

# KRISTIAN DANEBACK SVEN-AXEL MÅNSSON

## SEXUALITY AND THE INTERNET

A Collection of Papers 2003-2013



*"On the Internet, nobody knows you're a dog."*



MALMÖ UNIVERSITY



## SEXUALITY AND THE INTERNET

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KRISTIAN DANEBACK  
SVEN-AXEL MÅNSSON  
**SEXUALITY AND THE INTERNET**

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A Collection of Papers 2003-2013

Malmö University, 2013  
Faculty of Health and Society



We dedicate this collection to the memory of Al Cooper (1960-2004), who took the first steps on this never-ending journey.

Our gratitude also goes to Michael W. Ross for more than a decade of intellectually creative partnership and to Ronny Tikkanen and Lotta Löfgren-Mårtenson, our brother and sister in arms, during the 2002 study.





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# INTRODUCTION

The purpose of this book is to present a decade of research on internet sexuality. In part, we are doing this by presenting a selection of our publications on the subject, and in part by writing this introduction to explain how it all started and unfolded, to reflect on the content and results of our research, and to outline some future directions. Moreover, we discuss the themes and trends in internet sexuality research that we have observed over the years, both in our own research and in general. We will end this introduction with a short presentation of the papers that make up this collection and the reasons for their inclusion. Our hope is that this book will be of interest to students of internet sexuality in both the social sciences and in other academic disciplines.

## Entering a new research field

In January 2002, the University of Gothenburg in Sweden launched the research project *Netsex: Meanings and consequences of using the internet for sexual purposes*. A few months earlier the project was supported by a three-year research grant from the Swedish Council for Working Life and Social Research and a research team was created at the Department of Social Work under the leadership of professor Sven-Axel Månsson. Besides Månsson, the core of the team consisted of three PhD students, Kristian Daneback, Ronny Tikkanen, and Charlotta Löfgren Mårtenson, and two U.S.-based researchers, professors Michael W. Ross at The University of Texas at Houston and Al Cooper at Stanford University.

But the story really begins a few years before the start of this project. In 1998, Månsson and Tikkanen had been working on a study on risk-taking behaviors in men who have sex with men. They found that a large number of the men in their study used the internet to arrange offline meetings for sexual purposes. It became

clear that the different rooms and spaces on the internet were the new “beats” and “cruising areas” for men who have sex with men. Tikkanen and Ross (2003) likened this to a ‘technological tearoom trade’, paraphrasing Humphreys, who in the early 1970s had studied men who met and engaged in anonymous sex with other men in public restrooms (so called tearooms), even though a significant number of these men were married and identified as heterosexual.

The findings of our own research were published in research reports (Tikkanen & Månsson 1999) and in scientific articles (Tikkanen & Ross 2000; Tikkanen & Ross 2003). Around the same time, Månsson met U.S. researcher Al Cooper at a conference in San Diego. Cooper was one of the first people to conduct and publish studies on internet sexuality. He was directing a team of researchers that had conducted the two largest studies on internet sexuality, in 1999 and 2000, and they had just begun to present the results at conferences and in scientific journals.

Inspired by the meetings with Cooper, Månsson and Tikkanen began to develop a proposal for a research project with the primary focus of studying internet sexuality in a Swedish context. Given their experience, interest, and pioneering roles in this field, Cooper and Ross seemed natural partners to bring on board. Also, at this stage, Daneback and Löfgren-Mårtenson were added to the team. The grant was submitted to the Swedish Council for Working Life and Social Research in February 2001 and awarded later the same year.

### The 2002 study

The first aim of the project was to conduct a large-scale survey on sexuality and the internet in Sweden. The questionnaire used was a revised version of the ones used by Cooper and colleagues in his two studies in 1999 and 2000, but modified for use in Sweden. In the spring of 2002, a pilot study was conducted using a paper-and-pencil version of the questionnaire, with approximately 200 respondents from a mid-sized Swedish city. In addition, interviews were conducted to assess the appropriateness of the questions, followed by a number of revisions. By the summer of 2002, the questionnaire was finalized and converted into a web questionnaire. Banner ads were designed and thanks to the Eniro Corporation in Sweden, the research group was offered the possibility to put, free of cost, banner ads on the website [Passagen.se](http://Passagen.se) at the time one of the top websites in Sweden in terms of number of daily visitors. Subsequently, the online version of the questionnaire was tested; everything from clicking on the banner on the web

site, arriving at the information and consent pages, collecting and storing the data on a server, creating back-ups to exporting the data in SPSS format to the researchers. Two weeks after launching the survey and recruiting from Passagen.se, over 3,500 respondents had begun to answer some of the questions, and at the end of the data collection period, close to 1,900 men and women had completed all the questionnaires. Interestingly, the use of a web questionnaire provided us with the unique possibility to compare individuals who did with those who did not complete the questionnaires. Later on, we published these findings about the dropouts as a pendant to our main project (see Ross, Daneback, Månsson, Tikkanen, & Cooper 2003) and several other methodological publications followed (e.g., Ross, Månsson, Daneback, Cooper & Tikkanen 2005). These publications are included in this collection (Section VII).

The tentative findings were presented and discussed and further analytical strategies outlined at a meeting of the research group, which included Cooper and Ross, in Gothenburg in August, 2002. In 2003, Månsson relocated to Malmö University to establish the new discipline of sexology and sexuality studies at the Faculty of Health and Society, and to launch a new Master's program in sexology. From that time on, the project became a joint project with two homes, one in Malmö and the other in Gothenburg.

The first results were published in a technical report in 2003. The report was primarily a way of describing the distribution of responses on the items of the questionnaire (Månsson, Daneback, Tikkanen & Löfgren-Mårtenson 2003). It immediately became clear that we had unique data at hand with, in contrast to Cooper's 1999 and 2000 surveys, an almost equal gender distribution. Thus, for the first time it was possible to analyze gender differences in internet sexuality. A first series of cross-tabulations not only showed that there were gender differences in how the internet was used for love and sexual purposes, but we were also able to identify generational aspects of the phenomenon. A more in-depth analysis was published in *Sexual and Relationship Therapy* with the bold title "Predicting the future of Internet sex: Online sexual activities in Sweden" (Cooper, Månsson, Daneback, Tikkanen, & Ross, 2003). The title was chosen because of the uniqueness of the data we had collected and because Sweden was, at the time of publication, ranked as the country with the highest internet penetration in the world. The article is still one of the highest cited articles published in *Sexual and Relationship Therapy* (<http://www.tandfonline.com/action/showMostCitedArticles?journalCode=csmt20>).

In the following years we continued to analyze and publish findings from this survey. In addition, we initiated more specific studies on, for example, cybersex, sexual compulsivity, etcetera. Based on our quantitative findings it was concluded that qualitative interviews could shed light upon and further contribute to a more complete understanding of the patterns revealed by the survey, and in 2003-2004 we conducted interviews which were presented by Daneback in his doctoral thesis (Daneback, 2006). Around the same time, two other qualitative studies were conducted as subsidiaries to the main project, one on commercial aspects of internet sexuality (Månsson & Söderlind, 2004) and one on the use of the internet for sexual purposes by young people with intellectual disabilities (Löfgren-Mårtenson, 2005).

After having published the qualitative studies, we returned to our quantitative data with more knowledge and new ideas and published additional articles during the following years. For the purpose of this book we selected seven articles from the 2002 study; the aims and themes of these will be described at the end of this introduction.

### The 2009 study

In 2008, we received an invitation from the National Board of Youth Affairs to conduct a study on young people and internet sexuality. We accepted and agreed that we would add a few questions of the funder's choice and present to them our findings on 18-24 year olds. The agreement also made it possible for us to use a revised version of the 2002 questionnaire while adding several questions that were of less interest to the National Board of Youth Affairs. The modified questionnaire was expanded in some areas while others had become obsolete and were deleted. For example, we focused much more on specific online behaviors and added questions to learn more about them. We also focused on technological developments (e.g., decreasing prices and improved equipment) and included an adaptation of the Heterosexuality-Homosexuality scale developed by Alfred C. Kinsey and colleagues to assess contemporary society's possibly more fluid sexual practices and identities. In the early spring of 2009, after conducting a pilot study, we launched the online version of the questionnaire. Having witnessed the expansion and differentiation of the internet and the growing challenge of obtaining a sufficiently diverse sample from a single website, we decided to use four different sources for data collection, three online (Passagen.se, Spray.se, and Playahead.se) and one offline (a Swedish mid-sized university). The majority of respondents, however, were recruited from Playahead.se, an online community



primarily directed towards adolescents, and from the university. Thus, our sampling concerns seemed to have been accurate. We ended up with a sample of only about 100 respondents from Passagen.se, where we had managed to obtain almost 2,000 completed questionnaires seven years earlier.

Thanks to all the technological changes, the development and implementation of our new web questionnaire had been much more efficient and affordable. Also, we now were able to monitor the data collection in real time, projected on a screen in our meeting room at the university. Sadly, our friend and colleague Al Cooper had passed away a few years earlier and did not get to experience this development, which he would most definitely have been very enthusiastic about. After two weeks of recruitment, we had a sample comprising more than 1,900 completed questionnaires, sufficiently large to examine response patterns in various sub-samples.

In the fall of 2009, we delivered our report to the National Board of Youth Affairs (Daneback & Månsson, 2009). After this, we made a plan for further analyses and possible publications. In August 2010, Daneback traveled to Houston to work with Ross on the data, and in September of the same year, Månsson joined his two colleagues for a writing retreat in Galveston. Six papers based on the new dataset were published in 2011 and 2012, the final one marking the end of a decade of research. The topics cover everything from shopping in online sex shops, using the internet to search for information about sex, to the exploration of the fluidity of bisexuality. Our main conclusion? We have only begun to discover and understand the many different ways the internet is used for sexual purposes. The remedy? More research is needed. We have already planned new studies, new data are already being collected, and new collaborations have been initiated. We hope to be able to present a similar collection of papers after yet another decade of research in this area.

### **Themes and trends**

In the mid-1990s when the internet first became publicly available, it was primarily a text-based medium. Slow computers and internet connections limited the possibilities. This had an impact on the emerging research on internet sexuality in a very distinct way: The absence of pictures and movie clips meant that all communication about sexuality involved the use of text, both in interactive and non-interactive settings. Indeed, the first observations of internet sexuality were made in text-based online computer games, so called role-playing games.

It was in this kind of setting that Sherry Turkle (1995) first discovered the sexual interactions she labeled “tiny sex”, later to be known as cybersex.

One welcome feature at this time was the high level of perceived anonymity offered by text-based mediums. Interacting without revealing one’s identity, or made-up identity for that matter, became one of the key issues in discussions about the benefits and hazards of the internet in general and online sexuality in particular. One of the benefits emphasized included improved gender equality, as it was not possible to pass judgments or identify someone’s gender based on visual appearance. At the same time, this was also considered to be one of the main risks or hazards – anyone could pretend to be anyone (‘On the internet, nobody knows you’re a dog’). Although this had been one of the more desired characteristics of the role playing games mentioned above, this feature stimulated discussions about deception and distrust. It is also important to note that there were still relatively few internet users at this time, and most of them were young and in most cases more computer-literate than their parents or caregivers, raising additional concerns about safety and privacy.

The characteristics of the internet not only impacted the extent and content of online sexual communication, interaction, and information, it also influenced what was being studied by researchers. Sexuality information and counseling could be provided through the text-based medium. At the same time the internet could be a means for infidelity (online and offline), negatively impacting relationships. In addition, the use of the internet for sexual purposes was associated with the possibility of excessive usage, leading to concerns and discussions about online addiction and compulsive sexual behavior. These were some of the areas that received attention early on from internet sexuality researchers.

Around the time of the new millennium, so called web forums started to gain popularity and to change the way the internet was used. Instead of needing to be in front of the computer screen in order to participate in real-time, synchronous communication, forums allowed for asynchronous participation, meaning that one could post to a forum and then receive replies without needing to be present. In fact, asynchronous communication made it possible to participate in various online settings simultaneously. This way of using the internet further expanded with the introduction of social networking sites such as Facebook and Myspace in the mid-2000s. Around this time, dating sites, building interfaces similar to the ones used by social networking sites, had become popular and started to

be studied by internet sexuality researchers as well. Findings of this research showed that the internet was increasingly being used for dating and for finding sex partners. Thus, the use of the internet for sexual purposes was not limited anymore to online behavior and communication; internet sexuality became increasingly integrated in the offline world, and vice versa.

The introduction in the early 2000s of broadband technology along with the availability of more powerful computers allowed for faster connections and the transfer of larger files, including high-resolution pictures and movie clips. Consequently, internet sexuality became increasingly visual. Taking advantage of (and, in fact, contributing to) this development, producers of pornographic material used the internet for distribution and as an outlet for such content. This also introduced a stronger financial dimension to online sexuality and subsequently connected internet service providers (initially mainly telephone companies) to the porn industry. Internet access now meant access to pornography, wanted or unwanted, available around the clock every day of the week in one's own home. Online pornography has been the topic of a growing number of studies and until recently been largely portrayed as something negative and connected to porn addiction and risky behavior, in both the research literature and the popular media.

