

Presence and Sexuality

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Abstract

This paper considers the relationship between sexually arousing media content and specific media technologies from the perspective of presence theory.

"I'm new to this area, but why isn't anybody in this group studying presence and sex?"

– Paraphrased comment from attendee at PRESENCE 2002, Porto, Portugal, October 2002.

1. Introduction

Presence is a naturally interdisciplinary topic and presence scholars have explored its application in a wide range of settings and contexts including art, space and undersea exploration, business, health and medicine, and many more. Given its popularity and prevalence, it is somewhat surprising, however, that presence researchers and theorists have not explored presence in the context of sexual media content and the technologies that deliver it.

After defining the relevant key terms, this paper outlines reasons presence scholars should examine presence concepts and theories in the context of sexuality, considers the nature of presence responses in this context, and proposes a series of conclusions regarding the implications of presence developments in this area.

2. Defining terms

To examine presence and sexuality, it is first necessary to define the terms presence, pornography, erotica and sexual media content. Presence is defined following Lombard and Ditton as “the perceptual illusion of nonmediation” [1]. This refers to a phenomenon in which an individual perceives a mediated experience as an authentic first-hand experience to which he/she may respond physiologically, cognitively and emotionally as he/she would in the nonmediated setting. A variety of dimensions of presence have been proposed, some of which are discussed below.

Following Mosher [2], pornography is defined here as media content for which the exclusive goal is to elicit or enhance the sexual arousal of its users. This content is typically although not always sexually explicit.

A related term used to describe sexual media content is erotica. Linz and Malamuth write that erotica “is often used to refer to literary or artistic works that have a sexual quality or theme” [3]. Because some of the actual content of erotica is similar to pornography, distinguishing between the two is a difficult and value-laden endeavor. Erotica can

be defined as sexual media content for which a primary (not necessarily the exclusive) goal is to elicit or enhance the sexual arousal of its users.

Sexual media content describes any content presented or experienced via a technology and which is designed in part to elicit or enhance sexual arousal of users. This includes not only pornography and erotica but content presented in swimsuit issues of sports magazines, Victoria Secret television specials, beer commercials featuring attractive and scantily-clad women and men, etc.

Finally, the technology (media format) that carries sexual media content can logically include not only media such as videotape, the Internet and DVDs but adult novelty items intended to be used sexually.

3. Reasons to examine presence and sexuality

Before exploring the relationships between sexual media content and technologies and presence, we turn to some reasons this topic deserves scholarly attention.

First, creators and distributors of sexual media content don't use the term, but they clearly seek to produce an experience of presence, a sense of being physically, and in some cases emotionally, close to the people represented in the content. Their efforts have been closely tied to the evolution of media technology and in many cases have driven the development, innovative use, and profitability of such technology. Tierney notes that “virtually always, from Stone Age sculpture to computer bulletin boards, [the erotic] has been one of the first uses for a new medium” [4]. Steinberg [5] comments that, “[E]very new technological achievement quickly finds its way, like water flowing downhill, to a sexual application. When the photographic process was first discovered, one of its first uses was to create enticing images of naked women. When motion pictures were born, underground sex films immediately followed. One of the prime economic foundations of the home video revolution has been the sex video market.” More recently, sexual content appeared early on the worldwide web [6], where “[o]nline pornographers have been among the first to exploit new technology for more than a decade, from video-streaming and fee-based subscriptions to pop-up ads and electronic billing” [7]. It's played a key role in high definition [8] and interactive television [9; 10], video-on-demand [8], and now mobile communication [10] technologies. “Though some analysts don't like to talk about it, many new ways of delivering content first became profitable via pornography. As far back as the printing press ... industries have all grown technically on this type of content. And new technologies themselves are often successful because of it” [11]. Today

companies like the aptly named Vivid are investing in research and development to produce new technologies that will deliver sexual media content [12; 13]. Interactive, real-time, remote sex toys, holograms, and life size, anatomically correct (and soon, animated) sex dolls are among the many technologies being developed. Presence scholars need to better understand how the pursuit of presence has guided, and especially how it is likely to guide, the evolution of all of these media technologies and the consequences of this evolution.

