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Men who have sex with robot dolls: A Foucauldian discourse analysis

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Abstract

Sextech involves technology aimed at enhancing sexual experience and human sexuality. Part of this technology includes digisexuality which concerns sexual and emotional engagement with a sex robot. Research investigating both the positive and negative roles sex that robots may play in emotional and physical well-being remains limited. The present study therefore examined the motivation for men having intimate relationships with lifelike sex robots and revealed an in-depth understanding of the role that sex robots play in that motivation. Existing content was gathered through online platforms including documentaries and video interviews to gain an in-depth understanding of the aspects that lead individuals to develop sexual relationships with sex robots. A summative content analysis and Foucauldian discourse was conducted via an inductive and exploratory analysis based on the reports of eight men on their emotional and sexual relationship with sex robots. As a result, four major discourses emerged from the data that encapsulated differing drives of human-robotic sexual relationships. These were 1) the male power fantasy 2) powerlessness 3) cognitive dissonance and 4) power dynamics. It was found that all elements were co-related and interconnected whereby power-over and power-to constructs were identified throughout the discourse. The rationalizations attributed to engaging in robot sex are discussed using a critical discursive stance.

Key words: Sex; Robot; Human-Robotic; Relationship; Feminism; Content Analysis; Foucauldian Discourse

1. Introduction

Intimate toys have a long history in human life. However, with current advancements in technology, sex toy markets are developing a variety of contemporary inventions to satisfy different sexual preferences [1]. A sex robot is a realistic doll that has sophisticated movements developed for the purpose of sex that costs between £4000 and £13000 [2]. To date, the impact that sex robots might have on relationships and sexuality has prompted mixed opinions. While some researchers [3] employ a positive psychological viewpoint on the role that sex technology might play in terms of benefitting wellbeing, this viewpoint is not shared by others who believe that sex robots put relationships between humans at risk [4].

In 2009, Realbotix (RealDoll) created one of the first sex robots. Since then, the technological development of sex robots has made them increasingly more human-like and subsequently consumer popular [5]. These lifelike robot dolls are created primarily to fulfil sexual desires for men and provide a pleasant companion. However, both female and male dolls are available on the market to accommodate diverse sexualities. Each doll can be pre-ordered and customized by the user. However, RealDoll is only one of the companies that manufacture lifelike sex dolls. Companies are already offering prototypes of sex dolls with in-built artificial intelligence, and some of these dolls can move their hands and even produce facial expressions that can be controlled by the owner. The general idea behind adding a basic form of artificial intelligence is to enhance these robot dolls through different personalities and provide a more enjoyable companion [6].

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A survey [7] among 100 US-based participants found that approximately two thirds of men were open to the idea of engaging in sex with a sex robot whilst approximately two-thirds of women were against it. However, there was a clear gender disparity in the sample, hence whilst informative, the findings may not reflect the sexual needs and desires among a wider socio-culturally diverse population. A further study [8] included 229 men, who rated the attractiveness of female human and sex robot physical features. When pictures included the salient features of human females, participants found them more attractive than sex robots. However, forty-one participants who had their reaction times measured in the context of physical attractiveness showed no statistical difference between humans or sex robots. The authors pointed out that the sample size was small for generalisations to be assumed to a wider population and that those who participated may already have positive views about sex robots.

A further study [9] targeted the clinical implications of sextech and how these could be useful in the future for practitioners working with digisexuality service users. The term digisexuality refers to an intimate act that requires a form of technology to create sexual interaction between humans, or in some cases, between a living and non-living technological object [9]. The authors distinguished between first wave and second wave digisexuality. First wave refers to all sexual aids such as pornography, sex toys or smartphone applications that create sexual interaction between humans. However, second wave digisexuality occurs when no human partner is present in the sexual act. In addition to identifying different digital sexualities, a number of ethical implication were addressed in the paper. To expand, illegal and unethical behaviours, disruption of human intimacy and social isolation are just a few of the problems that human-robot relationships might create [9].