In parallel with the larger presence of more traditional pornography, increased access to and availability of digital equipment, such as digital cameras, also introduced the internet to so-called amateur pornography. For example, individuals and couples started to produce sexual images and movies that were traded with others online. The porn industry jumped on this trend and produced professional pornographic material that was supposed to imitate amateur pornography.

Around the mid-2000s, it seemed like the internet started to become divided, or perhaps negotiated, into sexual and non-sexual parts. Some had a high tolerance for and openness to sexuality (web communities for people interested in sex were established) while others had strict rules and regulations regarding (and sometime against) the discussion of issues concerning sexuality. Interestingly, this is not as much about assigning individuals to groups as it is about dividing content and claiming space. As mentioned above, the internet makes it possible to be present in several virtual spaces simultaneously. This division makes users aware of what they can expect in terms of absence or presence of sexuality on

the sites they visit and, thus, makes it easier to avoid unwelcome surprises. For example, when visiting an online sex shop or a sexuality-related educational forum one can expect to enter a world with visual and textual sexual content. In other words, the internet, and its sexual and non-sexual content, seems to become easier to navigate.

The beginning of the 2010s is teaching us again something new, namely that internet use is no longer tied to stationary computers, not even to laptops. Due to high capacity batteries, smaller devices, and increased satellite and wifi access, we are able to go online almost anywhere in the world. In the last few years, smartphones and tablets have become increasingly popular and widespread. From our research we have learned that technology influences sexual behavior and, thus, it is reasonable to expect further changes in how people use the internet for sexual purposes. However, exactly how these changes will manifest themselves remains to be seen.

### **Some methodological and theoretical reflections**

In our research we have found that the virtual distance between participants and researchers facilitates the study of sexuality. In some of our studies, participants clearly preferred to be interviewed via the internet. Talking about sex is not uncommon in contemporary society – in fact, it is possible to get the feeling that nothing else is being talked about – however, when it comes to one's own private sexual life, things seem to become much more complicated. The fact that some people indicated that they would not participate in studies about sexuality if we did not offer the possibility of an online interview raises important questions about sexuality research in general: Would our knowledge about sexuality change if the potential group of participants would include those who are less likely to participate when we use more traditional methodologies? Based on these arguments, would it even be scientifically acceptable (or even ethical) not to offer online interviews in qualitative sexuality research? This is something that should be investigated further.

The use of the internet to distribute our questionnaires and to collect quantitative data has enabled us and other researchers to reach large numbers of people, in some cases up to 200,000 participants. Since there is no sample frame on internet users available, large samples help us to maximize variation and increase our confidence in the generalizability of the results. This is important, especially when considering that we live in a time where response rates in large-scale surveys

seem to hit new lows every year. In many cases researchers face response rates of at best 50-60% and some population-based surveys have reported response rates as low as 15 percent. This raises questions about the generalizability of the findings of such “gold standard” surveys. Online surveys may help to improve this situation. However, we would need more statistical research on infinite or unknown samples. In our own research, we have worked with samples comprising around 2,000 respondents (completed questionnaires) in Sweden. And comparisons with gold standard population-based studies along with drop-out analyses have increased our confidence in the generalizability of our findings, even in the absence of a sampling frame. However, generalizability may not have to be the only goal for every study. Sometimes we are more interested in hard to reach subsamples or associations between variables. One of the greatest benefits is that online data collection can be accomplished for a fraction of the cost of more traditional paper-and-pencil or personal interview surveys – especially important when studying a constantly changing phenomenon that requires frequently repeated surveys.

Initially, before actual studies were conducted, most of the literature on online sexuality was at best conceptual but mostly speculative in nature. Paradoxically, as the first data were published, theoretical discussions of the findings were almost absent. One of the first conceptual frameworks to help explain and understand the attraction of the internet as a medium for sexual activities was offered by our colleague Al Cooper (1998). He called it the *Triple A Engine*, an acronym for *anonymity*, *affordability* and *accessibility*. Later, two more A:s were added to the “engine”, *acceptability* (King 1999) and *approximation* (Ross & Kauth 2002). These terms capture central characteristics of what makes the internet unique in comparison to more traditional settings where sex takes place. By using the five A:s, it was possible not only to explain the attraction of online sexuality, but also to shed light on how the internet enabled sexual behaviors that for various reasons were difficult or impossible to engage in offline due to stigma or other social sanctions.

In one of our first articles, *Predicting the future of internet sex* (Cooper et al. 2003, included in this collection, Section I.), we argued that, from a theoretical perspective, it will be a challenging but important goal for future research to uncover whether and to what extent online socio-sexual interactions shape and change *sexual scripts* in society. Scripts are essentially a metaphor for conceptualizing the production and regulation of behavior in society. According to

the sexual scripting theory, developed by Gagnon and Simon (1973), social actors are continually involved in shaping the materials of relevant cultural scenarios into scripts for sexual behavior in different contexts. The internet represents a context for sexual scripts and their evolution. Reflecting on the findings of our various studies, we can identify a number of examples of how sexual scripts are being shaped and re-shaped by and on the internet. One example involves the generational and gender differences that we have noted, especially concerning younger women's participation and activities on the internet – including their consumption of pornography and buying of sexual merchandise – that conflict with more traditional cultural norms regarding women's sexual behavior. Similarly, on an interpersonal level, the internet allows people to ask questions about sexuality and to take initiatives that would be socially unacceptable or at the very least difficult offline (e.g., asking strangers to describe their favorite sexual positions or proposing to have sex with them, on- or offline).

Our colleague Ross (2005) argues that the importance of the internet as a sexual medium is its placement as an intermediate step between private fantasy and actual behavior. Thus the question of the space between cybersex and so called real sex is one of boundaries. “Are the sexual behaviors that people carry out on the internet part of them or does the person's boundary begin and end when they actually *do* the behaviors in real life?,” asks Ross (ibid). The use of the term ‘in real life’ to differentiate physical encounters as distinct from other types of encounters suggests that there is a clear distinction between the one and the other, for example that a cybersex-encounter is less real. Is it? By theorizing the empirical findings, the chances of understanding internet sexuality increases, but it also emphasizes important aspects of the phenomenon in need of further research, not least in consideration of the complexities and continuous changes of the phenomenon.

As has been described above, much has happened during the last 20 years and it is in this changing context that our research took place. Some of the early studies are clearly influenced by the way we perceived the medium at that time and the knowledge we had back then. This is also visible in our first questionnaires and the questions asked in our initial interviews. As we were among the first to start researching the phenomenon, there was no prior research available and we were quite literally fumbling in the dark. As we started to collect data we were able to revise our research questions and to begin to develop a more theoretical framework for the interpretation of our findings. One of the major challenges in

this field of research is to capture something that is moving at a relatively fast pace. By theorizing we are better able to interpret our findings and anticipate the need for and plan future studies. However, there is still a need to develop a coherent theory that is tailored to the phenomenon of internet sexuality.

Over the almost two decades that have passed since the internet became accessible to the public, the number of users has grown exponentially. In the mid to late 1990s it was believed that those who used the internet did not represent the general population. A decade later, the wheels have turned; those *not* using the internet are now subject to special studies. In what ways are they different from active internet users and what are the social and other implications and effects of not using the internet? As a result of empirical findings and theoretical reasoning, new and revised questions have been posed about internet sexuality. This can be seen in our own research and in the collection of papers compiled in this book which we will describe in more detail below.

### **The papers**

As stated above, the topics of our research cover a number of different aspects of internet sexuality. One way of describing the development of our work is to say that it has gone from the general to the more specific, from broad issues of online sexual activity (OSA) to more specific aspects and areas of internet usage for sexual purposes. In this collection, we have assembled our papers under seven thematic headings (I-VII) that mirror this development.

A number of researchers working in different countries (Sweden, Norway, the United States and the Czech Republic) have been involved as authors and co-authors of the papers published during the ten-year period. It has been a truly transdisciplinary journey involving a mixture of academic expertise and intellectual interests. From the beginning and all the way through, three researchers – Kristian Daneback, Michael W. Ross, and Sven-Axel Månsson – have been actively involved in the vast majority of the 20 papers presented in this volume.

## I. Engaging in online sexual activity (OSA)

This theme covers more general aspects of online sexual activity (OSA). Included is the first paper from the 2003 study on OSA in Sweden, the first large-scale study of internet sexuality conducted outside the USA. The second and third paper expand further on these findings focusing on subcategories of OSA such as cybersex and meeting someone on the internet who one later meets offline to have sex with. The third and fourth paper goes deeper into the understanding of partner-seeking activities on the internet and of the actual outcomes of using the internet with regard to the fulfilment of sexual desires. Both papers use a qualitative approach to complement the quantitative literature in the field, including our own questionnaire studies.

1. Cooper, A, Månsson, S-A, Daneback, K, Tikkanen, R & Ross, M W (2003). Predicting the Future of Internet Sex: On-Line Sexual Activities in Sweden. *Sexual and Relationship Therapy*, 18, (3) pp. 277-291.
2. Daneback, K & Cooper, A & Månsson, S-A (2005). An Internet Study of Cybersex Participants, *Archives of Sexual Behavior*, 34 (3) pp. 321-328.
3. Daneback, K., Månsson, S-A. & Ross, M.W. (2007). Using the Internet to Find Offline Sex Partners, *Cyber Psychology & Behavior*, 10 (1) pp. 100-107.
4. Sevcikova, A., & Daneback, K. (2011). Anyone who wants sex? Seeking sex partners on sex-oriented contact websites. *Sexual and Relationship Therapy*, 26 (2) pp. 170-181.
5. Daneback, K., Sevcikova, A., Månsson, S-A., & Ross, M.W. (2012). Outcomes of using the internet for sexual purposes: fulfillment of sexual desires, *Sexual Health*, <http://dx.doi.org/10.1071/SH11203>.



## II. Sexual orientation and online sexual activity - experimenting with stigmatized identities and behaviors

This theme examines the relationship between sexual orientation and what one does on the internet. Our data (from the 2002 study) show that men who have sex with men but who identify online as heterosexual are not uncommon. They reported being prepared to do things online that they would not do in real life (IRL). We suggest, on the basis of our findings, that conceptualizing sexual orientation as fixed in terms of objects of sexual desire, exclusively hetero- or homosexual, is not valid. Furthermore, our data (from the 2009 study) suggest, consistent with findings from other research, that sexual fluidity is much more prevalent in women than in men. Another way of putting this is that our research in internet users suggests that it may be useful to remove focus from sex object gender and instead place it on flexibility of sex object choice.

1. Ross, M W, Månsson, S-A, Daneback, K & Tikkanen, R (2005). Characteristics of men who have sex with men on the Internet but identify as heterosexual, compared with heterosexually identified men who have sex with women, *CyberPsychology & Behavior*, 8 (2) pp. 131-139.
2. Daneback, K., Ross, M.W. & Månsson, S-A. (2008). Bisexuality and Sexually Related Activities on the Internet, *Journal of Bisexuality*, 8 (1-2) pp. 115-129.
3. Ross, M.W., Daneback, K. & Månsson, S-A. (2012) Fluid versus fixed: A new perspective on bisexuality as a fluid sexual orientation beyond gender, *Journal of Bisexuality*, 12 pp. 449-460.

### III. The use of pornography – perceptions and experiences

Early on, our survey data showed that access to erotica was the most frequently endorsed dimension of using the internet for sexual purposes, especially among men. We found that men prefer to watch and women prefer to read (erotic stories). The papers we have chosen for this section dwell deeper into different aspects of porn use in different social contexts. The first one is an outcome of our collaboration with a Norwegian researcher, Bente Traeen. In contrast to most research (including our own) on the use of pornography, which concentrates on individuals and groups of individuals, this article focuses on the use of pornography within couples. Traeen invited us to share a unique Norwegian dataset leading to this joint publication in which we examine the use of porn in couple relationships.

The second paper in this section departs from widespread presumptions and concerns about negative implications and consequences of exposure to and high visibility of pornography in public places such as the internet. Which are the consequences for young men and women, and how do they think about gender, sexuality, and pornography, are some of the questions asked in the public debate. Our article addresses these questions and is based on a qualitative study of Swedish adolescents' perceptions of on- and offline porn.

1. Daneback, K., Træen, B., & Månsson, S-A. (2009). Use of pornography in a random sample of Norwegian heterosexual couples. *Archives of Sexual Behavior*, 38 pp. 746-73.
2. Löfgren-Mårtenson, L. & Månsson, S-A. (2010). Lust, Love, and Life: A Qualitative Study of Swedish Adolescents' Perceptions and Experiences with Pornography, *Journal of Sex Research*, 47 (6), pp. 568-579.