Another reason that scholars should examine presence concepts and theories in the context of sexuality is that sexual media content is consumed on a daily basis by many millions of people around the world. Estimates of the size of the 'adult entertainment' industry vary from 1 to 14 billion USD annually [14; 15; 16]. Major media, hotel, and other, often multinational, corporations may not publicize it but make millions in profits [17; 18; 19]. Nearly a third (32.3%) of men and a fifth (17.9%) of women report having seen an x-rated movie in the last year [20]; over half (54%) of Americans report having had sex via phone, e-mail or text message [21]; the most frequently searched-for word on the Internet is "sex" [22]; and some estimate that "over 60 percent of all visits on the Internet involve a sexual purpose" [23]. "[P]ornography has gone mainstream all over America. From movies to television shows to music videos and magazines, porn stars and porn iconography are everywhere, pointing to a national comfort level that few would have predicted even a decade ago" [24]. Like only a few of the many contexts in which presence concepts have been studied, a large, diverse and global public already is regularly consuming sexual mediated content and experiencing presence in the process.

The prevalence and popularity of sexual media content and evolving technologies to deliver it are likely related to the important role sexuality plays in our lives. Along with air, food, water, sleep, and warmth, sex is classified as a biological or physiological human need, the base level in Maslow's "hierarchy of needs" [25; 26; 27]. Beyond the biological imperative to reproduce, humans need and highly value emotional intimacy and connection with sexual partners (part of the Belongingness and Love needs in Maslow's hierarchy). Whether evolutionarily or culturally based, it is clear that sex and intimacy are critically important to most human beings. How and with what success they seek fulfillment of these needs via sexual media content and technology should be of great interest to presence scholars.

Pornography has long been the subject of controversy, with some arguing it is harmful in a variety of ways and others arguing for its benefits [28; 29]. Pornography, especially violent pornography, has been charged with causing people to objectify and disrespect women, to become callous and desensitized to their mistreatment, to become sexually promiscuous, and to behave violently toward women [30; 31; 32; 33; 34].

Others argue pornography and other sexual media content contributes to important educational and therapeutic [35], hygienic [36; 5] and safety [36] functions. One leading manufacturer of internet compatible sex toys

(SafeSexPlus.com) advertises this final advantage in its name. As an advertisement for "Ultra-Realistics" sex toys proclaims, the user gets "all the pleasure and all the excitement with none of the risk!" [37].

All of these potential negative and positive consequences of mediated sexual content and experiences provide a rich and important context for the application of presence research and theory.

The evolution of presence-enhancing technology regarding sexuality also raises critical ethical issues. Commenting on the \$6500, life-size, anatomically correct Realdoll, attorney and feminist M.C. Sungaila writes, "Knowing that it's out there and that somebody thought this was a good idea -- to make money off the complete objectification of women -- is disconcerting to say the least" [38].

Rheingold notes that "Given the rate of development of VR technologies, we don't have a great deal of time to tackle questions of morality, privacy, personal identity, and even the prospect of a fundamental change in human nature. When the VR revolution really gets rolling, we are likely to be too busy turning into whatever we are turning into to analyze or debate the consequences" [39].

For these reasons and others, and despite the potentially controversial and politically sensitive nature of the topic, scholars should turn their attention to the context of presence and sexuality.

4. Characteristics of presence in the context of media with sexual content

Presence is a multi-dimensional concept, and as noted above, a variety of dimensional structures of presence have been proposed [40; 41]. Here we use the relatively detailed dimensions identified by Lombard and Ditton [1] based on a review of presence literatures to consider how each dimension applies in the context of the intersection between media form and sexual content.

4.1. Social richness

Informed by social presence theory [42] and media richness theory [43], Lombard and Ditton [1] identify the first dimension of presence as social richness. As a characteristic of a medium social richness generally refers to the use of multiple sensory channels; as a characteristic of the medium user, it refers to the subjective experience of warmth and intimacy in the mediated interaction. These qualities are not only contingent upon one another (increased sensory channels = increased intimacy), but are obviously desirable in the mediated sexual encounter, where a high degree of physical and/or emotional intimacy would be expected. As we will see, media content and technology designed to provoke sexual arousal through the experience of presence seeks to maximize the level of social richness in the encounter through both increasing the number of senses involved and increasing the bandwidth of sensory information.

4.2. Realism

The second dimension Lombard and Ditton [1] identify is realism, and they describe two distinct forms, perceptual realism and social realism.