It has been suggested that for most, monogamy appears to be the preferred goal in a relationship and whether having sex with robots counts as cheating is open to interpretation [10]. Indeed, the concept of cheating is somewhat ambiguous when different individuals attribute a different meaning to what constitutes an infidelity. Internet pornography, technological change, and unlimited sexual choice fuel infidelity [10]. In terms of choice, applying the concept of infidelity to the use of sex robots, whether this concept is being endorsed or refuted, is arguably a matter for the individual and/or couple. However, research addressing the views and opinions among the partners of those engaging in 'robot sex' remains limited.

Becoming emotionally attached to something other than a partner is referred to as an emotional affair. A physical affair is engaging in sexual activity outside of the relationship/marriage [11]. When examining the different types of infidelity, emotional infidelity includes an object affair - an obsession is developed, and the existing partner becomes neglected [11]. Additionally, cyber affairs are exclusively online orientated and may include either the individual's partner and/or other individuals [11]. Understanding why people are unfaithful is complex as infidelity can occur for many different reasons. Suggesting however that men cheat for physical sexual reasons and women for emotional reasons is conveniently categorical and appears somewhat arbitrary, particularly since such constructs are based on social conditioning [12]. Both sexes engage in short-term mating strategies and suggesting otherwise is an evolutionary contradiction [13]. However, women do appear to aim for quality over quantity [14]. Certainly, the emotional connectivity in short term anonymous sex for all genders is arguably superficial [15]. Regardless, how this translates to the use of sextech remains ambiguous and since artificial intelligence is part of our evolution, understanding the role this plays in the context of gender, short term mating and cheating would be of interest.

Sex robots have been placed under the category of new sex technology [16] pointing out that sex robots are here for the purpose of satisfying sexual desires as can virtual reality. Virtual reality headsets are now enabling the viewer to feel fully immersed in an X-rated situation. Current developments aim to put viewers in a position to select their preferred adult performer, not just to view but to feel as though they are being intimate with the chosen performer. There are also connected sex toys available that send signals to one's partner that can mimic intimate sensations. These have been marketed for couples who are living apart. This new innovation in technology could lead to a positive enhancement in individuals' sexual life [16].

Indeed, research suggests that regular sexual experiences or self-stimulation can increase physical wellness and mental well-being by releasing, for example, oxytocin, serotonin and endorphins in the brain, which results in a decrease of harmful stressors [17]. Sexual activity is also good for the heart and can regulate stress levels [18]. Further, levels of immunoglobulin have been shown to increase by 30% among those who engage in sex once or twice a week compared to individuals who had no, or infrequent sex [19]. However, further research is necessary to examine how sexual activity can positively impact an individual's wellbeing. The cohort engaging in sex in that study [19] were those based in a relationship, and it was difficult to establish whether this included masturbation. Regardless, the role sex technology could play in supporting wellbeing as an adjunct intervention for varying healthcare issues would have to be evidenced prior to sextech being promoted in this context.

There are two problem areas within technological advancement: 1) a claim that having sex with a robot will symbolically represent ethically problematic sexual norms; 2) the consequence of the symbolic meaning of having sex with a robot [5]. Therefore, if something has a negative meaning, it should not necessarily lead to negative consequences because we can change the meaning of symbolic representations [5]. Further, ethical issues have been raised about asymmetries between prostitution and robotic sex [4]. Indeed, porn-bots build upon the body-mind binary and reinforce objectification of the human body, proposing that these dolls could reinforce the objectification of women and young girls [4]. There is a significant difference between mainstream sex toys and lifelike sex dolls that represent humans, but with unrealistic physical features that no real human can live up to and sex dolls are said to be creating an illusion that can lead to severe damage in terms of human relationships [4]. Sex robots are currently devoid of emotion and even as technology further developed in this area, the emotional spectrum is arguably so diverse that trying to create the desired emotional response in a robot would be difficult. Nevertheless, how dialogue and emotional responses are programmed might fuel gender inequality in terms of how a woman should look, when, what and how she should speak, if anything may hold serious implications for women's liberation [4].

Limited research has targeted human-robot intimate relationships. Previous studies also lack theoretical support. This could be due to the fact that digisexuality and intelligent robots are fairly new concepts in both technology and psychology. Additionally, there are no current studies that support any negative or positive effects on society or on individual lives, since scant research has directly included in the sample those in possession of a robotic sex doll. Therefore, the current study aimed to fill this gap in research by analysing content from online platforms that are related to men using lifelike intelligent sex dolls. The main focus was on investigating second wave digisexuality and to find the motive and meaning behind men using robotic dolls for sex.