## IV. Problematic sexual internet use

In their review of internet sexuality studies, Daneback & Ross (2011) point out that much of the research on internet sexuality to date has focused on its problematic aspects such as addiction or compulsivity, pornography, infidelity and sexually transmitted infections. It is unclear exactly why it is this way, but part of the explanation may be that a number of the first studies were conducted by psychologists who worked with clients who experienced problems with internet use (cf. King 1999; Cooper 2000; Ross & Kauth 2002). Another part of the explanation can probably be attributed to moral concerns triggered by the easy accessibility of pornography and the forging of a new and possibly problematic relationship between porn and youth culture (see above). Furthermore, an additional factor that may have contributed to a focus on more negative aspects of sexual internet use is that the ease with which people can find and meet sex partners via the internet created new concerns about the spread of STIs and HIV. The three papers in this section focus on different aspects of problematic internet sexual use. The first investigates the characteristics of those who engage in OSA and who could be considered sexually compulsive. In the second we present data suggesting that of a number of predictors of problematic internet use, the viewing and sharing of pornography is most closely associated with reported problems. Contrary to prior research, the analysis in the third paper of STI histories reported by Swedish men and women suggests that the internet is not yet (?) a major source of STIs.

1. Daneback, K., Ross, M.W., & Månsson, S-A. (2006). Characteristics and behaviors of sexual compulsives who use the internet for sexual purposes, *Sexual Addiction & Compulsivity*, 13, pp. 53-67.
2. Ross, M.W., Månsson, S-A., & Daneback, K. (2012). Prevalence, severity and correlates of problematic sexual Internet use in Swedish men and women. *Archives of Sexual Behavior*, 41 (2), pp. 459-466.
3. Ross, M.W., Daneback, K., Månsson, S-A., Berglund, T. & Tikkanen, R. (2008). Reported sexually transmitted infections in Swedish Internet-using men and women, *Journal of the European Academy of Dermatology & Venereology*, 22 (6) pp. 696-703.

## V. Learning about sex on the internet

The two papers in this section clearly point to less problematic, or even beneficial, sides of the phenomenon, namely internet use for sex educational purposes. So far, very few empirical studies have been conducted which identify those who use the internet to seek out information about sexual issues. The aim of the first paper was to do just that and to examine the reasons for using the internet for this purpose. The second paper more specifically focuses on how young people aged 12-24 use the internet as a source of knowledge about sex. This paper uses both qualitative and quantitative data from the 2002 and 2009 surveys.

1. Daneback K., Månsson, S-A., Ross, M.W. & Markham, C. (2012). The internet as a source of information about sexuality. *Sex Education*, 12 pp. 583-598.
2. Daneback, K., & Löfberg, C. (2011). Youth, sexuality and the internet: Young people's use of the internet to learn about sexuality. In E. Dunkels, G-M. Frånberg, & C. Hällgren (eds) *Youth culture and net culture: Online social practices*, (pp. 190-206). Hershey, PA: IGI Global.

## VI. Technology and sexual commerce

The relationship between technological developments and pornography is both interesting and complex. Historically, pornography has been a projection screen for both anxiety-ridden prohibitionism and sexual revolutionary romanticism. Regardless whether it has been about underground activities in private parties or open and “barefaced” challenges to public morality, the interest in new forms of porn production, distribution, and consumption has been considerable. However, it is not until the emergence of the internet that the final, remaining obstacles for private porn consumption are erased. Previously, the “shameful vices” of consumers were made more or less public by their visits to porn- and video shops. The possibility to download pornography on one's personal computer in the privacy of one's own home has removed the last barrier for private porn consumption.

The first paper in this section is a revised version of an article published in the Swedish social science journal *Socialvetenskaplig Tidskrift* (Månsson & Söderlind 2005), which in turn is based on a book by Månsson & Söderlind (2004) about the sex industry and the internet. The book evolved as an offspring of the 2002 study. Considering that the number of Swedes (mostly men) that surfed for porn on the internet doubled each year in the beginning of the 2000s, questions arose regarding the commercial and economic potential and modus operandi of this activity. Thus, in the book we investigated the actors, content, relationships, and economic flows of the sex industry. The paper *Technology and Pornography* summarizes some of the results from this investigation. Looking at the results in retrospect, eight years later, it is striking how fast the technology and technological services in this field have changed. Just consider the fact that concepts like web 2.0 or social media were basically unheard of when we wrote the book. However, the basic need of the market to reach out and compete for the users' attention remains, which means that our discussion in the paper about the socio-cultural consequences of the new technology in relation to gender and sexuality is still highly relevant.

The second paper in this section focuses on online shopping; who buys what and why? And the third paper raises new questions about the relationship between technological advancements and sexual practices on the internet.

1. Månsson, S-A. & Söderlind, P. (unpublished manuscript). Technology and Pornography. The Sex industry on the Internet.
2. Daneback, K., Månsson, S-A., & Ross, M.W. (2011). Online sex shops: Purchasing sexual merchandise on the internet. *International Journal of Sexual Health*, 23 pp. 102-110.
3. Daneback, K., Månsson, S-A., & Ross, M.W. (2012). Technological advancements and internet sexuality: Does private access to the internet influence online sexual behavior? *Cyberpsychology, Behavior, and Social Networking*, 15 (8) pp. 386-390.

## VII. Researching sex on the internet

The final section includes two papers on methodological issues. The first compares respondents who completed our 2002 online questionnaire with those who dropped out before completion. It is one of the first papers to discuss this topic in the context of internet sexuality research and it concludes that drop-out constitutes a significant bias in such research. The second paper aims at evaluating the utility of internet sexuality surveys by systematically comparing a more traditional population-based survey, using a randomly selected sample, with our 2002 *online* survey, using identical demographic, sexual and relationship questions. The paper provides a first substantial assessment of the level and direction of bias in internet sexual site volunteer selection, and thus an indication of the degree of care needed in the interpretation of data from internet studies of sexuality.

1. Ross, M W, Daneback, K, Månsson, S-A, Tikkanen, R & Cooper, A (2003): Characteristics of Men and Women Who Complete or Exit from an On-Line Internet Sexuality Questionnaire: A Study of Instrument Dropout Biases, *The Journal of Sex Research*, 40 (4) pp. 396-402.
2. Ross, M W, Månsson, S-A, Daneback, K, Cooper, A & Tikkanen. R (2005) Biases in Internet Sexual Health Samples: Comparisons of an Internet Sexuality Survey and a National Sexual Health Survey in Sweden, *Social Science and Medicine*, 61, pp. 245-252.

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2. Daneback, K & Cooper, A & Månsson, S-A (2005). An Internet Study of Cybersex Participants, *Archives of Sexual Behavior*, 34 (3) pp. 321-328.
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4. Sevcikova, A., & Daneback, K. (2011). Anyone who wants sex? Seeking sex partners on sex-oriented contact websites. *Sexual and Relationship Therapy*, 26 (2) pp. 170-181.
5. Daneback, K., Sevcikova, A., Månsson, S-A., & Ross, M.W. (2012). Outcomes of using the internet for sexual purposes: fulfillment of sexual desires, *Sexual Health*, <http://dx.doi.org/10.1071/SH11203>.



# Predicting the future of Internet sex: online sexual activities in Sweden

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**ABSTRACT** *This is the first large-scale study of Internet sexuality conducted outside the USA. The questionnaire was administered in the Swedish language and utilized responses from one of the most popular portals (Passagen) in Sweden. Responses from 3,614 people were analysed, with a gender distribution of 55% males and 45% females. This is exactly the same percentages as found in the overall use of the Internet in Sweden (Nielsen/Net Ratings, January, 2002) and participation by females allowed for a more detailed examination of their involvement in online sexual activities. A factor analysis found that there were two major and coherent factors that accounted for over one-third of the variance for all participants. These were called 'Seeking partners', and 'Accessing erotica'. The article details several ways these factors were influenced by gender and age. These results also provided corroboration for several important patterns of OSA reported in earlier studies. Sweden might be an especially fortuitous place to do this type of research as the pervasiveness and acceptance of Internet usage is higher than in the USA, and among the highest in the world. It was postulated that these findings might provide an indication of how OSA might evolve in other societies as their populations increasingly spend time online.*

## Introduction

In the first year of the new millennium it was estimated that 20–33% of Internet users were engaging in online sexual activity (OSA) (Egan, 2000). Some have postulated that OSA may be part and parcel of a new sexual revolution (Cooper *et al.*, 1999). Five factors that have been identified as essential in making the Internet such a powerful medium for OSA include *access*, *affordability*, *anonymity* (oftentimes called the 'Triple A engine'; Cooper, 1998), *acceptability* (King, 1999) and *approximation* (Ross & Kauth, 2002). Yet despite increasing acknowledgement of the importance of better understanding of what impact the Internet is having on sexuality, and vice versa, (Cooper & Griffin-Shelley, 2002; Ellis, 2002), there have been relatively few studies on OSA and almost none conducted outside the USA.

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The prevalence of Internet use in Sweden is among the highest in the world with 6.02 million (68%) of the Swedish people using the Internet in 2002 (Nua, September, 2002). Thus with such a high level of 'connectivity' Sweden may hold some clues as to what the future of Internet sexuality might look like.

Cooper and Griffin-Shelley (2002) have emphasized the importance of having an agreed upon nosology and operational definitions if progress is going to be made in quantifying, studying, and understanding OSA. They offer that OSA can refer to any online activity involving sexuality. These activities can range from looking for a partner, shopping for sexual products, chatting, viewing erotic or pornographic pictures or movies, seeking sexual support, having cybersex, seeking real life partners to have sexual relations with, and so on. These activities may be engaged in for a variety of personal reasons such as relaxing, having fun, staying in contact with a love and/or sex partner, reaching orgasm, or seeking a cyber- or real-time affair.

Online Sexual Problems (OSP) are an outcome for some people Cooper *et al.* (2001) and include the full range of difficulties that people can have due to engaging in OSA. Such difficulties include negative financial, legal, occupational, relationship, as well as personal repercussions from OSA. The 'problem' may range from a single incident to a pattern of excessive involvement. The consequences may involve feelings of guilt, loss of a job/relationship, higher risk of sexually transmitted infections, among others.

Both positive and negative aspects of OSA have been documented and it has been said that the vast majority of those who engage in OSA do not experience adverse consequences from their behaviour (Barak *et al.*, 1999; Cooper *et al.*, 1999). However, at the same time there are a significant minority of people who do find their OSA to be problematic, and thus they would fall into the category of those with an OSP (Cooper, 2000; Cooper *et al.*, 2001, 2002; Rietmeijer *et al.*, 2001). Recent research (Cooper *et al.*, 2002) has attempted to better understand the profiles and demographics of those who participate in OSA in order to serve as a first step in better understanding what leads some individuals to have significant problems with their OSA, while others do not.

Past research has tended to be more focused on OSA among males (Cooper *et al.*, 2001; Ross *et al.*, 2000) and thus less is known about females who use the Internet for OSA. Cooper *et al.* (1999) found that while many women do indeed engage in OSA, they differ somewhat from males in what they do, and where they go, while online. The interactive part of OSA seems to suit women better (e.g., chatting about sexual issues and seeking support in sexual issues). Males seem to prefer visits to adult entertainment sites and erotic news groups (King, 1999). Although men appear to be the majority of those engaging in OSA, there are more and more women finding their way into using the Internet for OSA.

This study provided new data from a recent sample of Swedish Internet users. One of our primary goals was to further expand the understanding of the reasons people engage in OSA. As we believe these reasons to be greatly influenced by the gender and age of the participant, those variables received particular attention in this study. In addition, as opposed to almost any past study in this area, the gender distribution in this sample was almost equal, therefore we used this data to attempt to obtain a better understanding of women's involvement and patterns of OSA. Finally, considering the

multitude of reasons that people engage in Internet sexuality, it is essential that research begin to identify common factors to help us be more able to co-vary these and conduct more complex statistical analysis.

## **Methods**

### *Procedure*

The questionnaire, which was administered in the Swedish language, was launched through a Swedish portal site called Passagen ([www.passagen.se](http://www.passagen.se)), that is part of the Eniro Corporation. Passagen is ranked one of the top four domains in Sweden considering the number of unique visitors. A banner was placed on the website for two weeks from June 10 to June 23, 2002 and appeared randomly on the portal as well as on its sub-sites. There was no way to control where the banner would appear, neither was it possible to predict for whom the banner would show, thus for all practical purposes its appearance was random. During the two weeks [Passagen.se](http://Passagen.se) had 818 422 and 893 599 unique visitors respectively, and the total number of visits was approximately 2 million with approximately 14 million pages viewed.

