done with the use of online forums (Gauthier et al., 2022; Maxwell et al., 2020; Sharma et al. 2017). Especially the use of Reddit as a source to understand specific debates, intuitions, positions, and arguments put forth by non-expert members/lay persons has become a widely accepted method in studies that want to use online discussion platforms as a main source. An example of such a study is a thematic analysis on subreddits that discuss addiction and its challenges (Gauthier et al., 2022). As indicated in the article, many people seek out this support through online communities. Studies like these indicate that discussions on Reddit can be a great source and opportunity to understand intuitions, discourses, thoughts, and dynamics concerning subjects of debate better from a different angle (Gauthier et al., 2022; Maxwell et al., 2020; Sharma et al. 2017). They allow researchers to see these elements into a new context that leaves the typical academic debate and show a greater source of reasonings and intuitions from different people in different contexts.

Reddit has become one of the most popular social platforms on the web (Eysenbach & Till, 2001). More than 52 million daily active users can be found over more than 138,000 active topical communities called 'subreddits' (Eysenbach & Till, 2001). Subreddits often have their own individual norms and cultures. Each subreddit is known for its focus on a specific topic. Discussions on Reddit are primarily public. Anyone whether you have a Reddit account yourself or not, can view the posted content, unless the subreddits have specific policy rules about membership or privacy. To become a Reddit user, one must select a unique username and a password—email verification is not required. Reddit is known for its anonymous nature (Eysenbach & Till, 2001). Implicit and explicit norms discourage participation with one's real name as a privacy protecting measure (Proferes et al., 2021). A one-time use of an account or 'throwaway accounts' are not uncommon (Proferes et al., 2021). For this research, a contextual approach was made while selecting the subreddits to focus on taking into consideration the elements of privacy, consent, and the public nature of the discussions (see section 'Ethics' in Method).

Data collection and sampling

The data was collected on Reddit with the help of the website's search engine. To find subreddits that align with the research question, the key terms 'sexbots' and 'ethics' were used. These key terms gave a list of different discussions on the topic of sexbots. Every discussion had a different starting point. For this research we thought it to be important to have different angles on the topic. Some discussions started from explicit normative questions, others were more exploring in nature and started from the question of what the effects of the use of sexbots would be. Three different subforums/subreddits were used which met the following inclusion criteria: 1) *containing around 100 comments* - to preserve a qualitative context for discussion that displays arguments, statements and not just short comments, 2) *the forum being public in nature* - so no consent or permission is needed from the members or the administrators (see 'Ethics') and 3) *the forums are not older than a year* to mark a practical limit and have an element of actuality. For privacy reasons, it was decided not to explicitly refer to the links or titles of these subreddits. The comments of the forum-users were extracted from these subreddits and collected into a Word document. The commenters did not participate in this research. Their comments were already available in the public online space. We did not interact with them. Consequently, we carried out a passive analysis of online discussions, where studies of discussion groups happened without the interference of the researcher (Eysenbach & Till, 2001).

Data analysis

An inductive thematic analysis with a social constructionist epistemological basis was the starting point and method for this research (Braun & Clarke, 2006; Braun & Clarke, 2019). The commenters' (moral) reasonings, intuitions, and comments in our collected data set were analyzed while not using a pre-set theoretical framework or direction. Following this social constructionist approach, the coded and constructed themes need not to be seen as information that was 'already there'. Although the method was an inductive one, our epistemological stance holds that these themes can only be constructed within a hermeneutical dynamic that recognizes that meaning is constructed by the interaction

between (cultural) context, research question, comments and researchers (Braun & Clarke, 2006).

In the first stage of this study, we collected all the comments as they were, including references to aspects that could be labeled as 'personal data'. The raw data was later pseudonymized and overwritten so the original non-pseudonymized raw data could not be accessed again. This was to preserve the pseudonymity of the users. The codes and memos were organized with the assistance of qualitative analysis software NVivo licensed by Ghent University. In the second stage, different themes were constructed out of the collected comments. With the help of auditing, data was often re-organized, re-interpreted and re-constructed to obtain a coherent thematic analysis (Provoost, 2020).

Ethics

Different arguments and strategies have been presented to shape the practice of qualitative research using online comments (Beer & Burrows, 2007; Wilkinson & Thelwall, 2011; Snee, 2013). Some subreddits carry warnings in their disclaimers towards researchers concerning data collection. Administrators of subreddits can insist that researchers must seek informed consent (often phrased as 'permission) or that any collection of data is not allowed. It can be insisted that informed consent is needed from the administrators or from other active users. Because of these disclaimers, different levels of openness and usage for research is possible (Wilkinson & Thelwall, 2011; Snee, 2013). Subreddits and its discussed topics appear in different contexts where questions about privacy and informed consent must be asked according to the characteristics of the context (Wilkinson & Thelwall, 2011; Snee, 2013). After reviewing existing literature and several discussions within the research team, we came to a conclusion that for the purpose of this study, we will not seek individual informed consent from each commenter because: *a) the subreddit is public in nature, b) every personal data must be pseudonymized and c) the research does not concern sensitive issues or issues concerning marginalized communities where the publication of the results could be a risk for the people behind the comments.*

Concerning a), the subreddits that were used in this research were of a public nature. We carefully scanned the subreddits for any disclaimers concerning privacy and consent before

selecting them to include in our study. All the collected comments come from subreddits which did not have such privacy or consent disclaimers.

Concerning b), in this research paper, the subreddit names and starting questions/comments that binds the discussion will not be mentioned to minimize the risks of traceability. In the results section the titles and starting comments that launched the discussion will be paraphrased. For this research, online comments that were already available to all online users were used. Possible personal data was pseudonymized; that is, personal data that can directly or indirectly lead to the identification of a specific commenter was removed or modified in a way that does not change the meaning of the original comment. Through pseudonymization efforts were made to protect the commenters' identity. Every possible link to ages, names, places, etc. were pseudonymized.

Concerning c), and following the contextual approach of what can be considered public or private by Wilkinson and Thelwall (2011), not all data that can be found on the internet has the same weight concerning the accompanying risks of output of the results by the researchers and the gaining of information from communities that are vulnerable. Comments on forums that for example are about suicide, eating disorders or addiction can be labeled as risky information (Proferes et al., 2021). Ethical considerations regarding the sharing of the results of the research should be about harm and benefit of the research and results (Proferes et al., 2021). However, it is not expected that the commenters of the subreddits on sexbots are part of a larger community that is being targeted or discriminated.

For this research, all three criteria were met. We hold that no informed consent was needed as long as the researchers took precautions minimizing the risks of identification through pseudonymization (Proferes et al., 2021).

Results

Setting the scene

A total of 362 comments from three subreddits regarding sex robots were analyzed for this analysis. Each subreddit started with a different but normative question/claim on sexbots and society. The results are based on these three subreddits only. The first subreddit claimed that sexbots would make a better society. The second discussion started with assumptions about what effects sexbots would have on the dating market, behaviour of men and women and contained claims about sexbots and gender roles. The third subreddit asked the question what possible problems could be related to the phenomenon of sexbots. These three subreddits were chosen because of the original research question that focusses on the moral elements in these comments.

Throughout the discussions on the subfora, the main body of the comments indicated a meta-perspective. The commenters did not publicly identify in the comments as a user of sexbots, and their language use often indicated towards a tendency as if they were reasoning with an 'average' person in mind. The constructed themes and discussed phenomena were mostly built on the (hypothetical) reasoning of these commenters. The lack of concrete experiences indicates that the commenters discuss this topic from a meta-perspective. Besides this lack, the language that was used often indicated the take of an all-round perspective. The commenters reasoning was often found with describing terms concerning society as a whole. Their comments reflected a position that sees the described social dynamics as they are undergone by everyone (and perhaps except themselves). Only when a potential tendency to get a sexbot was themselves discussed, a hypothetical first person formulation was postulated by some. The commenters did not signal any concrete knowledge of sexbots. Names of sexbots known to be in production were never mentioned. There was no mentioning of factories, CEO's, AI programming and personalities that can be found in news articles, academic papers, or the websites of the developers.