2. Method

A mixed qualitative methods approach was utilised for this study which comprised of two stages. An initial content analysis was used to pick up the trends in the transcribed content. The initial content was piloted to determine the most suitable qualitative method to support the discursive accounts evident in the analysis. Therefore, the second stage included a Foucauldian discourse analysis which reflected the content voiced in the initial analysis.

A summative content analysis was used to gather a large amount of textual data from different types of media sources [20]. This type of qualitative method is a flexible process that aimed to explore the sensitive topic of human-robotic relationships and examine written materials. In this instance the analysis involved making comparisons of the data where an initial interpretation of data is provided along with the coding [20]. A Foucauldian discourse analysis was suited to looking at the power relationships evident in the content analysis and how this was practiced through language, including gendered power relationships [21]. This approach was adapted to move beyond Foucault's androcentrism to look at the sexual dynamics between men and robots. The nature of the study was exploratory since the investigated area is a relatively new phenomenon in the fields of technology, robotics, and psychology. The research was based on inductive reasoning since the aim was to find undiscovered areas and possible hidden motives which could lead to developing new theories.

2.1. Participants

Table 1 Demographics

Participant	Age	Nationality	Marital Status	Occupation	Robots
1	58	American	Married	Engineer	3
2	52	British	Married	Photographer	1
3	36	Welsh	Married	Company co-owner	1
4	42	Spanish	Married	Company Founder	1
5	40	American	Single	IT expert	3
6	50	British	Single	Computer technician	2
7	39	American	Single	Factory worker	2
8	48	American	In relationship	Non-disclosed	8

The current study was based on a non-probability sampling method. A purposive sampling technique was applied to gather suitable content. Due to the nature of the study, this type of sampling approach was the best fit since the aim was to find content and the discursive dialogue used to explore the association between men and sex robots. The research primarily looked at men, but a small amount of interview material was added from partners comments when important information was shared. Participation and data collection did not require an in-person interview. The research used a modest sample size of eight men who engage in sex with a robot. Demographic details are presented in Table 1.

2.2. Materials

Data were derived from online platforms including relevant documentaries and online published video interviews. These materials were as follows:

- Chanel 4- The Sex Robots Are Coming (aired 2018)
- The Guardian- Rise of the sex robots (2017)
- BBC- Sex Robots and Us (2018)
- UKTV Really Chanel- Love Me, Love My Doll (2017)
- ITV- This Morning- Meet Samantha the Sex Robot (2017)

2.3. Procedure

Ethical approval was obtained from the University Research Ethics Committee. Strict ethical guidelines were adhered to and guided by the British Psychological Society internet mediated research ethics [22]. Accessing data did not require informed consent, since the information was collected from online media platforms, documentaries or websites already available in the public domain. The nature of the research required an inductive approach to data collection. Coding is a heuristic technique that requires acts of cycles, and revisiting steps [23]. Assumptive content analysis was used to derive codes directly from the textual data [20]. Therefore, data collection began with carefully selecting relevant conversations from the online materials. Each of the interviews/videos, or documentary sections were transcribed into textual data in separate Microsoft Word documents, stating the duration and the participants (named Speakers from 1 to 8). After transcribing relevant information, the researcher rehearsed the material multiple times, to become familiar with the content. Coding the content was conducted manually.

The first cycle included systematically highlighting and pre-coding important sections that were found to be most relevant to the research question to indicate similar statements. These statements were then organized into codes that best described why men engage in intimate relationship with sex robots. Codes included single words, in vivo codes (actual quotations of what the participants said) and lengthy statements. In the second cycle, all codes that shared similar meanings and characteristics were formed into bigger subcategories to narrow down the contributing factors.

The second stage involved a Foucauldian discourse analysis based on the outcomes from the content analysis. Five stages guided the process of transcribing and analysing the text [24]. These included an acknowledgement and recognition of the discourse, how the statements were created, what had been said and not said during these documentaries and in the articles, the sociocultural impact of the statements in context and in the development of new statements and making such practices discursive. The discourse was reviewed and examined independently by all authors to ensure triangulation [25] and to establish whether the context and intertextuality informed the discursive construction. Identifying how these men experienced and thoughts about having sex with a sex robot and how they related this to the fantasy and illusion of a perfect relationship was the analytic focus.