When clicking on the banner the viewer was linked to an introduction site located on a server within the Göteborg University web. The intro site also had the University logo and described the project, the nature and number of the questions, the funding source and material relating to ethics and confidentiality, including the fact that the questionnaire was anonymous. The introduction site also informed participants that this survey was limited to those who were 18 years or older. By clicking on an 'accept' button, the viewer was linked to the questionnaire, which was also placed on the University server. Below the questionnaire and visible at all times was a set of boxes numbered 1–75 and corresponding to each question. Different colours indicated whether a question had been answered or not and it was possible up to completion for respondents to return to a particular question to revise an answer. The system was running on an Intel based 2 × 450 Mhz server, placed within the Göteborg University web with a 10 giga-bite connection both ways.

Each respondent opened a session with the server and this session was active until the questionnaire was finished or quit. All responses and changes of responses were logged and saved continually. The specific format used made it possible to get exact information on when the respondent started to answer the questionnaire and when and on what question the respondent stopped. It was presented in year-month-day-hour-minute-second format for both starts and stops. This format makes it possible to analyse missing values, when and where respondents drop out, along with other variables, which might be related to their discontinuing participation, such as gender and age.

### *Portal data*

Of those who visited the [Passagen.se](http://Passagen.se) portal site, 54% were women and 46% were men. The two largest groups were 25–34 (22%) and 35–49 years (27%). The other age cohorts were 50–64 years (18%), under 17 (17%), 18–24 years old (12%), and 65

years or older (4%). More than half of the portal population consisted of the following occupations; full time students (17%), within service occupation (13%) educational work (10%), administrative work (8%) and technical work (7%). Ten percent reported not currently having an occupation.

### *Instrument*

The questionnaire was based on two earlier instruments. The first was used in an earlier study done in conjunction with MSNBC, one of the largest American portals (Cooper *et al.*, 2001), the second was used in the Sex in Sweden Survey (Lewin *et al.*, 1998).

The instrument in this study consisted of 75 questions, broken down into seven sections<sup>1</sup>, Section one had 24 demographic questions including items on Internet access and experience of relationships and sexuality. Section two consisted of 13 questions focusing on perceptions of on-line love and sexual behaviour. Section three had seven questions on OSA in the workplace and relevant policies and regulations on such behaviour. The fourth section consisted of 17 questions dealing with both on-line and off-line sexual experiences. In section five respondents were to answer four questions including 12 statements about Internet and sexuality to help make clearer their attitudes about this phenomena. For example if cybersex is cheating, if sex on the Internet is better suited for men, if the Internet fosters equality between gender and similar questions. Items were rated on a three point Likert scale (i.e., whether they fully agreed, agreed somewhat, did not agree, or if they could not answer the question). Section six had eight questions around issues of online sexual problems and STDs. The last section contained a 10-item Kalichman scale on sexual compulsivity (SCS). The final item of the instrument provided respondents with an opportunity to comment on the questionnaire.

### *Missing values, drop outs, and different N's*

Due to the format and technique used in this survey different N's were obtained for items throughout the questionnaire. The first question (age) was answered by 3,614 persons and the last question (10-item Kalichman scale) by 1,851 persons. This detailed accountability provides a unique possibility for special analyses of those who did not complete the entire questionnaire. For example, males have dropped out earlier than females in the questionnaire. There are plans to focus a separate article on better understanding peoples' participation and how Internet questionnaires about sexuality may influence this.

### *Sample*

As a result of the ethical and legal complications of involving minors in a survey related to sexuality, it was decided to restrict participation to adults (over the age of 18). If a respondent filled out the questionnaire and claimed to be under the age of 18, that case was removed from the database. An upper age limit was set at 75 years, due to the small numbers claiming to be older and also in order to be able to facilitate comparison with

earlier related research (Cooper, 2000; Lewin *et al.*, 1998). The mean age of the total sample ( $n=3,614$ ) was 32.5 years for females ( $SD=10.5$ ) and 29.2 years for males ( $SD=11.3$ ). For those who reported engaging in OSA ( $n=2,035$ ) the mean age was, for females 29.7 ( $SD=10.6$ ) and for males 32.0 ( $SD=10.5$ ).

The gender distribution of those who engage in OSA in this study were 55% males and 45% females, which is exactly the same percentages as found in the overall use of the Internet in Sweden (Nielsen Netratings, 2002, January), and statistically identical to the percentages of those who visited the portal site where the questionnaire was launched (54% males and 46% females). Less than 3% claimed to be from a country outside Sweden.

### *Analysis*

The 15 items relating to what people do online in relation to love and sex were subject to factor analysis (principal components analysis followed by varimax rotation to simple structure) for the total sample. Based on Scree tests, four factors were extracted. For demographic comparisons, the first two major factors for the total sample were scored, where 1 = checking a category. There were five and three categories for each of the first two factors for the total sample, and thus the possible score range for the two factors was 0–5 and 0–3.

Mean scores for the two major factors based on total sample analysis (factor scores based on simple addition of scores) were compared by *t*-test (unequal variance assumed) on gender, and on one-way analysis of variance with post-hoc Scheffé tests for the five age groups. Based on factor content, the first factor was labelled the OSA Partner-seeking scale, the second the OSA Accessing erotica scale.

### **Results**

A total of 2,723 persons answered the question ‘What do you do online that is related to love and sex?’ Three quarters of the respondents checked different activities, whereas one quarter said that they did not do anything on line related to love and sexuality. There was a clear gender difference among those who reported they do not engage in OSA, with one third of the women and approximately one fifth of the men (17%) reporting that they did not use the Internet for online sexual and/or love-related purposes. However, looking at the total number of OSA respondents ( $n=2,041$ ), the gender distribution becomes more equal with 45% women and 55% men. In a similar American study, the female population accounted for only 16% (Cooper *et al.*, 2002b). Without hesitation, one can say that the gender distribution among the OSA respondents is one of the most striking findings in this study as past research has not been able to successfully get females to participate in meaningful numbers. In Table I the respondents’ OSA are presented in relation to gender. Particularly noteworthy is this first look at women’s OSA.

As mentioned before, the respondents were asked about what kind of sexual activities they engage in online. The results from this question are presented in the first and third column of the Table I. In the next question they were asked to specify

TABLE I. Gender differences on individual OSA and preferred OSA

Activity	% Male <sup>a</sup>		% Female <sup>a</sup>	
Looking for love contacts	38	4	37	2
Flirt	47	11	46	10
Looking for a partner	29	10	21**	8
Staying in contact with love/sex partner	25	8	35**	21
Reading erotica (text)	33	6	30	9
Viewing erotica (pictures/movies)	69	37	20**	6
Visiting contact sites	37	8	27**	8
Replying to sex ads	10	1	2**	0
Chat with people with same interest	29	10	32	17
Educating myself about sex/getting professional help	15	2	24**	9
Buying sex products	13	1	15	3
Contacting prostitutes	2	0	0*	-
Other things	3	4	6**	7
	<i>n</i> = 1130	<i>n</i> = 1090	<i>n</i> = 911	<i>n</i> = 895

<sup>a</sup>The first column displays the percentage of respondents engaging in the specified activity ('What do you do online that is related to love and sex? Mark *all* appropriate.'). The second columns display the preferred activity of the respondents ('What do you *mostly* do online that is related to love and sex? Mark one only'). \*\**p* < 0.001 \* *p* < 0.005.

what activity they *most often* engage in. The answers to this question are presented in column two and four of the Table I. It is obvious, that there is a clear *gender difference* concerning what online sexual activities people engage in. By far, the most common activity among men is viewing erotica (69%), which also is the most preferred online sexual activity (37%). Women most frequently engage in online flirting (46%), but they mostly use the Internet to stay in contact with an already existing love or sex partner (21%). Apart from viewing erotica more men than women use the Internet to look for a partner, to visit contact sites (websites displaying contact ads) and to reply to sex ads; most of these differences show statistically significant differences in proportions of activity between men and women on Chi-square test. Women, on the other hand, use the Internet more often than men in order to stay in contact with a love or sex partner that they already have. They also report a higher percentage of Internet use for purposes of getting support or education in sexual matters. Looking at *gender similarities* we find that both men and women use the Internet to the same degree in looking for love contacts, flirting, reading erotica, chatting with people with the same interest, and buying sex products. As stated above, flirting is the most common activity among women; among men flirting holds the second position next to viewing erotica. Only a few respondents answered that they use the Internet to contact prostitutes, all of them men. The category 'other things', with a free text box attached, is not analysed at this point.

Table II indicates major differences in the pattern of OSA between men and women. These differences are confirmed by looking at the way the factor analysis in Table II clusters the activities into dimensions, suggesting that they can be usefully looked at as



scales rather than as discrete activities. The two major scales illustrate that the two most important dimensions of OSA are *Seeking partners* and *Accessing erotica*.

Table III illustrates that for these two major online sexual activity dimensions, there were significant differences between males and females with males higher for the OSA Partner seeking scale ( $t=8.38$ ,  $df=2,528$ ,  $p < 0.001$ ) and the same for the OSA Accessing erotica scale ( $t = -18.39$ ,  $df=2,530$ ,  $p < 0.001$ ). In relation to age, the youngest and oldest age groups (18–24 and 50–75) were significantly lower than the middle age groups (25–49) on the OSA Partner seeking scale ( $F=11.35$ ,  $df=4$ ,  $p=0.001$ ). On the OSA Accessing erotica scale ( $F=9.10$ ,  $df=4$ ,  $p < 0.001$ ), however, there was an almost linear relationship with age, with the OSA accessing erotica score decreasing with age.

As mentioned earlier, age *in relation to* gender, is important to consider in understanding OSA. The age groups used in the Tables III and IV are identical to the ones used in the aforementioned *Sex in Sweden* study (Lewin, 1998), a population-based study of Swedish people's sexual habits and attitudes, in which the distribution was based on how common it was for the age groups to have children in the household. Originally five age groups were used, however, in the next table, Table IV the two oldest

TABLE II. Factor analysis of Online Sexual Practices

Variable	Loading
<i>Factor 1—Seeking partners</i>	
Visiting contact sites	0.73
Looking for a partner	0.70
Replying to sex ads	0.61
Chat	0.46
Contacting prostitutes	0.37
	(21.60% of variance)
<i>Factor 2—Accessing erotica</i>	
Viewing erotic pictures/movies	0.76
Viewing pornographic pictures/movies	0.74
Other things	– 0.45
Reading erotic texts	0.30
	(11.51% of variance)
<i>Factor 3—Searching for information</i>	
Educating myself about sex/getting professional help	0.87
Looking for love contacts	0.77
Buying sex products	0.56
	(10.81% of variance)
<i>Factor 4—Reading and flirting</i>	
Do not do anything online relating to love or sex	0.81
Flirt	0.72
Staying in contact with love/sex partner	– 0.39
	(9.37% of variance)

TABLE III. Comparison between OSA scores and Demographic variables (Mean  $\pm$  SD)

Variable	OSA—Seeking partners <sup>1</sup>	OSA—Accessing erotica <sup>2</sup>
<i>Gender</i>		
Male	0.88 $\pm$ 1.14	1.35 $\pm$ 1.00
Female	0.56 $\pm$ 1.86*	0.73 $\pm$ 0.76*
<i>Age</i>		
18–24	0.54 $\pm$ 0.92	1.06 $\pm$ 0.98
25–34	0.83 $\pm$ 1.10	1.14 $\pm$ 0.97
35–49	0.74 $\pm$ 1.04	0.95 $\pm$ 0.89
50–65	0.95 $\pm$ 0.89	0.78 $\pm$ 0.74
66–75	0.45 $\pm$ 0.71*	0.67 $\pm$ 0.69*

<sup>1</sup>Mean score out of 5: Visiting contact sites, Looking for a partner, Replying to sex ads, Chat, contacting prostitutes.

<sup>2</sup>Mean score out of 3: Viewing pornographic pictures/movies, Viewing erotic pictures/movies, Reading erotic texts.

\* $p < 0.001$ .

have been merged into one because of the low proportion of respondents in those groups.

For men, viewing erotica is the most frequent OSA in all age groups although it seems to decrease with age. In the youngest age group 74% of the men view erotica online, in the oldest age group 58% of the men engage in this activity. Roughly, it is possible to identify two major patterns regarding men's sexual activities online in relation to age. One concerns partner-seeking activities, which seem to be peaking in the second (25–34) and the third (35–49) age groups. The percentages of men engaging in such activities are higher in the second and third age group. These activities include looking for love contacts, looking for a partner, visiting contact sites and, to a certain extent, replying to sex ads. Another distinguishable pattern concerns men's desire to access erotica, which seems to gradually decrease with age. However, the same decreasing tendency also applies to a range of other activities such as chatting, staying in contact with love and/or sex partner and seeking education and support; all these activities engage men less frequently as they get older.

For the women it is not as easy to identify any clear patterns. Some OSA peak in certain age groups, while others increase, decrease, or simply go up and down. However, one pattern to be identified is partner-seeking activities, where the percentages rise exponentially with age, from 10–48% from the youngest to the oldest age group when it comes to 'looking for a partner', and from 11–63% when it comes to 'visiting contact sites'. This pattern is not at all found among the male respondents. Another interesting observation concerns women's desire to access erotica. As we know, this is mainly a male behaviour, but when women engage in it, there seems to be a clear generational divide between younger and older women. It is also noteworthy that more young women than older men read erotica on the Internet. Interestingly enough, this observation also coincides with the *Sex in Sweden* study (Lewin, 1998), where it was found that a larger proportion of women in the age group 18–24 had watched pornographic films during the last 12 months compared to men in the age group 50–65.