Besides the meta-perspective pointed towards to by the content in the comments that do not indicate specific knowledge about designs or productions of sexbots, a dominant heterosexual

male account was indicated by the language in the comments. The sexbots were always depicted, implicitly or explicitly, as a gynoid. Furthermore, a great amount of hostility was present in these comments on feminism, the 'average woman' and dating scripts where women seemed to have a sexual power over men. One commenter dared to challenge this hostility in a comment and was later to be accused of probably being a lesbian. The following comment is a clear example of this hostility.

"I'm sure this has been said a million times before, Feminists see Gender Issues as a ZERO SUM GAME. Anything that helps Men in Society is perceived by Feminists as attention that could have went to Women. Yes, Feminists really are that petty."

Only one comment was found where the question was asked why everyone assumes that women would not get a sexbot. This comment did not ignite a further discussion. Men were often depicted as desiring subjects who need sex, and women were often portrayed as the persons merely serving sexual activity. All scenarios that were described in the arguments and reasonings were of a heteronormative nature. Although we cannot confirm the (male) gender or sexual orientation of the person behind the comments, we hold that our analysis on the language in the comments points towards a male heteronormative perspective.

Move over?

Comments often aligned with a particular view of society concerning attractiveness, sexuality, and (sexual/gender) hierarchy. Especially one subreddit that was analyzed discussed the following in depth. The male and female gender were depicted in a caricatural way and were classified in a certain structure. According to reasonings found in the comments, society consists of rusty and fixed categories of men and women who can be placed on a continuum of sexual attractiveness. The comments pointed towards an analysis of an assumed sexual and dating market where people's success on it is determined by their attractiveness. When it came to describing the nature of the market, the terms 'dating' and 'sexual' were often interchanged. Some commenters believed that the dating market could be reduced to sexual pursuit.

A hierarchy was indicated by the descriptions about men who compete against each other to date women. Accordingly, men can be classified in three groups. The believed 'average' male (or 'normie') is in the middle of the attractiveness spectrum and is believed to have an average 'SMV (Sexual Market Value)'. Each end of the middle group is met with another category in the hierarchy. Above the middle group it was believed that handsome popular men with an assumed good sexual life could be found. Beneath the middle group, the unsuccessful men who are involuntary celibate (also referred to in the comments as 'incels') are believed to be found. According to the descriptions on the forums, incels are people who do not have sex. Men like these seemed to 'not get any' because of their 'awkward behaviour', 'lack of social skills' or 'not fitting the beauty norms for men'. Sexbots were discussed as a possible means to help people who have an 'unsuccessful' sexlife. Some comments pointed towards an appreciation for this sexual object. The use of sexbots was believed to have possible positive effects on the 'danger of incels'. According to some commenters, incels are a danger because they seem to have a poor sexual life. It was believed that the lack of sex leads to (sexual) frustration of incels. Accordingly, these frustrations would eventually cause a rise in violence towards women and the 'popular' men. These explanations assumed a portrayal of men as active sex-seekers. Men were believed to be the protagonists of the assumed sexual/dating market. The sexual market, assumed in the comments, is believed to be organized by laws of natural selection where your physical attractiveness determines your success. Apparently, women demand the upper category of men with a high SMV. It was believed that there is a strong competition between the three categories of men for the demands of women.

Women were, as it seemed, less skillfully divided. They were believed to be on the receiving end of men's desires and pursuit for sexual activity. The 'average woman' was often depicted in a contradicting way. Comments about the sexual market indicated towards the belief of women as demanding people, but they were simultaneously put on the receiving end of the sexual pursuit of men. Women were believed to have sexual power over men, referred to as 'soft power'. Again, a contradicting depiction seemed to be presented by the commenters. Women were indicated to be active gatekeepers of sex with a controlling power over men, while simultaneously being described as passive. It seemed assumed in the comments that women passively undergo the dynamics of the sexual/dating market. A

certain type of women was always described in a hostile way: the feminists. Feminists were believed to hold most of the power over men. In some comments feminism was blamed for the sexual frustration of men. Apparently, feminists want to increase their sexual power over men by banning sexbots. Analyzing this discussion, the role of the production and use of sexbots became clearer. It was believed to play a crucial, but contradicting role. Although the sexbots were seen as technology that will change the behaviour of the people on the lower end of the SMV-spectrum, the introduction of sexbots in the circuits of this believed sexual market is apparently not followed by a disruption. The men in the upper, mid, and low category were believed to remain in their place. The earlier described hierarchy between the men with a high SMV, mid SMV and low SMV (or incels) was not believed to become subject to any change. Apparently, the competition between men, each from their own place on the spectrum of the SMV, was believed to settle and resolve. It seemed as if the introduction of sexbots would be a confirmation of the hierarchy. The following comments illustrate this belief:

"It will only appeal to the same group of men who are largely not participating or getting poor results in the dating market already, (...)"

"My theory: This will not affect the "top 5-10%" of the dating market. These people have a high SMV and tend to (eventually) match like for like/birds of a feather. Imo, the real impact will be felt in the middle end of the dating market, with people that either settle, or match like for like...both with great difficulty. In my opinion the effect in this demographic will be truly seismic..."

Throughout the comments it was indicated that incels were going to have a sexbot and would not participate in the sexual or dating market anymore. But as earlier indicated, the phenomenon of sexbots was not believed to change the status of the people in the hierarchy on the spectrum of attractiveness (or SMV). Apparently, owning a sexbot would stress the position in the hierarchy, as the next comment suggests:

" Anyway, my prediction is simple - it will formalize 'inceldom' and make it more 'official' and 'obvious.' Basically, owning a sexbot will be seen as the perfect anti-

status-symbol. It will always be seen this way and stigmatized. But tons of nerds, losers, geeks, incels and other "genetically undesirable by evolutionary-environment standards" people will buy one."

According to the commenter the assumed hierarchy as described above gets 'formalized'. Apparently, the men on the lower end were expected to become more visible and the men with a higher SMV would still be at the top of the hierarchy because they have a real woman. The low status of being an incel was seen as something to be ashamed of. This believed shame and its stigmatization is stressed in the following comment:

"Men enjoy the status that female attention brings. They like being able to basically say to the world, "look how hot my girlfriend is and she choose me! HA!" or "look how in demand I am with women!" "Look at how much enthusiastic sex I'm able to get without paying!" Not to mention any man with a sex robot will probably be ostracized and shamed like men who's "wife" is a sex doll."

Women were also believed to be affected by the introduction of sexbots, but again not in a disruptive manner. Women were believed to stay in their role as people who bear a sexual power over men, or persons who are passively subject to the changes in the sexual or dating market. The assumed phenomenon of being subject to competition and objectification as effect of sexbots was believed by some commenters to be a continuation of dynamics also found in the occurrence of pornography. What the commenters understood by pornography was never explicitly defined. Commenters talked about believed negative effects of sexbots which were aligned with assumed negative effects of pornography; women's self-image, a decline in sexual intimacy, addiction, isolation, mental health, etc. Although there seemed to linger an awareness of women being the passive victims of male fantasies, a further critical stance on why and how these depictions about men and women take form was not taken.