4.2.1. Perceptual Realism Perceptual realism refers to a presence experience in which the mediated representation accurately simulates or reproduces the sensory experience that would be expected in the nonmediated context. This is an essential aspect of the mediated sexual experience since human sexual arousal has evolved in response to real (unmediated) stimuli and not mediated stimuli. Despite this evolution, however, mediated content designed to provoke sexual arousal (e.g. pornography) can do so by maximizing perceptual realism. Malamuth observes that "since mass media did not exist in our ancestral history, our mechanisms for discriminating fantasy versus reality may not be sufficiently sharp to totally avoid any long-term impact of exposure on our feelings, thoughts, and behavior" [44]. Anderson [45] and Reeves and Nass [46] similarly point out the deceptive effect that media have on human perception. Extending this logic to include pornography, we can assert that the reason mediated images of bodies are arousing is that, on some primitive level, we respond to mediated bodies as if they were real bodies. It would make sense to further suggest that the more perceptually realistic sexually stimulating images seem, the more likely they are to evoke sexual arousal.

Efforts by manufacturers of adult novelty toys have placed a premium on developing products high in perceptual realism. Companies such as TopCo and Doc Johnson have developed and produced artificial genitals out of various materials designed to reproduce the qualities of real skin. Patented compositions with names like Cyberskin™, Futurotic™ skin, Realistic® skin, and Ultra-Realistic 3.0® skin not only demonstrate an attempt to maximize perceptual realism, but also provide evidence that the technology is steadily progressing through stages of development. Toward this same goal of maximizing perceptual realism, Playboy has announced the introduction of "Spice HD," a high definition television channel dedicated to sexually arousing content.

4.2.2. Social Realism As opposed to perceptual realism, social realism describes a presence experience wherein the behavior and language of depicted social actors are true to life or realistic in nature. The proliferation of "amateur" and "reality" pornography attests to the importance of an unscripted, unprofessional product that permits access to socially real people. Despite the lack of perceptual realism that exists in amateur pornography as a result of low quality recording equipment and lack of professional skills, the content remains exciting as a result of its authenticity.

4.3. Transportation

Beyond realism, or perhaps a precondition of it, is the issue of physical location. In a chapter which discusses the

problem of physical location in the context of erotic internet interaction, Waldby notes that "The pretext for any computer mediated communication between participants is separation in space" [47]. This, of course, can be extended to include any technologically mediated communication (computer or otherwise). As a result of this, the experience of presence in the mediated situation is contingent upon the perceived transportation of users. Lombard and Ditton [1] describe three ways that location is perceptually altered by presence as transportation: "you are there," "it is here" and "we are together."

4.3.1. "You are There" "You are there" transportation describes the user 'traveling' into the mediated environment and feeling as if he/she were a part of the mediated world. Virtually any pornographic film or video aims to bring the user "into the action." Weaver [29] observes that contemporary pornography presents sexual content "in a 'you are there as it happens' documentary style."

4.3.2. "It is Here" A second form of presence as transportation, termed "it is here", brings the mediated representation into the space of the media user rather than the other way around. There exist some sophisticated and highly realistic sex toys fashioned from casts/molds of the genitalia of porn performers that would seem to have the potential to transport the anatomical likeness of the particular performer into the user's space [48; 49; 50]. Advertisements for these products emphasize the connection that they have to the flesh and blood porn performer from whom they were molded. To illustrate, an ad featuring the "Juli Ashton Ultra Realistic® Vibrating P*** with Anus" boasts that it is "molded directly from Juli's vagina" [49]. These replicas function to bring the porn performer (at least in fragments) to the porn consumer.

Beyond the reproduction of mere fragments of performers' bodies is the reproduction of the entire body in the form of a "love doll." An advertisement for the "Jill Kelly Suction Doll" announces "You've seen her on the screen, now see her between your sheets" [50]. And beyond the tangible replicas in these examples, adult entertainment company Digital Playground is currently working to develop holographic imagery intended to sexually arouse. In addition to again demonstrating how pornography is a driving force behind technological innovation of media, this shows that resources are being allocated toward developing technology capable of transporting mediated people to the viewer.

4.3.3. "We are together" A third and final form of presence as transportation specifies a shared space in which a sensation of "we are together" is experienced by mediated communicators.

A number of products and services with adult content ranging from the very basic to the very intricate have been designed to evoke a sense of interacting together in the same space between people who are actually in different physical locations. What is crucial to this sense of shared space is the real-time (or apparently real-time) nature of the interaction.