3. Results

The findings include narratives from eight white male sex robot users with different nationalities including American, Spanish and British. The ages range varied from 36 to 58 years (mean 46). Out of eight men, four were married and three were single. Further, 50% of the participants owned two or more sex robots. Each of the dolls were named and included different characteristics since these robots were personally customized prior to purchase all of them were designed to be physically attractive for the men. Characteristically, the dolls were all slim and possessed hourglass figures and young features. Those men who had more than one doll were more likely to have sex robots with different hair, skin, and eye colour. Participants were all employed and in varied professions.

Table 2 Discourse Analysis

Discourse	Discursive Construction	Discourse fragments
Male Power Fantasy	Fantasy and illusion	Getting a younger woman is a fantasy Like a real woman Creating an identity for the doll Customizing dolls
	Perfection as a cultural norm	Dolls personify the perfect girls for owners The need for beautiful women The perfect shape of a woman
	Intrinsic needs being met	Knowing what to expect Always there for each other Having the same interest(s), doing the same things
Powerlessness	Dating disappointments	Failed attempts at dating Hopelessness Prevention of future disappointment
	Loneliness in marriage	Left alone for longer periods Fallen out of love
	Loss of loved one Low self-esteem	Recently passed away family member Breakup "I will never be a Brad Pitt" Treated as an outsider Self-consciousness about own physical appearance/ finds own self too unattractive to get a beautiful woman
Cognitive Dissonance	Intrinsic fidelity	Choosing robot over another human being Being faithful to partner Wife's future is safer Men's needs being met
	Justification for using sex robot	Improving sexual relationship with partner Not considering the act as unfaithful The wife will get used to it Feeling conflicted
Power Dynamics	Objectification of sex robot Control and ownership	Loving an inanimate object is possible Attachment to objects Sexual aspect is small part Finding more pleasure in caregiving Talking dressing putting on makeup

	Sense of empowerment	Puts own need first/" I feel good"
		Do not care if selfish because it makes them happy
		Ownership
		"Like being a God"
		"One is not enough"
	Self-satisfaction and exploration	Better sex than with a human
		Satisfy regular sexual needs that partner is unable/ absent to do
		"Not unlike the real thing"
		Freedom of sexual acts

3.1. The Male Power Fantasy

In many cases, men's construction of fantasy and the satisfaction of having a beautiful woman was key to their relationship with the sex robot. Discourse fragments including "Dolls personify the perfect girls for owners" "The need for beautiful women" and "The perfect shape of a woman" emerged from the transcripts, where the notion of the male power fantasy was reinforced throughout. The dolls somehow personify and create an objectified illusion of being with a perfect woman, constructed by the owners. The discursive construction identified that 'their concept of what constitutes beauty' was a social cultural norm and expectation perpetuated and reinforced generically in the sex industry and beyond. The dolls are young, flawless with hour-glass figures. In many ways this was central to the men's construction of their own masculinity. The men had connected and identified with their sex robots by naming them and creating a history, even constructing a personality type for the sex robot. The fantasy of stability in human-robotic relationships, also seemed to play a key role in individuals' lives. The discourse fragments, "Always there for each other" "Having the same interest" and "doing the same things" reflect the power relations and the intrinsic nature of the relationship. Whereas in real life periodical disagreements would have to be faced with a partner. Therefore, the control elements in the discourse are intertwined with self-intrinsic satisfaction where conceptualizing self-pleasure and sexual desire is based on self-satisfaction.

3.2. Powerlessness

The men's construction of loneliness was found to be another motivating factor in both married and single man's cases. Almost all of these men discussed aloneness where either the partner had left or were unable to find a woman to maintain a relationship with. Additionally, some men also reported failure and rejection to go on a date with other women. This self- constructed failure reinforced the discursive construction of fantasy and illusion.

"I don't mind being as alone at all, however I cannot stand being lonely".

"If you're my age 39 years old you haven't found a human companion, yet you probably never will so…". "Having my real dolls at home makes it, you know… it's not so bad. Get back home and I've got my women.".