The comments on this discussion indicated towards a male perspective. Judging by the language used, it seemed that it was assumed that the production of sexbots was mainly about men's needs. Sexbots were believed to be marketed towards men, and accordingly, women eventually will feel the urge to compete with them to stay 'interesting' enough. This points

towards the earlier assumptions in the comments about women passively undergoing the introduction of sexbots into the sexual and dating market. Apparently, women would experience depression, anxiety, body dysmorphia, etc. It was believed that women would passively undergo the introduction of this new sexual tool. The other element that was earlier assigned to them, namely their sexual power over men, was thought of as something that would disappear:

“Women's power over men lies in sex. (...) It is the reason men go out of their way and do things for women they would never do otherwise, and it is one of the reasons that motivate men to seek high status and money as doctors, engineers and CEOs. For women, sex is power. Some feminists are trying to keep a tight leash on this power by giving women maximal control over it.”

The phenomenon of objectification of people as an effect of the usage of sexbots only seemed to occur in a one-way direction. Only the possible objectification of women was discussed. The possible objectification of men was not considered. These assumptions, and often their combination with misogyny or hostility, are an indication of the earlier mentioned male-centered account in the comments. Sexbots were seen (implicitly and explicitly) as a product made mostly for men, and women were believed to feel the effect on their physical and mental health. Many (hostile) assumptions were made about women in these comments. The ‘average’ woman was often depicted as someone who dates men of higher status or their money in exchange for sex. As indicated earlier, some believed women would feel that they must compete with the phenomenon of men using sexbots. Others went even further and believed that women would lose their essential power over men:

“You want to know why women hate the idea of sexbots? One word: control. If men (even ‘undesirable’ men in the lower 80%) had an outlet like realistic sexbots, men would no longer have to strive their entire lives to be ‘worthy’ of female attention. They would lose their societal bargaining chip: ‘if you ever want a woman to love you, you better act in my/women’s interests’. (...)”

Again, the relationship between the assumed categories of people was not disrupted by the introduction of sexbots into the sexual/dating market, but stressed. Discussions about the possible banning of sexbots from a feminist point of view were often met by anti-feminist comments. As proclaimed, feminists wanted to preserve their growing (sexual) power over men, and this apparently needed to be stopped.

The unreal girlfriend experience

Another constructed theme was the expected experience with the sexbot. The comments indicated an understanding of sexbots as an object to substitute companionship, love and/or sex. Differences between sex and long-standing love were made by some commenters. This contrasted the earlier described use of language which seemed to indicate an interchangeability between the terms 'sexual' and 'dating' when commenters discussed the sexual/dating market. The sexbot occurred not only as a purely sexual tool but also as a product that could sculpt people's social lives. The comments displayed a rationale on the possible relationships with sexbots and how they would be experienced by their users and observers. However, the 'realness' of the sexbot as something that would replace or come close to human to human sexual and other relational activity was met with skepticism. In the discussions concerning this theme, commenters often countered the earlier described meta-perspective with a hypothetical 'I':

"I don't know that I would necessarily want one, I could see it being a little too robotic and lacking any sense of genuine intimacy or romance (unless they really get somewhere with AI, robotics, and materials, but I don't think that's likely any time soon)"

A great number of comments indicated a skeptical attitude towards the idea that the sexbot would feel as a real person, or that people would be replaced by them. Other comments indicated towards the belief that it would be a matter of time to have an advanced level of AI that could replace human intimacy. Overall, intimacy and love were seen as things that could not be (easily) replaced by sexbots. Comments pointed towards different opinions on the utility of sexbots since they would not 'feel like the real thing'. One commenter believed this

lack of 'realness' would be taken care of when the AI behind the sexbot would be further developed. The comment below implies a skeptical attitude towards the 'realness' of a sexbot that could replace human beings:

"To me, a large part of the enjoyment is the fact that I share that experience with my partner. (...) While sexbots might be fun and enjoyable to play with, I seriously doubt that they would provide a replacement for genuine human connection."

Most of the commenters within this discussion did not make a distinction between sexbots as pure sexual pleasure, and sexbots as the replacement of a lover. The human lover as described in comments was often implied to be a woman, as the sexbot itself was thought of as a gynoid by default. The comments indicated towards the belief of some commenters that sexbots had two goals; being an object that provides sexual pleasure and being a companion:

"I actually don't think sex robots are the game changer here. Most people who want to get married are doing so to get a companion. The sex is an important aspect, but having a person who accepts and loves you is what they want. (...)"

Often contrasting ideas were displayed in the comments. As indicated above, some commenters did not believe that sexbots could fulfill the specific human needs, while others seemed to imply that they can. Furthermore, according to some, the success of sexbots would lead to the replacement of women or to addiction and isolation (of men). Although the sexbot was not seen as a 'real' person, it was believed that sexbots could possibly ignite jealousy or resentment. One commenter wrote down the following scenario to indicate that even if the sexbot is a lifeless object, our experience of it might be that it's something to be angry to if chosen by a significant other (SO):

*"If your SO has better sex with a robot rather than with you, would you be angry?
If they start comparing you to that robot, wouldn't you be angry?"*

Some commenters believed that sexbots could channel damaging sexual habits from the user to protect society. While this was seen as an advantage, commenters also seemed to express their concern about the opposite of this effect, namely that it would lead to more sexual misconduct. They seemed to believe in the channelization of immoral sexual fantasies (like rape fantasies, or fantasies about minors), while others thought it would be a stepping-stone from sexual play with the sexbot to real misconduct. The following comment and counterargument to it displays the difference clearly between the two points of view:

“sexbots may encourage men to act out these fantasies they have with dolls to real life women”

>“Again, why only one way? Why only “people might learn to do things on robots that they then act out on real women”? Why not “people will act out their weirdest fantasies on robots because real women won't indulge them”?”

Again, pornography was frequently used in these discussions as an analogy and a prediction of what effects the experiences with sexbots might have on people’s minds and behaviour. Once more, what was understood as pornography, never became clear. Some commenters seemed to believe that sexbots and porn have common elements and effects. One commenter explicitly listed a certain amount of believed negative effects. Another comment pointed towards the belief that people who argument against the legalization of sexbots would use a similar rhetoric to that of arguments against pornography:

“I would expect a huge movement to make such robots illegal, citing that it encourages immorality or that sex robots teach men that rape is acceptable. Perhaps a couple high-profile rape cases where a defense attorney looking to make a name for himself blames them for his client's actions. I've seen enough similar statements surrounding porn.”

Although the sexual nature of the act of using a sexbot was not discussed (does it count as ‘having sex’? what is sex?), some seemed to think of it as a form of masturbation, rather than ‘having sex’. Sexbots were believed not to be able to replace a human being, or not able to feel like ‘the real thing’. All the comments found on this question suggested that the commenters thought of it as a masturbation tool, and not as something people have ‘sex’

with. Although no further argumentation was given to label this activity as masturbation, one can hypothesize it is because the sexbots are seen as objects, and not as a sentient being.

“Maybe, but I don't think a robot would be the same. They can't replace the emotional connection of a human being, it would be similar to masturbation.”

“(...) A sex robot is not a person. It literally is an object. (...) It simply is an object.”

The sexual is political

One discussion concerned the acceptability of the usage of sexbots in a political context. The level of social acceptability was discussed. The commenters seemed to refer to a believed common process of social acceptance between the expected acceptance of sexbots and the acceptance of other sexual tools as porn and vibrators. This resemblance was not further defined in the comments. Accordingly, sexbots will become popular, just as the other examples became huge businesses.