In a 1995 article for *Wired* magazine titled “The next best thing to being there,” Robert Rossney attests to the importance of interaction and feedback within a mediated erotic encounter. Through an investigation of an online “peep show” service called “Virtual Connections, Ltd.,” Rossney discovered that he was aroused based on feedback from the woman with whom he was interacting. He writes that “It’s one thing to look at a picture of a scantily clad woman. It’s another thing entirely to ask her to remove an article of clothing and see her respond by whipping off her panties and flinging them aside” [51]. Clearly the interactive nature of this sort of experience goes a long way toward reconstituting some of the lost sense of (“we are together”) transported presence in the mediated erotic encounter.

Presumably, the ability to physically “touch” a performer (even if it is through computer interface) and observe her response is more arousing than only visual, aural or text-based real-time communication. This technology is available and being refined as well [52]. Several sex toy manufacturers have used simple remote control technology to permit genital manipulation at a distance. Products such as the “Remote Controlled Vibrating Panty” [50], the “Remote C*** Blaster” [49] and the “Remote Control Egg” [37] are designed to permit a person holding the remote control to covertly stimulate the woman who is wearing the device that is receiving the signal. This technology illustrates the central role of real-time interaction in the mediated erotic encounter.

What is lacking in remote controlled sexual devices is the sense of reciprocity that is so central to the unmediated sex act. A remote control only transmits signals, it cannot receive signals. In her discussion of online text-based erotic encounters, Waldby makes the observation that the technology used to interact “both substitutes for the face-to-face negotiation of proximate sexuality and simulates certain aspects of that proximate relationship, involving the projection of a limited kind of telepresence through the simultaneous and interactive production of pleasure in the other’s body” [47]. Although Waldby is referring exclusively to text-based sexual encounters (referring to more elaborate forms as “cumbersome and literal minded”), the principal importance of reciprocal communication is well illustrated.

Toward the goal of constituting a sense of reciprocal interaction in the shared space of the mediated erotic encounter, some innovators have devised technology capable of allowing the real-time give and take integral to fostering the intimacy of the “we are together” form of presence as transportation. The remote sex technology offered by “F*** You, F*** Me” (www.fu-fme.com) permits users to interact sexually with Windows compatible “genital drives” that act as surrogates for their partner’s sexual organs. Still more complete and elaborate is Dominic Choy’s computer interfacing sex doll which, “[u]sing signals from the internet as well as sound and touch sensors...would allow a user wearing a virtual reality headset to have virtual sex with someone in another part of the world...” [53].

Likely the most sophisticated and comprehensive solution to the problem of creating shared space in the mediated erotic encounter is theorized by Howard Rhiengold [39] who describes a scenario in which long distance sexual partners stimulate each other through bodysuits that are enmeshed with sensors.

Aside from technologies designed to bring two (or more) people simultaneously into real time, shared space, mediated encounters, interactive DVDs attempt to create a sense of “we are together” transportation between a live user and a recorded performer. “Joone,” president of Digital Playground – a company that manufactures interactive adult DVDs, has said that “When you’re watching a regular porn movie, you’re watching it in the third person...This way [with interactive DVDs] it’s a first-person experience” [54]. Through the use of a DVD remote control, users are able to interact with performers, choosing sexual positions and other aspects of the para-sexual experience. Many current DVD series feature interactivity with popular adult performers. Titles include “My Plaything,” “Virtual Sex,” “My Digi-Girl,” and “Come Play with Me” [48].

4.4. Immersion

Another form of presence – presence as immersion – occurs in two varieties: psychological and perceptual.

4.4.1. Psychological Immersion Drawing from Palmer [55] and Quarrick [56], Lombard and Ditton define psychological immersion as a feeling of being “involved, absorbed, engaged, [and] engrossed” [1]. Cybersex addiction provides a good example of how psychological immersion functions. Millions of Americans are “cybersex” addicts [57; 58; 36], and while much of their media use involves highly iconic (rather than perceptually rich or immersive) communication via chat rooms and e-mail, they become so deeply involved in the experience that they consider it the equivalent of an affair (Schneider, 2000).

4.4.2. Perceptual Immersion Perceptual immersion refers to the involvement of multiple sensory channels in the mediated encounter. If one can only see a stimulus, the experience is less immersive than if one can see, hear, touch, taste and smell a stimulus because the involvement of multiple sensory channels permits cross-validation of experience. As a result of the fact that the natural (unmediated) sex act is sensually immersive in that participants are necessarily confronted with the sight, sound, feel, smell and taste of each other’s bodies, it makes logical sense that the producers of media offering sexual content seek to approximate these sensations. This explains why pornography, or any sexual media content, has been an innovative and driving force behind developing perceptually immersive presence experiences. For example, Digital Playground’s homepage (www.digitalplayground.com) states explicitly that “Digital Playground’s ultimate innovations will combine all the senses, bringing your fantasies one step closer to reality.”