TABLE IV. Age and gender differences on individual OSA (%)

	18-24		25-34		35-49		50-75	
	Male (n = 305)	Female (n = 387)	Male (n = 452)	Female (n = 277)	Male (n = 280)	Female (n = 181)	Male (n = 88)	Female (n = 65)
Looking for love contacts	35	41	43	34	37	37	28	25
Flirt	47	40	53	52	43	52	32	32
Looking for partner	19	10	32	21	33	34	28	48
Staying in contact	31	36	26	34	22	35	17	37
Reading erotica	42	33	31	33	30	22	24	11
Viewing erotica	74	25	71	25	64	15	58	5
Visiting contact sites	25	11	43	30	44	43	33	63
Replying to sex ads	10	1	12	4	6	2	3	2
Chat with people with same interest	37	32	28	31	24	34	17	34
Education/support	20	33	16	24	10	13	8	5
Buying sex products	12	13	16	21	13	16	3	3
Contacting prostitutes <sup>a</sup>	2	-	2	0	2	1	-	-
Other things	3		2		4		6	

<sup>a</sup> Sample contains 18 males and 2 females.

The purpose of this table has been to show the importance of age. However, it also shows that there is no simple accumulation of experience concerning OSA with age. In effect, what we have observed is something much more complex. For example, it is clear that in some aspects there are generational effects for both men and women, meaning that experiences of some activities are more common among younger than older people, for example accessing erotica on the Internet. This does not mean that age is more important than gender, but it means that earlier research stating that the interactive part of OSA seems to suit women better, has to be partly revised or at least qualified. To summarize, one could say that, on a general level, the old observation still holds true. On the other hand, as the findings of our study show, it is important to add that this is less true for one category of women (the younger), than another (the older).

## **Discussion**

As mentioned earlier males and females participated in almost equal numbers in this study and those percentages were equivalent to both the gender distribution on this portal, as well as to the general gender distribution of Internet users in the country. This clearly increases our confidence in the representativeness of our sample. Part of the explanation for the greater participation by women might be attributed to the inclusion of the word love in the banner text advertising the survey. This may have been more attractive to female surfers as it has been reported that men and women use the Internet for different purposes (Morahan-Martin, 1998) and online, like offline, women may be more interested in love than sex (Leiblum & Sachs, 2002). In addition cultural differences may have played a part in the increased involvement of women. The use of the Internet is positively highlighted in the Swedish media as an acceptable means of meeting a romantic partner. There have been numerous reviews (e.g. Janouch, 2002) of various sex/dating sites in the Swedish press as well as accounts of well-known people both participating in Internet dating, and even starting their own sites. This helps familiarize the population with these practices and makes them appear more mainstream and thus more of a viable option.

Related to this is the fact that Sweden is often cited as a country more accepting of sexuality in general, as well as newer and non-traditional sexual variations and practices (Lewin, 1998, Tikkanen & Ross, 2003). The Swedish population is also said to have a higher degree of 'sexual literacy' than most others, and it was the first country in the world to incorporate compulsory sexual education (Lottes, 2002). The aforementioned factors, along with a societal liberation and openness regarding sexual matters beginning at the end of the 1950s (Bergström-Walan, 1994), may all contribute to the Swedish people (particularly the women) being more comfortable with online sexuality. Also noteworthy is that, whatever the actual reasons, this study provides one of the first large data sets involving women's OSA.

By further explicating the primary variables that lead people to engage in OSA, the Swedish study is another step forward in understanding this increasingly prevalent phenomena. Our factor analyses found that there were two major and coherent factors that accounted for over one-third of the variance for all participants. These were called

'Seeking partners', and 'Accessing erotica' and both were greatly influenced by demographic variables such as gender and age. 'Accessing erotica' was the most highly endorsed general dimension described, followed by 'Seeking partners', and the data suggest that a substantial proportion of the variance of on-line behaviours can be accounted for by these two dimensions alone.

In looking at more specific types of OSA we found some interesting gender differences. Viewing erotica was the most preferred specific activity for men, more than three times higher than 'flirting', which was the second most preferred activity. For women, the category of 'flirting' was the most frequent activity, while staying in contact with a love or sex partner was the most preferred activity. It is noteworthy that almost as many men as women engage in online flirting, both when comparing frequency as well as their most preferred OSA. The Internet appears to be a place where both men and women can engage in flirtatious behaviour to affirm their sexuality and attractiveness. While for some flirting may be a primary motivation for going online, for others it might instead be something that they find themselves inadvertently engaging in while interacting with others around work or recreational tasks (e.g., telling a colleague that you will check on the status of a shared project next week but you are sure she will have a 'hot date' to help her relax on the weekend). This might explain how this venue might inadvertently foster relations quickly progressing from those that are neutral and task focused, to interactions with more of a flirtatious and sexually charged tone. This might be a finding particularly relevant to employers as their employees spend more of their workday navigating cyberspace (for a fuller discussion of the influence of online sexuality on the workplace see Cooper *et al.* (2002a).

Both men and women use the web to read and view erotica and again the percentages of participation vary by gender. Men are more likely to view seek out and view erotica (as they do in other offline venues), than do women. In terms of reading erotic texts there is no significant gender difference and women seem to be more interested in this form of erotica than in pictures or movies. One explanation could be that it might be easier for them to find text designed with women in mind than it is to find similar pictures or movies. However it is also clear that there is a significant age difference among women in relation to their desire to access erotica on the Internet (with younger women being more interested) and this may be related to generally higher sexual interest, curiosity, and/or general comfort with the Internet.

Significantly more women use the net to 'stay in contact with a love/sex partner'. Whether it is sending emails while travelling, or dropping brief notes to each other throughout the day, this is one way that the net can help couples 'stay connected' and support and bolster ongoing relationships (Cooper *et al.*, 2002c). To men this seems to be of less importance as it is ranked fifth in terms of their preferred activities. Women were found to be more likely to use the net to educate themselves about sex and to get professional help which corroborates similar findings in previous research (Cooper *et al.*, 2002c). However, in this study the percentage of women using the net for this purpose was not nearly as high. Contributors to this might include good sexual information being more easily obtainable in Sweden than in the USA and the vast differences in sexuality education between these two countries (Lottes, 2002) resulting in women in

Sweden to need to use the Internet less for this purpose. Another part of the difference from past research might be attributable to the greater response choices in the instrument used in this study which allowed the female respondents to make more specific and accurate choices as to the reasons for engaging in OSA (e.g., being to able to choose a category of 'erotic texts' which might be partially subsumed under an 'education' category, but clearly has other components).

The finding that 13–15% of both genders use the net to buy sexual products is also consistent with past research (although slightly higher). This is another way that the Internet can help people to enhance their sexuality and even make safer sex easier to comply with. The Triple A allows for those interested to both get very detailed information on a range of sexual products, as well as 'shop for' them when ready. This might be especially relevant in more sexually conservative environments where abstinence is put forth as the only sanctioned choice. For those who are choosing to make a different decision and still have sexual relations with a partner the Internet might make the difference between purchasing condoms or forgoing them all together. In addition using the Internet makes advertising for these same products easier, less costly, and facilitates targeting narrower and more receptive audiences (e.g., specific types of sexual lubricants designed for men who have sex with men).

As seen above, this study finds both gender similarities and differences on a number of important dimensions. When adding a second critical variable of age, more interesting results appear. Men seem to be more motivated to search for a partner when they fall in the two middle age groups (25–34 and 35–49). This is in contrast to their other OSAs, which seem to start much higher and then gradually decrease with age. For women on the other hand, using the Internet to search for a partner is something that they seem to do more of as they get older. This might be expected in that over time, the relative availability of men to women decreases, while at the same time women's self confidence and determination to actively pursue relations increases. Therefore as women get older they might be more likely to be involved in any number of activities that provides them with the opportunity to search for a partner and the Internet provides them with a forum to take a more active role in this rather than passively waiting for a man to approach them (Cooper & Sportolari, 1997).

There are other distinct generational differences, that in some instances, might even override the importance of gender as a differentiating factor. For example, younger people (18–24) use the Internet more to explore and obtain sexual gratification but not necessarily to seek partners. We have also pointed towards the relative frequency with which younger women, as opposed to older, use the Internet in order to access erotica. Over all, the oldest age group (49 and older) in our study tended to use the Internet less for OSA. This might be due to several factors including an overall decrease in sexual interest and involvement that typically accompanies aging (Bancroft, 2002), and also the fact that the Internet is still a relatively new phenomenon with which the vast majority of older adults have less knowledge and comfort, particularly when it comes to involving the computer in their sex life. We predict that there will be major changes in this trend as those people, for whom the Internet currently is a major venue for engaging in sexual activities, get older. (For a further exploration of the possibilities the Internet may hold for older adults see Tepper & Owens, 2002).

Additionally, from a sexual-theoretical perspective, it will be a major challenge for future researchers to try to understand and analyse if and how the socio-sexual interaction taking place on the Internet, in a more fundamental way will influence the sexual scripts in society. Scripts are essentially a metaphor for conceptualizing the production of behaviour within society. According to the *sexual* scripting theory, developed by Gagnon and Simon (1973), social actors are continually involved in shaping the materials of relevant cultural scenarios into scripts for sexual behaviour in different contexts. The Internet represents a context for ongoing sexual scripting and its evolution. At present the long-term implications of these activities on the Internet are difficult, if not impossible to predict. However, the results from this study provide us with some ideas that need to be developed and elaborated in further research. One example is the generation differences that we noted, especially concerning younger women's participation in sexual activities on the Internet, that conflict with established cultural norms directing women's sexual behaviour.

## Conclusions

Sweden has one of the highest percentages of Internet usage of any country and the ease of connectivity might be permeating the culture in a deeper way. 6.02 million (68%) of the Swedish people are estimated to use the Internet (Nua, September, 2002). Thus it might well be that examining the Swedish experience with OSA might give other countries a sense of what their future might hold in this respect.

One example of this can be seen in Internet usage across gender. As in the USA, women in Sweden go online almost as much as men. In the USA, 52% of the USA Internet users are estimated to be women (Nielsen/Netratings, December 2001), while in Sweden 45% of users are women (Nielsen/Netratings, January, 2002). Yet despite this, we found a much higher involvement in OSA by women in this study than in any other. Although the reasons for this remain unclear, they might include the fact that the study more broadly defined OSA to include concepts like love and flirting, Swedish society is more affirming of women's sexuality, and/or that as time progresses more and more women are finding the Internet to be an acceptable, and even preferable, venue in which to pursue their sexual interests.

In most respects this study found solid corroboration for earlier studies that outlined general patterns of Internet sexuality. As this study was done, with a different methodology, at a different time, with a different population, in a different country and in a different language, it greatly increases our confidence that the primary effects that the available body of research is finding are reliable, and significantly ameliorates concerns about sampling bias and error.

Finally, as we begin to get a baseline of common findings and patterns around OSA and to have increasing confidence in them, the next step is for researchers to begin to take a more sophisticated look at this complex phenomena. Towards that end we need to be able to conduct more complex multivariate analyses of the various dimensions of OSA, as well as to identify common factors to co-vary with other important demographic and related variables. We offer this study as an important step forward along that path.

**Note**

- [1] The complete questionnaire can be obtained from Professor Sven-Axel Månsson at University of Gothenburg, P.O. Box 720, 405 30 Göteborg, Sweden.

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## An Internet Study of Cybersex Participants

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Cybersex is a subcategory of online sexual activities (OSA) and is defined as when two or more people are engaging in sexual talk while online for the purposes of sexual pleasure and may or may not include masturbation. Cybersex is a growing phenomenon with a significant impact on participants but very little research has been done on this subject to date. This study is the first to attempt to delineate characteristics of those who engage in cybersex. Data were collected through an online questionnaire in Swedish, administered through the Swedish web portal Passagen.se. Out of the total sample ( $N = 1828$ ), almost a third, both men and women, reported to have engaged in cybersex. A logistic regression analysis showed that age, sex, and sexual orientation were important demographic variables to consider when investigating cybersex. A comparison of interval data showed those engaging in cybersex to have a higher likelihood of spending more time online for OSA and having more offline sex partners than those not engaging in cybersex.

**KEY WORDS:** cybersex; sexuality; internet; online sexual activities.

### INTRODUCTION

Many people are using the Internet for online sexual activities (OSA) and the numbers seem to grow as the Internet continues to expand throughout the world. Cooper and Griffin-Shelley (2002) characterized OSA as the next sexual revolution. The triple-A-engine (access, affordability, and anonymity) was found to be a useful model to explain the power and attraction of OSA (Cooper, 1998; Cooper & Griffin-Shelley, 2002). Some OSA are more visually oriented (e.g., adult pictures and movies) while others are more interactive and/or communicative (e.g., online dating, chatting, discussion forums). Also, a distinction can be made among educational, recreational, and social/community types of OSA.