The production and use of sexbots were believed by some commenters to have a political effect. The acceptance of this technology was linked to discussions about the history of the LGBTQAI+-movement. Two comments indicated a thought about a possible political future where people would identify themselves as ‘bot-sexuals’. While not being clear on the assumptions whether the sexbot must be seen here as a sentient being/person that also has to fight for (sexual) rights, the users of sexbots were depicted as people who would have to form a movement to get their sexual habits accepted:

“What will happen will be some degree of conflict over to what extent we as a society tolerate people bringing their robot sex toys out with them in public. (...) There will be entire new categories of wedding drama too...can your robot be your plus one, why can't I marry my robot partner in church, why won't the LGBTQI community advocate for robot fuckers to be able to marry...”

The social acceptance of people using sexbots for sexual activity or relational aims was also aligned with the idea of a feeling of stigmatization of sextoys experienced by men. Comments pointed out the belief that men and women are judged differently. As it seemed, men were being implied as the main buyers and users of sexbots. One other comment made an analogy with the social acceptance of porn to support the claim that the use of sexbots would get accepted. This claim was replied by a commenter pointing to the idea of sexbots as an 'anti-status-symbol'. The idea of the sexbot as a status symbol was also displayed in the earlier described comments.

Some comments pointed towards the belief that mostly women and/or feminists would be against the legalization of sexbots:

"I expect they will be banned in most countries.(...) Most women will support the ban and enough men will support the ban that the majority will be against them. (...)."

This belief became more explicit with the co-occurrence of hostile attitudes towards feminists/women. A certain number of comments indicated hostility towards the idea of sexbots getting banned or criticized by feminists. Although no specific arguments or examples were given on who these feminists are, the competition between men and feminists occurred on the foreground when political discussions on a possible regulation was discussed.

Conclusion and discussion

An inductive thematic analysis was conducted on three different subreddits containing discussions about the phenomenon of sexbots. This research started from the question *what the (moral) themes, assumptions, problems, and understandings are in (online) discussions about the designs and uses of sexbots*. The three subreddits used for this research pointed towards a meta-perspective of the commenters. The commenters did not identify as being a practical expert, but often reasoned with an 'average person' in mind undergoing the social norms and rules. Their used language displayed a position from above the phenomenon of sexbots and the effects it will have on society and personal relations. The meta-perspective pointed towards a lack of specific knowledge about actual sexbots that are in production. Besides this meta-perspective, a dominant heterosexual male account was indicated by the language used in the comments. When sexbots were being discussed, the design of the sexbot was always implicitly or explicitly assumed to be representing a woman. Comments indicated towards the assumption that the buyers and users of sexbots are heterosexual men. These remarks often seemed to be accompanied by essentialist contemplations on men, women and their (sexual) relations. Besides setting this scene, three themes were constructed out of the analyzed comments which we named 'Move over?', 'The unreal girlfriend experience' and 'The sexual is political'.

The first theme ('Move over?') contains our analysis and construction of a particular view on the phenomenon of sexbots. The content of the comments pointed towards a fixed hierarchal worldview where men compete against each other to conquer a woman on an assumed sexual market where someone's place is set by their physical attractiveness. The hierarchy between men was believed to be containing three secured positions. On the top of the hierarchy, it was assumed that we would find attractive men that have a great, as explained in the comments, SMV (sexual market value). They are believed to be popular sex-seeking men that get most of the women. It seemed to be believed by some commenters that one position beneath these men with a high SMV, the normal attractive men could be found. At the bottom of the hierarchy, according to these commenters, are involuntary celibates (or incels). They apparently have the lowest SMV and do not get any sexual activity. Incels were depicted in these comments as a problem for society. They were often described as dangerous men that

harm women with their hostile attitude towards them. Women were often presented as the passive receivers of sex, while men were often depicted as having an active role in the sexual pursuit. Accordingly, women hold sexual power over men. Comments pointed towards the belief of commenters that women undergo the dynamics of the sexual market where men compete against each other. We hold that the unchangeable nature of this hierarchy became clear when *the role of the sexbot* was discussed. The comments indicated towards the idea that the use and production of sexbots will not change the hierarchy. It seemed as if it would stress the hierarchy between men on the sexual dating market, since, as some commenters mentioned, owning a sexbot would show them to be an incel that cannot date a real woman. We conclude that sexbots were not met with the belief to be having a disruptive role in this fixed hierarchy. As pointed out in the comments, it would mostly just prevent incels from being violent towards women. This theme will be further examined and aligned with current literature on this subject in the discussion section.

The second theme ('The unreal girlfriend experience') was constructed out of the analyzed assumptions and predictions on how the use of a sexbot would be experienced. Most of the commenters seemed to believe that a sexbot would not feel like or replace a human partner. The comments indicated that this replacement wouldn't happen on neither a sexual nor a romantic level. Apparently, the sexbots were understood as a tool meant for sexual pleasure but also as something that could keep a human (romantic) company. Using a sexbot was not believed to be defined as 'having sex' with someone, but as masturbation. Alongside this skeptic attitude towards the phenomenon of replacement, the opposite view also seemed to emerge. Some believed that the use of sexbots would lead to isolation or sexual addiction. Accordingly, the use of sexbots would have a negative effect on the mental and physical health of women. It was believed that women would see these sexbots as competition. Seeing a partner using a sexbot was believed to make people jealous or angry. Next to this discussion, two clear stands were analyzed concerning the effect of the use of sexbots on sexual behavior. Some seemed to believe that the use of sexbots would channel damaging sexual habits or fantasies. Others seemed to believe it would ignite them. Discussing this, the commenters often used an analogy with the use and effects of (undefined) porn. The third theme ('The sexual is political') contains our analysis on the social acceptability of the use and ownership of sexbots. It was believed that sexbots wear a sign of shame. Accordingly, owners would be

stigmatized. Some commenters seemed to forecast a future where activity with sexbots would fall under the politics of the LGBTQAI+ movement. Apparently, the users of sexbots will fight for the social acceptance of their sexual habits. The discussion on possible regulations on the production of sexbots was indicated to be another political issue. There was an indication of the belief that feminists would try to ban the production. The idea of feminists being against the legalization of sexbots was often met with hostility and anti-feminist language. Again, according to some commenters, women would be responsible for depriving men from sexual pleasure.

Discussion and further research

The discussion about sexbots is intertwined with broader social themes about sexuality, gender, therapeutic uses, isolation, and other possible dangers of this technology such as objectification and sexual misconduct (Sharkey et al., 2017; Carvalho Nascimento et al., 2018). There seems to be an alignment between the constructed themes and the scholarly debate regarding the frameworks of Levy, Richardson, and Danaher. The contradicting assumptions, as found in the comments, about possible negative effects of sexbots as catalysts of sexual misconduct and the assumptions about the channelization of sexual misconduct are common in the scholarly debate (Levy, 2012; Richardson, 2016; Danaher 2019). These contradicting views are the main difference between instrumentalists as Levy and feminists as Richardson. As it seems, the discussion between these two views cannot be settled because of a lack of empirical evidence backing up the claim of channelization or cultivation of sexual misconduct (Carvalho Nascimento et al., 2018; González-González et al., 2019). This lack of evidence seems to be part of the reason why analogies are made with studies about the effects of pornography on the frequency of sexual misconduct (Devlin, 2018).

As in the comments of this research, the analogies with porn are also present in the argumentations in the philosophical debate about sexbots (Levy, 2012; Yeoman & Mars, 2012; Danaher, 2019). The anti-sexbot argumentation as found in the feminist campaign of Richardson also uses pornography as similarity. Recently she has changed the term sexbots in her campaign to pornbots. Further on, ideas about regulation and the banning of (child)sexbots are also very prominent in overviewing articles about the moral discussion of

sexbots (Sharkey et al., 2017; Carvalho Nascimento et al., 2018; Peeters & Haselager, 2019), as well as the idea of using sexbots in a therapeutic and medical context (Cox-George & Bewley, 2018; Fosch-Villanronga & Poulsen, 2020). In these debates the possible contexts to regulate sexbots are investigated. The discussion on specific regulations seemed to be missing in the discussions analyzed on Reddit, apart from the indicated belief that feminists would like to see them banned. Sharkey et al. (2017) discuss the possible stances on the idea of childbots (sexbots that represent a child). The phenomenon of childbots was not discussed in the comments of this research. Only one commenter mentioned them while making an analogy to childporn as a means to channel sexual fantasies of adults about children.