One of the key challenges for innovators attempting to create immersive experiences (sexual or otherwise) is the involvement and coordination of multiple sensory channels.

The Spice TV catalog [48] offers “Virtual Sex Sets” which include both an interactive DVD of a particular porn performer and a sex toy reproduction of the genitals of that performer. In offering visual, aural and haptic dimensions of experience, these “Virtual Sex Sets” take an initial step toward creating a perceptually immersive experience.

Beyond mere involvement of multiple senses, the coordination of those senses is crucial to fostering a perceptually immersive presence experience. If one sensation provides information that contradicts another sensation, the presence experience will be lost. Eric White’s “Virtual Sex Machine” is a device which seeks to coordinate haptic experiences with visual ones. Argento reports that “The device, powered by three separate motors, receives the signal from the computer and then reproduces sensations of what’s happening on the screen. As White says, what happens on the screen, happens to you” [59]. Placing the agency of the immersive experience in the hands of the user, Immersion Corporation has developed a computer mouse capable of permitting the user to “grope” by transmitting texture and feeling to the hand of the user as he or she glides the cursor over the surfaces of the onscreen image. This subjective agency capitalizes upon Heeter’s observation that “A sense of presence in a virtual world derives from feeling like you exist within but as a separate entity from a virtual world that also exists” [60]. In both of these examples, visual and haptic sensations are combined and coordinated to induce a multifaceted feeling of perceptual immersion.

4.5. Social Actor Within Medium

“Presence as social actor within medium” [1] or “parasocial interaction” [61] describes an interaction that a media user seems to have with the mediated performer that is akin to a face-to-face interpersonal interaction. Because of its ability to sustain a level of feigned intimacy through the gestures of private interaction, this parasocial interaction is ripe to be exploited by media producers seeking to create a sexually arousing experience for viewers. Even as early as 1956, when Horton and Wohl first theorized the parasocial encounter, examples of its sexual applications came into play with the discussion of the popular 1950’s radio program *The Lonesome Gal*, which featured a seductive feminine voice speaking in first person to an audience of single men at the end of the day.

Pornographic photography frequently features models who make eye contact with the viewer (a technique known as direct address). Audio-visual media allow visual and verbal direct address to further encourage parasocial interaction. One advertisement by Video Marketing Concepts informs us that, “This wholesome girl-next-door talks dirty to you as she unveils her naturally curvaceous body.” Additional selling points, such as “close-ups 3 inches from your face!” directly address the interaction between viewer and performer as if the barriers of time, distance and the screen did not even exist.

Other examples of sexualized parasocial interaction do not even involve flesh and blood performers. Highly realistic two and three dimensional computer generated

images manufactured with programs such as Adobe Poser©, Kinetix 3D Studio Max©, Alias Wavefront© and Maya© allow artists to render incredibly lifelike images of bodies [62]. A “Miss Digital World” pageant has even been held to exhibit these deceptively attractive graphic creations [63].

Some innovative adult software carries things a step further by bringing virtual images to life and allowing for computer mediated interaction with a digitally created partner. The Girlfriend™ program has the potential to permit the user to cultivate a relationship with a virtual woman. An advertisement notes that “Now you can have your own girlfriend...a sensuous woman living in your computer!” and goes on to explain that “your girlfriend starts with a vocabulary of over 3000 words and will continually learn new words, feelings, and ideas. This program truly grows the more you use it” [64]. This and other sure to be more sophisticated programs in the future may be so interactive and adaptable, that they blur the line between parasocial interaction and true interpersonal interaction to the point that a malfunctioning hard drive may constitute the death of a lover and friend. Due to the additional dimensions of interactivity that sexuality provides, using programs such as Girlfriend™ would likely be a far more intense experience than interaction with nonsexual virtual companions like the “Tamagotchi” [65], the electronic pet that requires interaction from its owner to stay alive.