Although both women and men are represented in all categories mentioned above, it has been found that women tend to be more interested in interactive OSA while men are more interested in visually oriented OSA (Cooper, Månsson, Daneback, Tikkanen, & Ross, 2003). In addition to sex, age is another variable that has proven to be important in analyses of OSA. For example, people between 18 and 24 years have a different usage pattern when compared with those over 25 years, and the difference is most apparent when compared with people ranging from 50 to 65 years. For younger people, the use of the Internet is more complex and multifaceted, particularly where OSA is concerned (Cooper et al., 2003; Månsson, Daneback, Tikkanen, & Löfgren-Mårtenson, 2003). While some reports have discussed sex differences in OSA, research up to this date has primarily focused on men and little is still known about women's usage of the Internet for OSA.

In 2002, a large scale quantitative study was conducted on online sexuality in Sweden (Månsson et al., 2003). This study was unique because the sample consisted of an almost equal sex distribution, which allows for a fuller understanding of OSA. In earlier similar studies, the samples have consisted of approximately 85% men and 15% women (Cooper, Morahan-Martin, Mathy, & Maheu, 2002; Cooper, Scherer, Boies, & Gordon, 1999).

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The current study, which was based on the Swedish sample, focuses on a subgroup of OSA users, both men and women, engaging in "cybersex."

Since Turkle's (1995) observations of sexual interactions in so-called multiuser domains, researchers have defined cybersex differently. At times, cybersex has been used as an equivalent to general OSA. Cooper and Griffin-Shelley (2002) defined cybersex as a subcategory of OSA where the Internet is used for sexually gratifying activities. These activities range from looking at pictures to erotic chat sessions, sometimes including masturbation. The definition of cybersex that was used in the present study was slightly more narrow and focused exclusively on the interactive part of having online sex. This has earlier been referred to as "cybering," as it was believed that this was what most respondents would understand the term to mean (Cooper & Griffin-Shelley, 2002). Thus, for the purposes of this study, cybersex involved two or more people engaging in simulated sex talk while online for the purposes of sexual pleasure and may or may not include masturbation by one or more of the participants.

Mostly, cybersex is a real-time event involving two persons who are typing each other messages using a chat client like ICQ or Microsoft Messenger. In other cases, a couple may find or create themselves a chat room in cyberspace where this interaction takes place. Some even exchange pictures or short movies of themselves or erotic pictures and movies found on the web to accompany the otherwise text based communication (Cooper & Griffin-Shelley, 2002; Månsson et al., 2003). Typically, persons who engage in cybersex find each other on the Internet and have never met before in real life (IRL). The conversations vary and range from flirting and "talking dirty" to giving very detailed descriptions of having intercourse. This way of having "virtual" sex enables people to explore their own sexuality, to try new things they have not yet tried offline, or in other cases have no intention of trying offline. It could be sharing secret sexual fantasies or creating an interactive sex novel.

The medium also allows the user to play different roles and even pretend to be of the other sex and of a different age. Cybersex can be used as a compliment to an already existing sexual relationship, a safe way of experimenting with sexuality, or as an alternative for sexually disenfranchised groups (Leiblum, 2001; Leiblum & Döring, 2002; Tepper & Owens, 2002). Cybersex can either be a goal in itself or serve as a first step toward an IRL encounter (Barak & Fisher, 2002; Månsson et al., 2003).

There can also be a serious downside to cybersex. Engaging in this kind of OSA can be very time consuming. For some people, life on the screen can become a

substitute for their offline life activities, ultimately leading to isolation and to neglect work and other duties (Turkle, 1995). Using the Internet for cybersex when already in a relationship may affect one's partner, both sexually and emotionally. Some view cybersex as infidelity, just as much if it would happen offline, and this may affect a whole family (Schneider, 2000, 2002; Whitty, 2003). In some cases, an online affair may lead to an offline affair, not only potentially damaging for families or relationships, but also increasing the risk of sexually transmitted infections (STI). Furthermore, the Internet cannot verify age and minors can easily become involved in inappropriate sexual situations (Freeman-Longo, 2000).

Clinicians are reporting a rapid increase in the numbers of patients with issues relating to OSA (Cooper & Griffin-Shelley, 2002). An understanding of cybersex and its users is important for those working with sexual and relationship issues, as cybersex can be either part of a problematic behavior or of a strategy to enhance one's sexuality and it is within the purview of clinicians to guide it away from the former and towards the latter. Understanding cybersex is also important for sexuality research in general because it is a new sexual phenomenon where it is possible to become aroused with another person without any auditory, visual, or physical contact.

The present study, which is a more in-depth analysis of survey data collected by Månsson et al. (2003), aims to expand the existing knowledge of cybersex by examining a number of basic demographic characteristics (sex, age, relationship status, and sexual orientation) of those who participate in cybersex. A second aim of the study was to investigate how cybersex participants' sexualities are manifested offline and online by measuring sexual activity (the number of sex partners that respondents have had in the last year) and time spent online for OSA.

## METHOD

### Participants

As a result of the ethical and legal complications of involving minors in a survey related to sexuality, it was decided to restrict participation to adults ( $\geq 18$  years). If a respondent filled out the questionnaire and claimed to be under the age of 18, that case was removed from the database. An upper age limit was set at 65 years, due to the small numbers claiming to be older. With those limitations, 1835 respondents (931 women, 904 men) completed the questionnaire.

Of these, 1458 respondents (658 women, 800 men) claimed to use the Internet for OSA. The mean age

for OSA users was 29.7 years ( $SD = 10.3$ ) for women and 31.5 years ( $SD = 9.8$ ) for men ( $t = 3.27$ ,  $df = 1456$ ,  $p < .001$ ). The sex distribution among OSA users were 55% men and 45% women ( $\chi^2 = 88.01$ ,  $df = 1$ ,  $p < .001$ ) which are the same percentages as found in the overall use of the Internet in Sweden, and identical to the percentages of those who visited the portal site where the questionnaire was launched (54% men and 46% women).

### Procedure

The questionnaire was launched through a Swedish portal site called Passagen ([www.passagen.se](http://www.passagen.se)). A banner was placed on the website for 2 weeks from June 10 to June 23, 2002 and appeared randomly on the portal as well as on its sub-sites. There was no way to control where the banner would appear and it was not possible to predict for whom the banner would show; thus, for all practical purposes, its appearance was truly random according to the Passagen administrators. During the 2 weeks, Passagen.se had 818,422 unique visitors the first week and 893,599 unique visitors the second week, and the total number of visits was approximately 2 million with approximately 14 million pages viewed.

### Measures

The questionnaire was based on two earlier measures. The first was used in an earlier study carried out in conjunction with one of the largest American portals (Cooper, Scherer, & Mathy, 2001) and the second was used in a population based sexuality study in Sweden (Lewin, Fugl-Meyer, Helmius, Lalos, & Månsson, 1998). The online questionnaire consisted of 93 questions, shown on 75 web pages, and broken down into seven sections. Each respondent was assigned a unique identity based on a combination of their Internet protocol number and a specific number assigned to the questionnaire (see Cooper et al., 2003 and Månsson et al., 2003 for a more detailed description of the questionnaire and the technique used for data gathering).<sup>5</sup> In the present study, four sociodemographic measures (sex, age, relationship status, and sexual orientation) and two measures related to online and offline sexuality (time spent on OSA and number of sex partners last 12 months) were analyzed. Age was divided into four groups, 18–24, 25–34, 35–49, and 50–65. This division was based on an earlier study of sexuality in Sweden and was chosen for comparative reasons

(Lewin et al., 1998). Relationship status was created from the original marital status question in the questionnaire. Those respondents who reported to be either married, cohabiting, living in a registered partnership, or being in a relationship but living apart (e.g., in the beginning of a relationship or between people who are dating, but not living together) were coded as being in a relationship. Those reporting being either single, divorced, or widowed were coded as not being in a relationship. The variable sexual orientation, which was based on self identification, consisted of heterosexuals, homosexuals, and bisexuals.

The time spent on OSA was divided into six groups. These groups were less than 1 hr/week, 1–3, 3–6, 6–10, 10–15, and more than 15 hr/week. The rationale for using this division was to minimize the possible effect of outliers and/or the possible effect of an uneven distribution. For the same reasons, the number of sex partners in the last 12 months was divided into seven groups (0, 1, 2–3, 4–6, 7–9, 10–19, and more than 20). The question on the number of sex partners was placed in the context of offline demographics in the questionnaire and did not include eventual cybersex partners.

### RESULTS

Table I shows the percentage of respondents answering whether or not they had had cybersex. A total of 30% of the men and 34% of the women reported to have had such an experience; However, the sex difference was not significant ( $\chi^2 = 2.72$ ,  $df = 1$ ,  $ns$ ). When broken down by sex and age, the percentages changed somewhat. Table I shows that, for men, experience decreased with age from 38% in the youngest group to 13% in the oldest group. For women, there was a slight increase from the youngest group and then a noticeable decrease in the oldest group. There were no significant sex differences in any of the age groups (18–24,  $\chi^2 = 0.78$ ,  $df = 1$ ,  $ns$ ; 25–34,  $\chi^2 = 1.10$ ,  $df = 1$ ,  $ns$ ; 50–65,  $\chi^2 = 1.48$ ,  $df = 1$ ,  $ns$ ), with the exception of those between 35 and 49 years old. Here, significantly more women than men had had cybersex (35–49,  $\chi^2 = 5.32$ ,  $df = 1$ ,  $p < .05$ ). Between age groups, the youngest group had most cybersex experience while the oldest group was the least experienced.

Table II shows that most cybersex interactions take place in chat rooms (72%) followed by ICQ/Microsoft Messenger (52%). Respondents had the choice to mark multiple alternatives and thus the total percentages exceeded 100. There were no significant sex differences with regard to the choice of media used for cybersex (e-mail,  $\chi^2 = 1.53$ ,  $df = 1$ ,  $ns$ ; chat room,  $\chi^2 = 0.71$ ,

<sup>5</sup>The complete questionnaire can be obtained from the first author.

**Table I.** OSA-Users Experience of Cybersex by Age and Sex (%)

Experience of cybersex	18–24 years		25–34 years		35–49 years*		50–65 years	
	Men (n = 215)	Women (n = 275)	Men (n = 338)	Women (n = 201)	Men (n = 193)	Women (n = 137)	Men (n = 54)	Women (n = 45)
Yes	38	34	30	35	25	37	13	22
No	62	66	70	65	75	63	87	78

\*p < .05

df = 1, ns; ICQ/Messenger,  $\chi^2 = 0.49$ , df = 1, ns; Other,  $\chi^2 = 1.82$ , df = 1, ns). Respondents who claimed to use other media referred to other programs used for real time chatting (e.g., mIRC).

Table III summarizes the outcome of the multivariate analysis. Columns display the odds ratio (OR) for men and women, respectively. Starting with age groups, men had odds ratios below 1.00 in all groups, suggesting they were less likely to have had cybersex compared with the youngest group (18–24), but the odds ratio was significant only for the oldest group. Except for the oldest group (50–65), age had no effect on odds ratios for women. Regardless of sex, being in a committed relationship did not have a significant effect on whether or not the respondents had had cybersex.

Homosexual men were over four times more likely to have had cybersex compared with heterosexual men. For bisexual men, the odds ratio showed that they were almost two times more likely to have engaged in cybersex compared with heterosexual men, but this was not significant at the .05 level. Sexual orientation was found not to have any significant effects on odds ratios for women.