While some themes indicate an overlap between the scholarly debate on sexbots and the discussions found on Reddit, some elements that we analyzed in the comments seem to be missing in the academic discussion. Interesting to see is how the claims of Richardson and Danaher do not contain an analysis on the possible tendency of people to use sexbots. This points to the possibility that more research could be done on what the motivations of people would be to use or not use sexbots. To investigate this matter, other online discussion boards can be used, which represent first person experiences instead of the meta-perspectives found in this research. Also, the possible effects of the production and use of sexbots on dating, which was pointed out by some commenters, seems to be missing in the scholarly debate.

Another difference between the scholarly debate and the discussions on Reddit is a perceived knowledge gap. We believe this is indicated by the content of the discussions. While in the scholarly debate specific sexbots as Harmony or Roxxy with their announced AI-personalities are being discussed in concrete contexts (Sparrow, 2017; Danaher & McArthur, 2017; Coursey et al. 2019), the online discussions that were analyzed pointed towards a possible knowledge gap. Except the implication that they were gynoids, the sexbots were abstract objects that were never defined as something with a particular design or AI-script. This means that the discussions missed a focus on which designs and AI-scripts could be seen as specifically problematic or useful. The online discussions that were collected during this research did not concern 'moral' or 'immoral' designs in a concrete formulation. No nuanced discussions on what a moral design of a sexbot could be, as found in the works of Peeters and Haselager (2019), could be found in the subreddits. Discussions present in the work of Lancaster (2021)

about designing sexbots that could resemble celebrities, exes, or diseased lovers with or without consent were also missing. The discussions on Reddit align with but also differ from the scholarly discussions. The outcome of this research can be used as a tool to bring these two contexts closer together. It is important that the academic debate about sexbots also contains the practical elements such as people's tendency to use a sexbot and the dating market. Furthermore, how people label the activity with sexbots (is it 'sex' or not?) seems to be uninvestigated.

As for the limitations of this research, we hold that this research contains the same shortcomings that are often the case with online research (Maxwell et al., 2020). Online personas are often performative. They may not represent the complexity of the attitude of commenter. However, the anonymity of the commenters could also mean the opposite. Online sharing can become more authentic (Maxwell et al., 2020). Besides this, every claim about the identity, perspectives or attitude, as indicated in the results, should be made with caution, since this site-based research is limited in gaining direct information.

A found manosphere

Manospheres, a recent research topic in feminist theory, are contemporary antifeminist and misogynist online communities found on popular discussions websites as well as on less known corners of the internet (Farrell et al., 2019; Furl, 2022). These spheres are a total of online discussion groups where men's perspectives, needs, gripes, frustrations, and desires are explicitly written down. The men in these groups often describe their social, economic, political, or sexual problems and often blame the power of feminism and/or women as the root cause for their hard lives (Farrell et al., 2019; Furl, 2022). In feminist discussions, manospheres are often accused of its role in encouraging misogyny and threats towards women online, as well as for potentially radicalizing lonely or deprived men (Farrell et al., 2019). Women are excluded from these conversations or are often met with online abuse (Tranchese & Sugiura, 2021). These online spaces are signaled by a specific languages and terms (Farrell et al., 2019). Farrell et al. (2019) investigated the misogynistic language and ideas spread within and across these communities. They conclude that an increasing tendency of misogynistic content and users as well as violent attitudes. This online tendency is often

interpreted as a backlash toward contemporary feminism, where #metoo, and new marches for women's rights are seen as phenomena that oppress men (Srinivasan, 2021; Lindsay, 2022). *As indicated in the theme 'Move over?', the hostility towards feminism and women seemed to be present in a part of the analyzed discussions.* Manospheres signify a larger tendency of "toxic technocultures" that have been developing (Massanari, 2017). Their use and effects are not to be minimized since they lead to the exclusion, humiliation, extortion, and injury of women, online and offline (O'Malley et al., 2022). The specific infrastructure of Reddit, the karma points (a high karma score means users their posts and comments are well-liked, so they're viewed as more of an authority within the community), subreddit systems, ease of account creation and loose governance policies are seen as elements that create the possibility of an environment for "toxic technocultures" to proliferate (Massanari, 2017). *Since this research had Reddit as its research site and several studies on manospheres also used Reddit as a source (Høiland, 2019; Farrell et al., 2019; Helm et al., 2022), we wanted to align the literature and findings on this phenomenon with this research.*

Farrel et al. (2019) identify eight key activities that relate to misogyny: physical violence towards women, sexual violence towards women, hostility towards women, belittling of women, exclusion of women, the promotion of patriarchy or male privilege, stoicism (keeping a sense of endurance in the hardship of being a man) and flipping the narrative. Flipping the narrative contains comments, attitudes and expressions that refer to men being oppressed by women or other men (Farrell et al., 2019). *We observe an overlap between these listed activities mentioned above and the constructed themes as described in the result section.* The comments about the 'average woman', women and feminists having power on the sexuality of men is an example of flipping the narrative. This indicates that some discussions on sexbots are not merely about the object, but also hold a lot of assumptions about sexuality, gender and society, and contain anti-feminist and misogynistic dynamics.

The manosphere is often linked with the phenomenon of involuntary celibates (incels) (Farrel et al. 2019; Helm et al., 2022). *The findings under the section of 'Move over?' point towards a certain commonality with what is described as the incel ideology and language (Lindsay, 2022).* The gender essentialism, fixed hierarchy, sexual market terminology and sexist nature of the language analyzed during this research aligns with earlier studies done on incel online

communities (Høiland, 2019; Helm et al., 2022; O'Malley et al., 2022). However, we must say that no commenters in our research identified themselves as incels. The comments analyzed in this research that point to the commenter's perspectives do not indicate any self-identification as an incel. The subreddits that were analyzed were not described in their disclaimer as an online space for incels. On the contrary, one subreddit was described as a center between extreme positions. Furthermore, as the research question indicates, manospheres and incelism weren't a predefined focus.

Incels are a subculture often found within the broader world of the manosphere and have come to the attention of scholars studying their language, dynamics, ideology and identity (Høiland, 2019; Lindsay, 2022). Inceldom is characterized by gender essentialism, anti-feminism, misogyny, and the belief of male entitlement to sex and women as gatekeepers of it (Tranchese & Sugiura, 2021; Helm et al. 2022; O'Malley et al. 2022). According to the ideology of incels, everybody has their place in a hierarchical order based on their SMV (sexual market value) and attractiveness (Tranchese & Sugiura, 2021; Helm et al., 2022). Incels see themselves at the bottom of this hierarchy and feel discriminated at what they call the sexual marketplace (O'Malley et al., 2022). According to incels, the sexual marketplace is a female-led marketplace. Women are seen to be the gatekeepers of sex. Your success on the market is determined by your attractiveness that is depended on biological traits (O'Malley et al., 2022). Men are forced to become incels, because they get rejected by gatekeeping women. They describe the other categories on the male side of the hierarchy as 'normies' (the middleman one position above incels) or 'Chads' (the hypersexual good looking alpha male with a high SMV that gets sexual activity at the upper level of the hierarchy). Incels appear to despise Chads, but simultaneously want to be like him (Tranchese & Sugiura, 2021). Women are labeled as 'Stacies'. Stacy is the ideal woman that is, as believed by incels, only attracted to a Chad (Tranchese & Sugiura, 2021). Accordingly, they are also known to be searching for status and financial resources, which they can find in a Chad higher on the social ladder. Studies have shown that they describe women often with the accompanying words 'most' and 'many' (Tranchese & Sugiura, 2021). It indicates a perception of women as a homogenous group. Incels talk about women in a misogynistic way. They describe Stacies as utterly shallow (Tranchese & Sugiura, 2021). Another category of women seems to occur when incels talk about feminists. Accordingly, feminism is met with hate and despise (Lindsay, 2022). Incels

blame modern feminism for their sexual unfulfilled lives (Tranchese & Sugiura, 2021; O'Malley et al., 2022). Incels seem to define themselves as victims that need to fight the other men for sexual activity with women on a sexual marketplace that is harsh and competitive (Lindsay, 2022). Violence and revenge on women, online or offline are often legitimized by these online groups (O'Malley et al., 2022).