4.6. Medium as Social Actor

A final variation of the presence experience that should be addressed in terms of its role in mediated sexual content is “medium as social actor.” This form of presence “involves social responses of media users not to entities (people or computer characters) within a medium, but to cues provided by the medium itself” [1]. Dildos, vibrators, masturbation sleeves, penis pumps, and various other sexual devices that are designed to give pleasure but do not rely upon interaction with other people (real or virtual) to operate could be said to constitute media that function as social actors. Current products such as Realdoll (mentioned above) and sexually capable androids of science fiction exemplify this concept. Here an issue concerning the role of internal fantasy comes into play. When a person makes use of a sexual device, they probably are not fantasizing about the device itself any more than a person masturbating is fantasizing about his/her hand. This being the case, it is difficult to attribute the arousal of the user solely to the device since internal fantasy may play a significant role in the arousal process (this may apply to some extent to any of the types of presence discussed and how they function with regard to sexual content).

5. Conclusions, implications and future research

This preliminary exploration of the topic of presence and sexuality leads us to a series of conclusions:

1. The topic area of presence and sexuality has received little to no attention from presence scholars. In addition to wanting to avoid political and other controversies, it seems likely that this is related to a common tendency in journalists' reports about pornography to maintain "an arm's-length disdain passing for objectivity," in which sexual media content is "treat[ed] as a sociological phenomenon, just not one that is part of any culture that they -- or by implication any [news consumers] -- feel part of" [19]. Academics should not hesitate to acknowledge they are part of a culture and species for which sexuality is important and explore interesting, important and common phenomena related to presence in this context.
2. As with many contexts in which presence is relevant (e.g., art, business, education, politics, etc.), the people who create sexual media content and technologies to deliver it don't use the term presence, but that's exactly what they are pursuing. Perhaps more than in any other context, presence is their primary goal – it's the purpose of every sexual product from still images to realistic, interactive dolls. And as with the other contexts, these creators have contributed to a fascinating evolution of technologies in pursuit of this goal.
3. Perhaps unlike many contexts which presence scholars explore, products in the context of sexuality are designed and sought by consumers to create every type of presence. Regardless of the conceptualization scheme, every dimension of presence – from "realism" to "medium as social actor" [1], "spatial" and "social" [41], and certainly "spatial," "engagement" and "naturalness" [40] – is central to the experiences desired by users and therefore pursued by content/technology creators in this area.
4. Sex is one of the most complex, sensory-involving aspects of human experience, so it represents the ultimate challenge to content and technology producers who are trying to create an actual or perceived mediated encounter that reproduces the experience of physical intimacy. Not only must they reproduce the key physical and emotional aspects of the experience, their products must be affordable and available for use in the home (as opposed to large, very expensive and public IMAX theaters, simulator rides, etc.). It seems likely that the number and consistency of sensory inputs and outputs are critical to their success [1] along with many other factors identified by presence researchers in other contexts. Current products may be lacking, but technologies will likely evolve quickly: "Cyberdildonics is still far more like having sex with an electronic device than with a human ... [but] "these products are merely version 1.0" [13]; "Given the pace of technological innovation, sexual experiences straight out of science-fiction novels may not be very far away" [66].
5. In addition to the longstanding ethical issues and questions about positive and negative effects related to pornography and other sexual media content, the evolution of technology in the context of presence and sexuality is likely to bring new compelling and important ethical questions to the fore, perhaps in the not-too-distant future. These include the (im)morality of having sex with androids, of replacing nonmediated sex and relationships with idealized virtual versions, and the implications of these for our psychological health (e.g., our ability to distinguish acceptable virtual and unacceptable 'real' behavior), the social cohesiveness of society, and eventually even changes in the nature of being human [39].
6. Because of the ethical issues that it raises and for all of the reasons discussed in section 3 above, presence researchers should monitor the industries and technologies that produce and deliver sexual media content and begin to study presence phenomena in the context of sexuality. The specific benefits of this work include new tools to measure presence and its correlates, the ability to consider traditional presence issues and questions in a fresh context, and the potential to contribute to positive societal changes. The new tools include physiological measures of genital responses, primarily penile tumescence [67; 68; 69] and vaginal pulse amplitude [70], that unlike other objective physiological measures such as GSR, can be attributed to very little other than a specific source (here sexual arousal) that is logically highly correlated with presence. Exploring presence and sexuality would provide new data and perhaps understanding of longstanding issues in the presence community such as "the book problem" (whether and how highly symbolic media such as text can evoke presence), the appropriate trade-offs in different form and content characteristics necessary to efficiently evoke presence, and the ethics of accurately reproducing nonmediated experience. And we have the opportunity to contribute to the long debate about the many potential harmful and beneficial consequences of consuming sexual media content, possibly helping to minimize the former and maximize the latter.

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PRESENCE 2004

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