The last two variables in the multivariate analysis examined aspects of the respondents' offline and online sexuality. Looking at offline behavior first, using the number of sex partners during the last year as an indicator of offline sexual activity, the regression model suggested that having had more than one sex partner increased the possibility of having had cybersex. However, it is important to recognize the non-linear relationship

**Table II.** Media Used for Cybersex (%)

Medium	Percent by sex	
	Men (n = 222)	Women (n = 215)
E-mail	19	14
Chatroom	73	72
ICQ/Messenger	54	51
Other	9	6

Note. Multiple answers were possible and thus the total percentages exceeds 100 for both sexes.

between the number of partners and cybersex. Note that the odds ratio for women were both higher and had a stronger significance when looking at the 4–6 and 7–9 groups, suggesting that women who have cybersex were three to four times more likely to have had 4–6 and 7–9 sex partners in the last year, respectively. Men with cybersex experience were likely to have had 2–3 sex partners in the last year. The mean number of sex partners for men

**Table III.** Effects on Odds of Having Experience of Cybersex by Sex (N = 1458)

	Men (n = 800)			Women (n = 658)		
	OR	p	N	OR	p	N
<b>Age</b>						
18–24 (ref.)	1		215	1		275
25–34	0.82	ns	338	0.83	ns	201
35–49	0.66	ns	193	1.03	ns	137
50–65	0.13	.002	54	0.59	ns	45
<b>In a committed relation</b>						
Yes	0.95	ns	373	1.39	ns	305
No (ref.)	1		424	1		350
<b>Sexual orientation</b>						
Heterosexual (ref.)	1		726	1		557
Homosexual	4.28	.004	22	0.70	ns	8
Bisexual	1.86	ns	44	1.58	ns	72
<b>Number of sex partners last 12 months</b>						
0	0.72	ns	149	1.03	ns	80
1 (ref.)	1		324	1		259
2–3	1.72	.024	168	1.56	ns	156
4–6	1.71	ns	81	2.78	.001	76
7–9	2.11	ns	17	3.99	.008	21
10–19	1.45	ns	11	2.54	ns	8
20<	1.84	ns	7	1.77	ns	3
<b>Time online for OSA (hr/week)</b>						
<1 (ref.)	1		175	1		166
1–3	1.29	ns	144	0.96	ns	89
3–6	1.30	.008	195	1.20	.049	141
6–10	4.11	.001	201	1.91	.022	145
10–15	2.86	.010	45	7.80	.001	35
15<	1.41	.001	36	1.33	.001	23

Note. Where responses total <1458, the remainder are missing responses.

with cybersex experience was 5.42 ( $SD = 31.20$ ) and for women 2.8 ( $SD = 3.24$ ), but the sex difference was not statistically significant ( $t = 1.19, df = 435, ns$ ).

The last variable examined in the regression model was the amount of time cybersex respondents spent involved in any kind of OSA. The odds ratio indicated that being in any of the groups spending more than 3 hr on OSA per week had a significant effect on participation in cybersex. Again, it is important to note the non-linear relationship between the time online for OSA and cybersex. Men who spend 6–10 hr online per week were four times more likely to have had cybersex and women who spend 10–15 hr online were almost eight times more likely to have had cybersex. The mean number of hours spent online for OSA per week among those who engaged in cybersex were 8.08 ( $SD = 9.89$ ) for men and 6.37 ( $SD = 6.45$ ) for women. The sex difference was significant ( $t = 2.14, df = 441, p < .05$ ).

When comparing the number of offline sex partners and time spent online for OSA for those having had cybersex with those without this experience, there were significant differences found between the groups as shown in Table IV. Men with cybersex experience had had more than twice as many offline sex partners as men without this experience. The difference was significant ( $t = -2.41, df = 755, p < .05$ ). Similar tendencies were found among women where those with cybersex experience had had significantly more sex partners the last year compared with the non-cybersex group ( $t = -2.80, df = 603, p < .01$ ).

The cybersex group and the non-cybersex group were also significantly different considering the time spent online for OSA. Men in the cybersex group were found to spend twice as much time online for OSA compared with the other group ( $t = -7.79, df = 764, p < .001$ ). Women in the cybersex group spent less time online for OSA than men, but spent almost twice as much time online as those women not engaging in cybersex ( $t = -5.31, df = 597, p < .001$ ).

There were also differences between the cybersex group and the non-cybersex group regarding the amount of time they spent online for general purposes. Men in the cybersex group ( $n = 233$ ) spent 23.32 hr ( $SD = 16.78$ ) online per week and women ( $n = 214$ ) spent 19.50 hr ( $SD = 11.93$ ) online per week. There was a significant sex difference in the cybersex group ( $t = 2.76, df = 445, p < .05$ ). No sex differences were found among those not engaging in cybersex ( $t < 1, df = 445, ns$ ), where men spent 15.57 hr ( $SD = 14.37$ ) online and women 14.69 hr ( $SD = 14.21$ ) online per week for general purposes.

DISCUSSION

The aim of this study was to investigate the characteristics of those who participate in cybersex. Cybersex was defined as when two or more people engaged in simulated sex talk while online for the purposes of sexual pleasure. We found that both men and women participate in cybersex to a similar extent. An interesting observation, when broken down by age, was that women between 35 and 49 years had significantly more experience of cybersex compared with men in the same group. Respondents of both sexes in the oldest age group (50–65) seemed to have little interest in cybersex. This is likely to be related to unfamiliarity with computers and the Internet (particularly as it might be utilized for sexual purposes). We also know that older women are primarily focused on partner seeking activities and may not view cybersex as such an activity (Cooper et al., 2003; Månsson et al., 2003).

According to the percentages displayed in Table I, men’s interest in cybersex seemed to decrease with age while women’s interest stayed almost the same, even undergoing a slight increase with age when focusing on the three age groups between 18 and 49 years.

Table IV. Comparison Between Cybersex Group and Non-Cybersex Group on Mean Number of Sex Partners and Time Spent Online for OSA

	Cybersex group			Non-cybersex group			<i>t</i>	<i>df</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>			
Number of sex partners									
Men	5.42	31.20	227	2.02	5.91	530	-2.41	755	.016
Women	2.84	3.24	210	1.99	3.72	395	-2.80	603	.005
Hours per week spent online for OSA									
Men	8.08	9.89	231	4.03	4.52	535	-7.79	764	.001
Women	6.37	6.45	212	3.73	5.44	387	-5.31	597	.001

However, a multivariate regression analysis for each sex did not confirm this pattern, but suggested age to be an unimportant variable for women's participation in cybersex. We know that interaction with others and "education" around sexual matters are women's primary reasons for engaging in OSA and, thus, making cybersex an interesting activity for women of all ages (Cooper et al., 2003). Cybersex may be an activity in which women feel most comfortable expressing their sexuality, freed of their concerns and restrictions of the attitudes of the larger views of society (Leiblum & Döring, 2002). The triple-A-engine allows them to engage in a range of sexual activities without fear of violence, STI, pregnancy, societal censure or social stigmatization. In this regard we must also point out that engagement in cybersex may serve cyberromantic purposes as well. For men, the analysis showed that those between 50 and 65 were less likely to have had cybersex compared with men between 18 and 24. The trajectory for men can be explained by the fact that younger men's overall involvement in all forms of OSA is very high as they experiment and explore their sexuality (Leitenberg & Henning, 1995; Månsson et al., 2003).

Sexual orientation was found to be another important variable to consider as a covariant for those most likely to engage in cybersex. Homosexual men were over four times more likely to have cybersex compared to heterosexual men. This was not a surprise as homosexual men pioneered social uses of the Internet and were among the first to search the corners of cyberspace for sex partners. In addition, these groups are more open to less traditional types of sexual activities. Therefore, cybersex is a more known and accepted type of sexual activity in these communities. In many places where openly seeking homosexual experiences could still have major adverse consequences, cyberspace might be the safest place for them to express their sexuality (Ross & Kauth, 2002). In the homosexual world where sexual activity often happens earlier and may be a factor in determining whether a fuller relation is worth pursuing (in contrast to the heterosexual world in which the inverse sequence is more typical) (Bailey, Gaulin, Agyei, & Gladue, 1994), cybersex may serve as a helpful "trial run" prior to deciding whether an IRL meeting is warranted. In addition, in today's world the Internet and cybersex are often intricately linked to the coming out process and serve as a semi-protected "virtual" practice ground, especially for younger people (Ross & Kauth, 2002).

One reason for heterosexual men's lesser engagement in cybersex, compared to homosexual men, might be their widespread concerns about the pervasiveness of "gender-bending" in sexual chat rooms (gender-bending

is where men pretend to be women and engage in cybersex with other men). The belief that this is a common occurrence continues, despite research finding it to be a fairly uncommon form of Internet deception (Cooper, Delmonico, & Burg, 2000).

We also found cybersex not to be primarily a "singles" activity. Rather, the regression analysis showed no significant effects between cybersex and relationship status. To some extent participants may have a more liberal view on this kind of activity and may not view cybersex as infidelity. However, as earlier research has shown, this view may not be shared by a spouse in a committed relationship (Schneider, 2000, 2002; Whitty, 2003). Additionally, some cybersex sessions may take place within a relationship as an extension of an already existing sexual repertoire.

Another important finding was that those who engage in cybersex were more likely to be sexually active offline having had a greater number of sex partners IRL during the past year compared with those without cybersex experience. A parsimonious explanation for this would be that those who have a higher level of sexual interest are more likely to both engage in cybersex and also to have more sexual partners IRL. Of course, some of their IRL partners may be people who they first met online and then, after engaging in cybersex, decided they wanted to meet offline.

While this may be true, an additional contributing factor might be that the triple A fosters an environment where sexuality is easy and both subtly and blatantly encouraged. With the Internet increasingly being used to visit contact/dating sites (Zernike, 2003), those who believe sexuality to be an important part of a good relationship might want to see if their sexual proclivities are compatible with that of a potential partner (as others might check religious or smoking preferences) and use cybersex as a means to assess that "fit" between them.

On the other hand, repeated exposure and experience, via cybersex, might also result in a deceptive sense of comfort in the new relation and decrease participants' perceived need to take adequate precautions when and if they met IRL. Rare, but increasingly more common, reports suggest that OSA is correlated with higher rates of STI, sexual assault, and even trolling by pedophiles (Benotsch, Kalichman, & Cage, 2002; Galbreath, Berlin, & Sawyer, 2002; Hospers, Harterink, van den Hoek, & Venstra, 2002; Månsson et al., 2003; McFarlane, Bull, & Reitmeijer, 2000). Additionally, previous research has pointed to greater amounts of time engaged in OSA as being a risk factor for online sexual problems of various sorts (Cooper et al., 1999), including disruption to ongoing IRL relationships.



In terms of time online, it is not surprising that those who engage in cybersex also spent relatively more time on OSA than the non-cybersex group. This is probably because cybersex primarily is a real time activity and, thus, more time consuming than most other forms of OSA (e.g., viewing adult websites, getting sexual information, purchasing sexual services and/or products). Additionally, cybersex participants were found not only to spend more time online for sexual activities, but also to spend more time online for general purposes compared with the non-cybersex group.

From a sexual theoretical perspective, it will be a major challenge for researchers to try to understand and analyze if and how the sociosexual interaction taking place on the Internet through cybersex will influence the sexual scripts in society. Not only is it possible to be intimate with someone regardless of sex, age, and sexual orientation (and location), but also to explore sexual fantasies and to use a sexually explicit language. According to the sexual scripting theory, developed by Gagnon and Simon (1973), social actors are continually involved in shaping the materials of relevant cultural scenarios into scripts for sexual behavior in different contexts (see also Simon & Gagnon, 1999). These scripts are telling us when, with whom, in which situations, and by what it is acceptable to become sexually aroused. For example, there are scripts telling us not to have intercourse before a certain age. The ability to perceive these age adequate scripts is built into the multiple social roles that most people in our society have to play.

This study attempted to provide some empirical data on the characteristics of those who engage in cybersex. Clearly, the results are preliminary and need to be replicated and expanded upon. Particularly important is taking our initial forays the next step and further elucidating the ways that cybersex can be helpful, as well as harmful, for specific populations in various situations.

Although this study was based on Swedish data, it has proven to corroborate, in most respects, with earlier international research on general patterns of Internet sexuality and, therefore, strengthens our belief in its validity (Cooper et al., 2003). In addition, the fact that the sample consisted of an almost equal sex distribution made it possible to examine sex differences and, particularly, women's participation in cybersex.

We recognize that this study had a number of limitations. Despite numerous methodological procedures to maximize randomization, this was still not a truly randomized sample. Constructing a more traditional offline study more able to control those factors would greatly increase the ability to make generalizations to the larger population. Qualitative interviews with selected

participants following the collection of the data would also be an important means of generating more in-depth knowledge of cybersex, the content of these interactions, and the impact on participants' offline lives.

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## Using the Internet to Find Offline Sex Partners

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### ABSTRACT

We aimed to expand upon the demographic characteristics and gender differences among those who have met someone on the Internet who they later met offline and had sex with as well as any relationship with cybersex, sexually transmitted infections, and online sexual problems. We analyzed data collected through an online questionnaire in 2002 in Sweden including a total population of 1836 respondents of which 1458 used the Internet for sexual purposes. Of those, 35% men and 40% women reported to have met offline sex partners online. The majority reported an occurrence of one to two times, whereas 10% reported six or more times. The analysis suggested women aged 34–49 and 50–65 years, homo- and bisexual men, and singles more likely to have this experience. They were also more likely to have engaged in cybersex. No relationships were found with sexually transmitted infections or online sexual problems. The results suggest that using the Internet to find sex partners may be less hazardous for the general Internet users than pointed out by prior research about this behavior often focusing on specific sub groups of Internet users.