Two of the men mentioned a loss of a parent (recent or childhood), where one man lost his mother and the other grew up without a father. It would be difficult to determine whether these events have an impact on being attached to sex robots specifically yet constructs of powerlessness and loss were frequently identified in the transcripts. A low self-image was discussed in relation to an unrealistic level of self-expectation where the men drew reference to not being able to get a human partner who would be young, attractive or just "the perfect girl", reiterating the construct of powerlessness.

"For someone at my age it's a fantasy because obviously I will never be a Brad Pitt or something like that.". "I was just treated as an outsider […] it's just my appearance. "The reason I know I can't get a real girlfriend over because… I got bad skin; I got bad teeth I'm too skinny then[..] because of the way I look."

Embedded within the loneliness was power disequilibrium, associated with the fantasy of caring. The concept of an empowerment construct was also identified but within a power-to sub-construct. Most men indicated to be in a partnership with their sex robot(s).

"The sexual aspect of doll ownership is actually a very small part of it."

"Sex is a large part of it yeah, but it's about being able to come home to a non-empty home, be able to share your life".

"…happy time would be like when I be in bed with her, not actually having sex, but just like lying next to her….".

But the dominant construct of the male power fantasy and masculinity re-surfaces frequently in the power-over sub-construct relational context of sexual attraction. Stating that having "better sex than with a human", "not unlike the real thing" (page 1, line 3) and the option of being satisfied by these dolls whenever the owner wishes, makes the aspect of partnership secondary. Mostly because there is an element of self-absorption present in wanting to be immediately sexually satisfied.

"We usually have sex 2 to 3, sometimes 4 night a week, routinely."

"When she first came in my life it was sex, sex, sex."

"It's all about what I want, what I want to do now."

"If I wake up at 3:00 in the morning which I have, you know with a raging hard-on, I can go in the garage grab a doll thrown her to bed and go for it. You can't necessarily do that with a woman."

3.3. Cognitive dissonance

Cognitive dissonance reflected a discursive account of the contradictory nature when constructing the cohesive accounts. The concept of power and control over a sex robot appears to extend to the human-partner relationship as illustrated by the following discourse fragment.

"If men can play in fantasy world, then in actual facts, the wife's future is much more secure"

The construct of dissonance was further represented in the justifications and rationalisations of these men's dialogue with their partners. The contextual relationship between control and power becomes embedded in the conflictual nature represented in the men's response to their partners jealousy. Indeed, jealousy was a construct often mentioned by the partners of these men. The women experienced jealousy and some sort of uncomfortableness when they were first introduced to the sex doll. These feelings by the partner were claimed to eventually fade away, as they agreed that these are just objects, and not a real woman.

Yet fidelity was based on the justification that the dolls were just objects. However, the dolls are unmistakably treated as human beings by the owners. They are named, dressed and sometimes carried around in public places for example regularly been taken to the hairdresser. As stated, most owners construct an imagined personality or life story for them. Eventually they are, as they claim, the palpable perfect woman from their fantasy. The conflict therein becomes entrenched in the social violation of sexual norms contextualised in dissonance and the power disequilibrium which appeared to exist between man, sex robot and partner (in that order).

3.4. Power Dynamics

A further closely linked construct was power dynamics and the nature of power-to or empowerment and power-over which was discussed by the users. Constructs such as ownership, control, powerful and "feeling like God" were cited in the transcripts representing the relationship these men had with their sex robots. The cognitive dissonance construct exemplified the power to and power out components of this relationships and the powerlessness construct emphasized a compromised sense of self. The conflictual nature of the justification and feelings of empowerment was based on self-gratification. Indeed, doll owners claim to have regular sex with their dolls, sometimes even more than with their human partner.

"It's a bit of like being your own God living your own world."

"It may be selfish but I'm alright with it."