Our findings indicate a resemblance in language and used divisions in hierarchy between people. Terms like SMV and sexual market, the hostility towards women and feminism and the fixed nature of the described hierarchy are all present in the constructed themes of this research. The essentialist descriptions of women and men as homogenous groups, also point toward to what is believed and described above to be part of the incel ideology. Although terms like 'Chad' or 'Stacy' were not explicitly present, the term 'incel' was often used. Furthermore, one can see the resemblance of the hierarchy based on the believed sexual market value. We hypothesize that our constructed themes reflect a certain resemblance with the contents of incel ideology. We believe that a part of the analyzed comments, mostly described in 'Move over?', indicate an interpretation of the phenomenon of sexbots by commenters through the lens of incel ideology.

Incels and sexbots

Incels believe they see the world as it really is (Helm et al., 2022). Self-identified incels and outsiders call this an effect of what is called 'taking the black pill' (Lindsay, 2022). The black pill is a metaphor that relates to the red and blue pill known from the famous movie *The Matrix*. In this movie, swallowing the red pill stands for seeing the hard truths of reality (Lindsay, 2022). The difference with the black pill and the red pill is the level of fixity and agency. The red pill shows the world as it really is, but uses this view to motivate people to politically act on what is assumed to going wrong in the world (Lindsay, 2022). In contrast to this, the black pill shows the truth of society (the truth that incels seem believe), but also leaves the swallower with a sense of defeatism (Helm et al., 2022). Studies have shown that in the ideology of incels, the black pill stands for the revelation of the strict hierarchy between incels, normies and Chads, accompanied by the insight that this structure cannot change (Helm et al., 2022). Their place at the bottom in this assumed sexual marketplace

and hierarchy based on physical attraction is believed to be fixed (Lindsay, 2022). A common belief in the incel ideology is the skepticism towards any change (Helm et al., 2022). Other people who would enter the discussions to advocate the possibility of change and who according to incels did not swallow the black pill were met with hostility (Helm et al., 2022). *As described, we analyzed that the introduction of sexbots was not believed to bring change in this fixed hierarchy. Some comments point toward this black pill-view when the role of sexbots for incels was discussed.* Although the use of sexbots was believed to possibly 'shut up incels', the positions in the hierarchy, accordingly, would remain fixed.

Gersen (2019) asks the question if sexbots could serve as sexual outlets for involuntary celibates. She wonders if the production and use of sexbots could be a viable solution for the incel's isolation and perception of women as subhumans. This idea is criticized by Williams (2018). She believes that the problem is bigger than the lack of sexual fulfillment and the occurrence of isolation. According to Williams (2018), the deep misogyny and sense of entitlement to sex will not be solved by using a sexbot. Apparently, incels do not want to buy sex, but want to be given sex (Williams, 2018). Although the sexbot in our analysis often seemed to be depicted as a tool that would not change the fixed hierarchy, some commenters seemed to believe that it would prevent incels from doing harm. However, what self-identified incels think about this idea has not been examined yet. Analyzing their views online on the possible role of sexbots in their lives could shed clarity on this matter.

Making sense of sexbots: clashing perspectives

In 2015, Kathleen Richardson made a call to ban sexbots altogether. She founded the Campaign Against Sex Robots (CASR) now called the Campaign Against Porn Bots (CAPB). It is worth mentioning that also here, the implicit and explicit image of a sexbot is often that of a gynoid. She argues that the production and use of sexbots are immoral (Richardson, 2015). The production and use of sexbots would encourage the cultivation of unequal relationships between men and women and objectify women. Furthermore, the human-sexbot relation would enhance isolation. According to Richardson (2015 & 2016), today's sexbots promote a misogynistic perception with the accompanying attitudes and behaviours. Sexbots appear to Richardson as objects that are related to other historical examples produced by a misogynistic

culture, such as woman-unfriendly pornography, patriarchal views on the hierarchy of women against men and the predominance of men's lusts and desires.

The hostile, anti-feminist and misogynist comments analyzed in this research, especially as broadly discussed in the theme of 'Move over?' seem to confirm the argumentation of Richardson on the misogynist notions surrounding the use of sexbots. As the themes of our research indicate, the phenomenon of sexbots were associated with thoughts and attitudes towards relationship, intimacy, gender relations and depictions, sexuality, and other sexual tools. According to Richardson, the harm does not result from a person being directly harmed, as sexbots themselves are not persons, but results from what they stand for and articulate to interpreters. It is the symbolism that just makes these harmful elements possible (Sneddon, 2016; Danaher, 2019). Views on sexual consent (in the way certain AI scripts are programmed) and other concepts surrounding sexuality may be distorted. The relationships between gender, power and patriarchal elements (re)produce designs are harmful.

However, we argue that within feminism itself, Richardson's view on sexbots is problematic. We argue that the phenomenon of sexbots can also be interpreted within the feminist framework offered by Kubes (2019), a new-materialistic one. According to Richardson (2015 & 2016) sexbots are machines in the form of women (or children), for sexual use and replacement for humans. This definition already assumes that sexbots will replace humans. Claiming that sexbots will replace humans and that humans would no longer form relationships with each other is too big a leap from what we currently know about sexbots. Although the topic of being replaced by sexbots was also present in the themes of our research, commenters were often skeptic to this claim. In the literature on sexbots, this claim is believed to be one that cannot easily be proven (Klein & Lin, 2018). Richardson's conception of sex is another possible point for discussion. It is criticized by Devlin (2018) as being too normative since it speaks of 'authentic' sex as moral standard. This point of discussion can be linked to the subtheme about what counts as 'having sex' and what the status is of the sexbot according to the commenters. This indicates that further perceptions on the sexual use of sexbots need to be investigated. The unclear definitions and too-limited delineations of the moral meanings of sex cause the foundation of the CASR to show some weaknesses.

Kubes (2019), in contrast to Richardson, analyses the issue from a new-materialist and queer philosophical framework. The theoretical background to this analysis of sexbots describes a deprivation of objects from their passive role. Accordingly, objects carry symbolic and conceptual meaning and constitute conceptions and relations between subject and object (Kubes, 2019). Objects no longer wait to be manipulated by the thinking or acting of an independent subject, but rather mediate thought and behaviour (Kubes, 2019). Accordingly, things must be formulated in relational terms, and not tried to be caught in essentializing definitions. The new-materialistic feminist view offered by Kubes (2019) on sexbots proves to be an example of this. The immorality lies not in a particular essence inherent in the practice or object of sexbots, but in the patriarchal power relations. According to Kubes, queer designs of sexbots could carry the possibility to break out of the male heteronormative account on sexuality. Sexbots eventually might symbolize a multitude of sexual and gender identities that are queer (Kubes, 2019). *No aspect of this framework could be found during this research.* Richardson's critique makes sense if we would see the perspective found in this research as the only one available. However, we recommend that more inductive thematic research should be done in different online contexts like queer or women fora. Other subreddits or online forums can be investigated that are known for representing different identities from women to gender-queer perspectives. Exploring and constructing new themes out of these different contexts can help to comprehend the new-materialist feminist possibilities of sexbots better and serve as a counter-perspective against the male-centered content found in this research.

Epilogue

As earlier described in this thesis, there seems to be an alignment between the constructed themes and the scholarly debate between the frameworks of Levy, Richardson, and Danaher. This alignment concerns aspects as sexuality, gender (relations), sexism, objectification, pornography, love, intimacy, technology, isolation, and possible dangers of the design and uses of sexbots. I reflect on my research as a fruitful one and a study that can clearly be linked to pertinent questions and frameworks in the philosophical and ethical discussion on sexbots. As described in the part about the audience, the method as well as the content show to be a meaningful and added value to the existing concerns.

The research doesn't only display alignments between the discourses, but also clear differences that inspire for more similar research with a similar method, but applied to different corners in the online world. The claims made in the scholarly debate and the dominant frameworks do not contain much research on the tendency of people to eventually use this technology. Only Levy thinks that sexbots fulfill the necessary criteria for people to enter in an intimate relationship with it, but people their specific attitudes are not investigated. This indicates that more research could be done on what the motivations and incentives of people would be to use or not use sexbots. Furthermore, how people label the activity with sexbots (is it 'sex' or not?) seems to be uninvestigated. To investigate this matter, other online discussion boards can be used, which may represent first person experiences instead of the meta-perspectives found in this research. The knowledge gap indicated by the analysis of the content of the comments also indicates that different online sites could be explored to complement or contradict the themes found in this article. The research on how people think about sexbots and what different readings by people of the object can occur are scarce. The analysis of the Reddit discussion boards is only one of many possible perspectives.

To understand how people interpretate the designs and use of sexbots in many ways it is important to compare different sets of assumptions, readings and attitudes and eventually even let them clash with each other, to obtain a solid normative stance and framework. This comparison is important to understand how certain normative frameworks, like the feminist

one used in this thesis, work, and how theory and empirical findings relate to and adjust each other, as the domain of empirical ethics prescribes (Molewijk et al., 2004; Musschenga, 2005).

There are several aspects that still need to be explored from different perspectives. Online discussions on Youtube-videos, comments on sites that sell sexbots, comments on news articles about sexbots, feminist discussion boards, LGBTQAI+ and genderqueer online corners are all possible sources. The normative framework of Kubes's feminism in this thesis leads to studies that focus on perspectives and understandings other than the one displayed in this research. Unquestionably, other normative frameworks can be a guide to other (online) contexts as well.

Bibliography

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589–597. <https://doi.org/10.1080/2159676X.2019.1628806>
- Brown, R., & Shelling, J. (2019). *Exploring the implications of child sex dolls* (Report No. 570; Trends & Issues in Crime and Criminal Justice). Australian Institute of Criminology. <https://apo.org.au/node/223866>
- Burrows, D. B. and R. (2007, September 30). *Sociology and, of and in Web 2.0: Some Initial Considerations* [Text.Article]. Sociological Research Online. <https://www.socresonline.org.uk/12/5/17.html>
- Carvalho Nascimento, E. C., da Silva, E., & Siqueira-Batista, R. (2018). The “Use” of Sex Robots: A Bioethical Issue. *Asian Bioethics Review*, 10(3), 231–240. <https://doi.org/10.1007/s41649-018-0061-0>
- Cheok, A. D., & Zhang, E. Y. (2019). *Human–Robot Intimate Relationships*. Springer International Publishing. <https://doi.org/10.1007/978-3-319-94730-3>
- Cox-George, C., & Bewley, S. (2018). I, Sex Robot: The health implications of the sex robot industry. *BMJ Sexual & Reproductive Health*, 44(3), 161–164. <https://doi.org/10.1136/bmjshr-2017-200012>
- Danaher, J. (2018). *The symbolic-consequences argument in the sex robot debate*. In Danaher, J., & McArthur, N. (Red.) *Robot Sex: social and ethical implications* (pp. 104–131). Cambridge: Mit Press Ltd.
- Danaher, J. (2019). Building better sex robots: lessons from feminist pornography. In Y. Zhou & M. H. Fischer (Red.), *AI Love You: Developments in Human-Robot Intimate Relationships* (pp. 133–147). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-19734-6_10
- Danaher, J. (2020). *How Should we Regulate Child Sex Robots: Restriction or Experimentation?* *BMJ Sexual & Reproductive Health Blog*. <https://blogs.bmj.com/bmjshr/2020/02/04/child-sex-robots/>

- Danaher, J., & McArthur, N. (Eds.). (2017). *Robot Sex: Social and Ethical Implications*. MIT Press.
- Devlin, K. (2018). *Turned On: Science, Sex and Robots*. Bloomsbury Sigma.
- Di Nucci, E. (2018). Sex robots and the rights of the disabled. In Danaher, J., & McArthur, N. (Eds.) *Robot Sex: social and ethical implications* (pp. 73–88). Cambridge: MIT Press Ltd.
- Ess, C. (2012). At the Intersections Between Internet Studies and Philosophy: “Who Am I Online?” *Philosophy & Technology*, 25(3), 275–284. <https://doi.org/10.1007/s13347-012-0085-4>
- Eysenbach, G., & Till, J. E. (2001). Ethical issues in qualitative research on Internet communities. *BMJ (Clinical Research Ed.)*, 323, 1103–1105. <https://doi.org/10.1136/bmj.323.7321.1103>
- Farrell, T., Fernandez, M., Novotny, J., & Alani, H. (2019). Exploring Misogyny across the Manosphere in Reddit. *Proceedings of the 10th ACM Conference on Web Science*, 87–96. <https://doi.org/10.1145/3292522.3326045>
- Fosch-Villaronga, E., & Poulsen, A. (2020). Sex Care Robots: Exploring the Potential Use of Sexual Robot Technologies for Disabled and Elder Care. *Paladyn, Journal of Behavioral Robotics*, 11(1), 1–18. <https://doi.org/10.1515/pjbr-2020-0001>
- Furl, K. (2022). Denigrating Women, Venerating “Chad”: Ingroup and Outgroup Evaluations among Male Supremacists on Reddit. *Social Psychology Quarterly*. <https://doi.org/10.1177/01902725221090907>
- Gauthier, R. P., Costello, M. J., & Wallace, J. R. (2022). “I Will Not Drink With You Today”: A Topic-Guided Thematic Analysis of Addiction Recovery on Reddit. *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems*, 1–17. <https://doi.org/10.1145/3491102.3502076>
- Gersen, J. S. (2019). Sex lex machina: intimacy and artificial intelligence. *Columbia Law Review*, 119(7), 1793–1810.
- González-González, C. S., Gil-Iranzo, R. M., & Paderewski-Rodríguez, P. (2021). Human–Robot Interaction and Sexbots: A Systematic Literature Review. *Sensors*, 21(1), 216. <https://doi.org/10.3390/s21010216>
- Gordo-López, Á. J., & Cleminson, R. (2004). *Techno-sexual landscapes: Changing relations between technology and sexuality*. Free Association Books.