The common construct of self-satisfaction both emotionally and sexually became permeated throughout the whole text – being self-indulgent. Reflective of the regressive components contextualised within the fantasy object. An addictive construct was not evident, yet clearly there was an addictive component to this where "one is not enough" was evident in most cases. The contradictory nature identified in the cognitive dissonance construct found that the self- justification of use appeared to compromise the sexual act with their human partner rather than improve and increase their level of

interaction, in most instances. Feeling empowered appeared more-so among those with multiple sex robots, but this construct is short lived, where having multiple sex robots becomes a compulsion. Conversely, this could reflect 'another conquest' embedded in the power dynamics discourse. Whether compulsion or conquest, the powerlessness construct, which included "compromised self-esteem" may reflect the true inter-relational dynamics which exists between men, sex robots and/or partner. The empowerment construct could be key in supporting this.

"… lying next to her and appreciating her."

4. Discussion

Results identified four main discourses that are the leading factors in the reason why men have sex with robots. These include the male power fantasy, powerlessness, cognitive dissonance, and power dynamics. Indeed, the findings in this study had taken many turns. The initial content analysis yielded a substantial amount of information, highlighting the power dynamics involved in this association which was reflected in the discourse. A feministic ideological approach, looking at the construct of power and powerlessness among these men, represented a discursive interconnected web of complex interplay shaped by social-cultural conditioning. This provided an interesting perspective on the relational dynamics which exist between man and machine.

Feminist research has centred on pornography and objectification [26]. The male power fantasy construct in this study epitomized the concept of female perfection as a cultural norm via objectification. The perfect woman construct was young, possessed an hour-glass figure and was without voice. Gender is socially constructed with defined roles dominated by power [26]. The concept of objectification is embedded in gender inequality which becomes perpetuated through pornography. To use sex robots is argued that women are subject to the needs and wants of men [26]. Certainly, the manipulation of power is based on control and accessibility which was reflected in the discursive accounts in this study. Indeed, domination via the male power fantasy and power dynamic constructs reflected a master/slave relationship to which has been referred to as "the law of male sex right" [27 p. 182].

Whilst Mackinnon [26] has been accused of representing women as helpless victims, one could argue that sex robots are the epitome of subservience and subordination. Indeed, the second wave feminist viewpoints appeared to support the analysis of the discursive accounts in this study [28]. Sex robots have been argued to be instruments for men's sexual desires which might also translate into sexualising coercive sexual behaviour [29]. Moreover, sex robots have claimed to coercively objectifying the female form which might perpetuate a compromised sense of body image [30]. However, the men in this study focused on the physical attributes of the sex robot which included a caricature representation of the female form, where infantilism of the physical features is preferred.

The industry of robotics has been dominated by men, who project their sexualized fantasy on the objects they manufacture [4]. In fact, two out of the eight men in this study were employed in a sex doll company. However, the remaining six had varied employment and interestingly, were in possession of more dolls. The male power fantasy construct appeared to be generic for all men in terms of their projected concept of fantasy and control. This arguably reflects other's views on gender inequality where women are objectified, and men are the objectifiers [26]. Indeed, "a man experiences his power in the use of inanimate objects…" [31, p104]. This raises the question as to how transferable gender objectification is from sex robot to human in the real world. The discourse identified that men in this study acknowledged that sex robots were objects and not real women. Whilst many contradictions had been identified in the discourse, this 'dichotomy' nevertheless reflected a recognised distinction between reality and fantasy.

When addressing the issue of infidelity, the construct of cognitive dissonance was helpful in highlighting the conflictual discursive justification of the men's use of sex robots in this study. According to previous work [32], how individuals aim to see themselves in the context of infidelity is through dissonance. Cognitive dissonance refers to, for example, two conflicting beliefs which may cause discomfort, and how individuals try to reach internal consistency [33]. It has also been suggested that dissonance is experienced by utilizing, for example, self-concept discrepancy coupled with the means of reducing discomfort, such as trivialization [32]. Jealousy was expressed by the partners of the men who possessed a sex robot. The discursive constructs highlighted the dissonance-arousing behaviour in the ways that these men both justified and trivialized their behaviour to attend to their partners jealousy. Nevertheless, since there are several types of infidelity, it is difficult to establish whether having sex with a robot is an emotional and/or a physical infidelity, if at all. In this lifestyle choice, it is up to the couple to decide what suits them. However, while a diverse term problematic digisexualities [9] also includes the predominant use of a sex robot over the engagement with a human partner when this has become problematic for the couple. This is not too dissimilar to fetishist disorder where preference of a sexualized fetish includes inanimate objects, where individuals prefer solitary sexual activity with the object even if they are partnered [34].