- Helm, B., Scrivens, R., Holt, T., Chermak, S., & Frank, R. (2022). Examining incel subculture on Reddit. *Journal of Crime and Justice*, 1–19. <https://doi.org/10.1080/0735648X.2022.2074867>
- Hongladarom, S. (2011). Personal Identity and the Self in the Online and Offline World. *Minds and Machines*, 21(4), 533. <https://doi.org/10.1007/s11023-011-9255-x>
- Klein, W. E. J., & Lin, V. W. (2018). ‘Sex robots’ revisited: A reply to the campaign against sex robots. *ACM SIGCAS Computers and Society*, 47(4), 107–121. <https://doi.org/10.1145/3243141.3243153>
- Lancaster, K. (2021). Non-consensual personified sexbots: An intrinsic wrong. *Ethics and Information Technology*, 23(4), 589–600. <https://doi.org/10.1007/s10676-021-09597-9>
- Levy, D. (2012). The Ethics of Robot Prostitutes. In P. Lin, K. Abney, & G. A. Bekey (Eds.), *Robot Ethics: The Ethical and Social Implications of Robotics* (pp. 223–231). MIT Press.
- Lindsay, A. (2022). Swallowing the Black Pill: Involuntary Celibates’ (Incels) Anti Feminism within Digital Society. *International Journal for Crime, Justice and Social Democracy*, 11(1), 210–224. <https://doi.org/10.5204/ijcjsd.2138>
- Massanari, A. (2017). #Gamergate and The Fappening: How Reddit’s algorithm, governance, and culture support toxic technocultures. *New Media & Society*, 19(3), 329–346.
- Maxwell, D., Robinson, S. R., Williams, J. R., & Keaton, C. (2020). “A Short Story of a Lonely Guy”: A Qualitative Thematic Analysis of Involuntary Celibacy Using Reddit. *Sexuality & Culture*, 24(6), 1852–1874. <https://doi.org/10.1007/s12119-020-09724-6>
- McArthur, N., & Twist, M. L. C. (2017). The Rise of Digisexuality: Therapeutic Challenges and Possibilities. *Sexual & Relationship Therapy*, 32(3/4), 334–344. <https://doi.org/10.1080/14681994.2017.1397950>
- Molewijk, B., Stiggelbout, A.M., Otten, W., Dupuis & H., Kievit, J. (2004). Empirical data and moral theory. A plea for integrated empirical ethics. *Medicine, Health Care and Philosophy*, 7(1), 55–69.
- Musschenga, A. (2005). Empirical Ethics, Context-Sensitivity, and Contextualism. *Journal of Medicine and Philosophy: A Forum for Bioethics and Philosophy of Medicine*, 30(5), 467-490.

- O'Malley, R. L., Holt, K., & Holt, T. J. (2022). An Exploration of the Involuntary Celibate (Incel) Subculture Online. *Journal of Interpersonal Violence*, 37(7–8). <https://doi.org/10.1177/0886260520959625>
- Ornella, A. (2009). Posthuman Pleasures: Transcending the Human-Machine Boundary. *Theology & Sexuality*, 15(3), 311–328. <https://doi.org/10.1558/tse.v15i3.311>
- Peeters, A., & Haselager, P. (2019). Designing Virtuous Sex Robots. *International Journal of Social Robotics*. <https://doi.org/10.1007/s12369-019-00592-1>
- Proferes, N., Jones, N., Gilbert, S., Fiesler, C., & Zimmer, M. (2021). Studying Reddit: A Systematic Overview of Disciplines, Approaches, Methods, and Ethics. *Social Media + Society*, 7(2). <https://doi.org/10.1177/20563051211019004>
- Provoost, V. (2020). Interdisciplinary Collaborative Auditing as a Method to Facilitate Teamwork/Teams in Empirical Ethics Projects. *AJOB Empirical Bioethics*, 11(1), 14–16. <https://doi.org/10.1080/23294515.2019.1705431>
- Richardson, K. (2016). Sex Robot Matters: Slavery, the Prostituted, and the Rights of Machines. *IEEE Technology and Society Magazine*, 35(2), 46–53. <https://doi.org/10.1109/MTS.2016.2554421>
- Rousi, R. (2021). Ethical Stance and Evolving Technosexual Culture. In M. Rauterberg (Ed.), *Culture and Computing. Design Thinking and Cultural Computing* (pp. 295–310). Springer International Publishing. https://doi.org/10.1007/978-3-030-77431-8_19
- Scheutz, M., & Arnold, T. (2016). Are We Ready for Sex Robots? *2016 11th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, 351–358. <https://doi.org/10.1109/HRI.2016.7451772>
- Seibt, J., & Nørskov, M. (2012). “Embodying” the Internet: Towards the Moral Self via Communication Robots? *Philosophy & Technology*, 25(3), 285–307. <https://doi.org/10.1007/s13347-012-0064-9>
- Sharkey, N., van Wynsberghe, A., Robbins, S., & Hancock, E. (2017). *Our Sexual Future with Robots* (p. 42) [Consultation Report]. Foundation for Responsible Robotics. <https://responsiblerobotics.org/consultation-reports/>
- Sharma, R., Wigginton, B., Meurk, C., Ford, P., & Gartner, C. E. (2017). Motivations and Limitations Associated with Vaping among People with Mental Illness: A Qualitative Analysis of Reddit Discussions. *International Journal of Environmental Research and Public Health*, 14(1), 7. <https://doi.org/10.3390/ijerph14010007>

- Sigusch, V. (1998). 'The Neosexual Revolution'. *Archives of Sexual Behavior* 27(4), 331–59.
- Sneddon, A. (2016). Symbolic Value. *Journal of Value Inquiry*, 50(1), 395–413.
- Snee, H. (2013). Making Ethical Decisions in an Online Context: Reflections on Using Blogs to Explore Narratives of Experience. *Methodological Innovations Online*, 8(2), 52–67.
<https://doi.org/10.4256/mio.2013.013>
- Sparrow, R. (2017). Robots, Rape, and Representation. *International Journal of Social Robotics*, 9(4), 465–477. <https://doi.org/10.1007/s12369-017-0413-z>
- Srinivasan, A. (2021). *The Right to Sex: Feminism in the Twenty-First Century*. New York: Farrar, Straus and Giroux.
- Tartaglia, J. (2012). Horizons, PIOs, and Bad Faith. *Philosophy & Technology*, 25(3), 345–361.
<https://doi.org/10.1007/s13347-012-0068-5>
- Tranchese, A., & Sugiura, L. (2021). "I Don't Hate All Women, Just Those Stuck-Up Bitches": How Incels and Mainstream Pornography Speak the Same Extreme Language of Misogyny. *Violence Against Women*, 27(14), 2709–2734.
<https://doi.org/10.1177/1077801221996453>
- Troiano, G. M., Wood, M., & Hartevelde, C. (2020). 'And This, Kids, Is How I Met Your Mother': Consumerist, Mundane, and Uncanny Futures with Sex Robots. *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*, 1–17.
<https://doi.org/10.1145/3313831.3376598>
- Wilkinson, D., & Thelwall, M. (2011). Researching Personal Information on the Public Web: Methods and Ethics. *Social Science Computer Review*, 29(4), 387–401.
<https://doi.org/10.1177/0894439310378979>
- Williams, M. E. (2018, May 4). Sexbots aren't the answer to misogynist incel rage. Salon.
<https://www.salon.com/2018/05/04/sexbots-arent-the-answer-to-misogynist-incel-rage/>
- Yeoman, I., & Mars, M. (2012). Robots, Men and Sex Tourism. *Futures*, 44(4), 365–371.
<https://doi.org/10.1016/j.futures.2011.11.004>
- Zara, G., Veggi, S., & Farrington, D. P. (2021). Sexbots as Synthetic Companions: Comparing Attitudes of Official Sex Offenders and Non-Offenders. *International Journal of Social Robotics*. <https://doi.org/10.1007/s12369-021-00797-3>