The powerlessness discourse highlighted the discursive interconnectedness with loneliness, and social isolation coupled with a compromised self-esteem. The discursive reports in this study suggested that sex robots did not cause social isolation, but an underlying compromised sense of self had somehow motivated them to possess one. Whether those men who are single become fearful of engaging in human social interaction would be difficult to ascertain since the technology is in it's developmental phase. We are indeed social beings who need social connectivity where loneliness has been associated with both psychological and physical difficulties [35]. This draws parallels with the self-medicating hypothesis [36] where in some way the dolls may provide a coping mechanism, or buffer, against internalised loneliness [37]. This may be expressed through power and control, or in some way attaining a sense of control and empowerment to avoid, for example, emotional discomfort. This may explain why men in this study were in possession of more than one sex robot. However, research would need to establish whether this is a compulsion and whether emotional self-medicating behaviour was fuelling this.

When looking at self-esteem, not only recognising the objectification of women, but also that of men, where she emphasized that men are also under pressure to display textbook masculinity. The men in this study negatively drew attention to their physical features as a reason for their engagement with robot sex, hence sub-constructs of low self-esteem were evident. Social conditioning targets both genders and has been perfectly summarised by Saul [38], who argues: "The increasing pressure on men to conform to unattainable standards of beauty is far from a sign of progress: it is, instead, a sign that the problem has grown" (p. 168). However, an element of narcissism permeated the discourse where a sense of self-entitlement and self-focus were intertwined throughout the data. Indeed, powerlessness can be an aspect of narcissism [39]. An element of co-dependency was apparent, with the men's fantasy relationship construct with the sex robots, exemplified by a projected caring role. This may support their internal environment against, for example, fear of failure, rejection, shame, and humiliation. Indeed, the construct of another conquest and sense of entitlement appears embedded in a narcissistic ethos coupled with low self-esteem [40]. In fact men who do not feel empowered have a desire to seek power, which in this instance is the engagement with and domination of sex robots [41]. However, this may lead to aggressive behaviours [4].

Nevertheless, this present study should be considered considering some limitations. The discursive reports of eight Caucasian middle-aged men may not reflect those in general who are in possession of a sex robot. Limitations can also be found in the material from where the data was collected. Although documentaries tend to explore and share real life events with viewers based on factual reports, they are also based on scripts and might not present every aspect of the investigated areas. This could affect the analysis of data since the research took the already existing material from documentaries and reports. Participants were also aware that the information they share will be viewed by the public and this might have influenced whether they shared their true standpoint of why they own a sex doll. Extracting data from its original context can also lead to misleading meanings, yet the researchers aimed to stay as true as possible to the contexts that provided insights into the discursive dialogue of men who have sex robots. Therefore, future research areas can be suggested based on the current findings. It would be interesting to establish whether sex robots would appeal to Black, Minority and Ethnic women and/or LGBTQ groups, and the motivations which drive them, if at all. This may shed light on how culture and sexuality inform sextech and vice versa. Further, it would be interesting to examine how the partners find living with and sharing beds with these sex robots and whether both parties engage in sexual activity. The focus could address the ambiguity regarding the issue of fidelity; in-person participation in future research would be necessary. How sex robots might be used as an intervention might also be a useful are for study. What was identified in the study was power-to and over, in the context of empowerment. This could be key in developing sex robots as an intervention aimed at improving self-worth, and paradoxically, socialisation (practicing dating dialogue and role play in sex coaching) and/or for sexual dysfunction as a sex aid.

5. Conclusion

Overall, despite this research examining the use of intelligent sex robots, it is important to note that the research is developmental as is the technology behind it. Additionally, sex dolls are costly, which indicates that in the future not everyone will be able to purchase one. It is difficult to establish whether the use of these dolls could encourage certain coercive sexualized behaviours, or compromise gender equality and female liberation through objectification. The men in this study had customized age-appropriate dolls. However, the nature of child abuse and sex robots and child sex robots also needs close examination. We hope that this study has provided a platform for future research.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare no conflict of interest.

Statement of ethical approval

This research was approved by the University Research Ethics Committee.

Statement of informed consent

No participants were used for the purposes of this study.

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