### INTRODUCTION

PRIOR RESEARCH has found that the majority of those who use the Internet for sexual purposes (i.e., flirting, seeking love/sex partners, keeping in contact with love/sex partner, reading erotic novels, viewing pornography, checking sex ads, buying sex products, seeking support in sexual issues, seeking information on sexuality, or having cybersex) can be categorized in two groups. These groups can be identified as those who primarily access online erotica and those who primarily seek partners online.<sup>1</sup>

Månsson et al.<sup>2</sup> and Cooper et al.<sup>1</sup> found women's usage of the Internet for partner seeking activities to increase with age. However, other research has found that women under 25 years are more likely have met their sex partners online compared to women over 25 years.<sup>3</sup> Several studies

have shown that seeking sex partners online specifically appeal to homo- and bisexual men and for whom the Internet serves both as a practice ground for coming-out as well as a medium to find quick sexual encounters offline.<sup>4–9</sup>

There are several ways to find partners on the Internet and prior research has found that some meet through dating sites and in web communities, while others meet in web chat rooms or even in computer games.<sup>2,7,9–11</sup> Also, it has been found that those who feel more comfortable in social interactions online rather than offline are more likely than others to form close relationships online and, at a later stage, to move these relationships offline.<sup>12,13</sup> In some cases cybersex (sex through the Internet) may serve as a first step toward an offline encounter,<sup>2,8,10,14–16</sup> either for the purpose of matching sexual compatibility or as part of the process of meeting offline.<sup>9</sup> Those who engage in cybersex

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also have more offline sex partners than those who do not.<sup>16</sup>

Using the Internet to find offline sex partners has often focused on homosexual men and sexual transmitted infections (STI) and HIV.<sup>4,7,8</sup> Klausner et al. Katz<sup>17</sup> as well as Kim et al.<sup>18</sup> found that men who have sex with men who meet their partners via the Internet put themselves at risk for HIV/STI. It has also been found that young adults who seek sex partners online are more at risk for STI than their peers not using the Internet for this purpose.<sup>3</sup>

Using the Internet for sexual purposes has also been associated with the risk of various online sexual problems.<sup>6,8,19</sup> For example, to seek partners online might be considered as acts of infidelity with negative consequences for relationships.<sup>20</sup> Other problems might include excessive usage, difficulties to control online sexual behavior, and increased feelings of guilt and shame.

The purpose of this study was to analyze a large data set with an even gender distribution collected in 2002 by Månsson et al.<sup>2</sup> with regard to the possible public health risks of using the Internet to find sex partners pointed out by prior research. We aimed to expand upon the understanding of the demographic characteristics and gender differences among respondents who had met someone online who they later met offline and had sex with and, furthermore, to investigate any relationship with cybersex, STI history, and self-reported online sexual problems.

## METHODS

### *Procedure*

The questionnaire was launched through a Swedish portal site called Passagen ([www.passagen.se](http://www.passagen.se)) which is part of the Eniro Corporation. Passagen was at the time for the survey ranked one of the top four domains in Sweden considering the number of unique visitors. The portal site consists of a variety of sub sites and links (including news, web chat rooms, online dating, web logs, e-mail services, and yellow pages) and aims toward the general population. A banner was placed on the portal site for 2 weeks from June 10 to June 23, 2002 and appeared randomly on the portal as well as on its sub sites. There was no way to control where the banner would appear, and it was not possible to predict for whom the banner would show; thus, for all practical purposes, its appearance was truly random according to the Passagen administrators. During the 2 weeks, Passagen.se had 818,422 unique visitors the first

week and 893,599 unique visitors the second week, and the total number of visits was approximately 2 million, with approximately 14 million pages viewed.

By clicking on the banner, the viewer was linked to an introduction site located on a server within the Göteborg University web. The introduction site also had the University logo and described the project, the nature and number of the questions, the funding source, and material relating to ethics and confidentiality, including the fact that the questionnaire was anonymous. The introduction site also informed participants that this survey was limited to those who were older than 18 years. By clicking on an "accept" button, the viewer was linked to the questionnaire, which was also placed on the University server. Below the questionnaire and visible at all times was a set of boxes numbered 1–75, corresponding to each web page with questions. Different colors indicated whether the question or questions on a web page had been answered or not and it was possible up to completion for respondents to return to a particular question to revise an answer. The system was running on an Intel-based 2 × 450-Mhz server, placed within the Göteborg University web with a 10-gigabyte connection both ways.

Each respondent opened a session with the server and this session was active until the questionnaire was finished or the respondent quit. All responses and changes of responses were logged and saved continually. This format made it possible to analyze missing values, when and where respondents drop out, along with other variables, which might be related to their discontinuing participation, such as gender and age.<sup>21</sup> Each respondent was assigned a unique identity based on a combination of their Internet protocol number and a specific number assigned to the questionnaire.

### *Instrument*

The questionnaire was based on two earlier instruments. The first was used in an earlier study done in conjunction with MSNBC, one of the largest American portals<sup>22</sup>; the second was used in the sex in Sweden survey.<sup>23</sup> The instrument in this study consisted of 93 questions, shown on 75 web pages, and broken down into seven sections (the complete questionnaire can be obtained from the first author). Section 1 had 24 demographic questions including questions on the Internet, relationships, and sexuality. Section 2 had 13 questions focusing on online love and online sexual activities. Section 3 had seven questions on online sexual

activities in the work place. In section 4, respondents were to answer 17 questions on both online and offline sexual experiences. Section 5 consisted of 14 statements about Internet and sexuality to help make clearer the attitudes about this phenomenon. Questions asked were, for example, if cybersex is cheating, if Internet sexuality is better suited for men, if the Internet fosters equality between genders, and similar questions. Section 6 had eight questions around issues of sexual problems and STDs. Section 7 included a 10-item Kalichman scale<sup>24</sup> on sexual compulsivity. All questions were asked in the Swedish language.

### Sample

Participation was restricted to adults. Questionnaires by respondents who reported being less than 18 years of age were excluded from analyses. An upper age limit was set at 65 years, due to the small numbers claiming to be older and also in order to be able to facilitate comparison with earlier related research. With those limitations, 1836 respondents (932 women, 904 men) completed the questionnaire.

In the current study, 1458 respondents (658 women, 800 men) claimed to use the Internet for sexual purposes. The mean age for these respondents was 29.7 ( $SD \pm 10.3$ ) for women and 31.5 ( $SD \pm 9.8$ ) for men ( $t = 3.3$ ,  $df = 1456$ ,  $p < 0.001$ ). The gender distribution among those using the Internet for sexual purposes were 55% men and 45% women ( $\chi^2 = 88.0$ ,  $df = 1$ ,  $p < 0.001$ ) which is the same percentages as found in the overall use of the Internet in Sweden, and identical to the percentages of those who visited the portal site where the questionnaire was launched.

### Statistical analysis

Data were analyzed by using SPSS 12.0. Demographic characteristics were divided by gender and compared by using chi-squared tests (with Yates correction for discontinuity where appropriate) for categorical variables and  $t$ -tests (unequal variance assumed where Levene's  $F$  for equality of variances was significant at  $p < 0.05$ ) for comparing continuous variables between groups.

The variable "Have you met someone online who you have later met offline and had sex with" was analyzed by using chi-squared tests by gender and age groups (18–24, 25–34, 35–49, 50–65). Sex was undefined. The division into age groups was based on an earlier study of sexuality in Sweden and was chosen for comparative reasons.<sup>22</sup>

The frequency of the number of times the respondents had met someone online who they had later met offline and had sex with was not normally distributed, but strongly skewed. Low numbers were the most frequently reported while high numbers were less frequently reported (i.e., Poisson distribution).

The dependent variable examined was whether or not the respondents had met someone online who they had later met offline and had sex with and the variable was dummy coded where yes = 1 and no = 0. Because the variable was dichotomous, binary logistic regression analysis was chosen to understand the impact of the covariate control variables in a constructed theory based model. The model was built around six independent variables, all observed and regarded as relevant by prior research, where three variables were related to demographics (age, relationship status, and sexual orientation), the fourth variable was if the respondents had engaged in cybersex, the fifth variable was if the respondents had had any STI, and the sixth variable was if the respondents reported to experience online sexual problems. Because of the sample's even gender distribution and to increase the model's gender sensitivity, a separate analysis was conducted for men and women respectively.

Age was, as indicated above, divided into four groups—18–24, 25–34, 35–49, and 50–65—and entered as a categorical variable in the analysis with the youngest age group chosen as reference. Relationship status was created from the original marital status question in the questionnaire. Those respondents who reported being married, cohabiting, living in a registered partnership, or being in a relationship but living apart, were coded as being in a relationship. Those who reported being single, divorced, or widowed were coded as not being in a relationship (1 = in a relationship, 0 = not in a relationship). Sexual orientation was self-defined by the respondents (heterosexual, homosexual, bisexual) and was entered as a categorical variable in the analysis with heterosexual as the reference category.

The cybersex variable (defined to the respondents as having met one or more persons on the Internet with whom they had sex with online), indicated if the respondents had engaged in cybersex (1 = yes, 0 = no), the STI variable included those respondents who reported to have had one or more of the following infections (lifetime): gonorrhoea, syphilis, human papilloma virus, chlamydia, genital herpes and/or HIV/AIDS (1 = yes, one or more; 0 = none of the above), and the last variable, self-defined online sexual problems, was created by a

TABLE 1. SAMPLE CHARACTERISTICS OF RESPONDENTS USING THE INTERNET FOR SEXUAL PURPOSES BY GENDER IN PERCENT (*n* = 1458)

Variable	Males ( <i>n</i> = 800)	Females ( <i>n</i> = 658)
Age (mean ± SD)	31.5 ± 9.8 <i>t</i> = 3.3, <i>df</i> = 1456, <i>p</i> < 0.001	29.7 ± 10.3
Sexual orientation		
Heterosexual	91.7 $\chi^2 = 6.9, df = 1, p < 0.01$	87.4
Homosexual	2.8 $\chi^2 = 4.0, df = 1, p < 0.05$	1.3
Bisexual	5.6 $\chi^2 = 15.6, df = 1, p < 0.001$	11.3
Marital status		
Single	46.4 $\chi^2 = 2.7, df = 1, ns$	42.1
Married	15.4 $\chi^2 = 10.9, df = 1, p < 0.001$	9.6
Co-habiting	21.2 $\chi^2 = 1.4, df = 1, ns$	23.8
Divorced	6.3 $\chi^2 = 10.4, df = 1, p < 0.001$	11.0
Live apart	9.9 $\chi^2 = 2.5, df = 1, ns$	12.5
Residence		
Large city (>150,000)	41.0 $\chi^2 = 9.2, df = 1, p < 0.01$	33.2
Medium city (>10,000)	43.7 $\chi^2 = 0.9, df = 1, ns$	46.2
Town or rural (<10,000)	15.1 $\chi^2 = 11.8, df = 1, p < 0.05$	20.1
Living arrangements		
Alone	47.3	46.3
Parents	13.0	16.1
Spouse/partner	36.2	32.5
Friend(s)	3.5 $\chi^2 = 5.9, df = 3, ns$	5.1
Living with children		
Yes	31.8	32.4
No	68.2 $\chi^2 = 0.6, df = 1, ns$	67.6
Highest education		
Elementary school	5.3 $\chi^2 = 5.8, df = 1, p < 0.05$	8.6
High school	46.9 $\chi^2 = 0.5, df = 1, ns$	45.0
University	46.9 $\chi^2 = 0.2, df = 1, ns$	45.6
Occupation		
Working	72.4 $\chi^2 = 45.8, df = 1, p < 0.001$	54.8
Student	17.0 $\chi^2 = 14.3, df = 1, p < 0.001$	25.4
Unemployed	6.7 $\chi^2 = 2.1, df = 1, ns$	8.8

(Continued)

TABLE 1. SAMPLE CHARACTERISTICS OF RESPONDENTS USING THE INTERNET FOR SEXUAL PURPOSES BY GENDER IN PERCENT ( $n = 1458$ ) (continued)

Variable	Males ( $n = 800$ )	Females ( $n = 658$ )
Internet access		
At home	94.8 $\chi^2 = 3.4, df = 1, ns$	92.4
At work	66.8 $\chi^2 = 52.1, df = 1, p < 0.001$	48.0
At school	18.9 $\chi^2 = 12.4, df = 1, p < 0.001$	26.6
At Internet cafés	7.6 $\chi^2 = 4.6, df = 1, p < 0.05$	4.9
At other places	5.3 $\chi^2 = 4.2, df = 1, p < 0.05$	7.9

combination of the five-point Likert scale questions in section 6 in the questionnaire reading "The time I spend online engaging in sexual activities has been a problem in my life" and "My online sexual activities feel out of control" (ranging from never to all the time), where those who responded positively (yes) on both questions were coded 1 (yes) and those responded negatively (no) on one or both questions were coded 0 (no).

## RESULTS

The sample characteristics are presented in Table 1. The sample consisted of 1458 respondents and had an almost even gender distribution with men being approximately 2 years older compared to women. The majority of the respondents were heterosexual. Men were more likely than women to be married while women were more likely than men to be divorced. Most respondents lived in large cities (>150,000) or in medium cities (>10,000), but more men than women lived in large cities whereas more women than men lived in small towns or rural areas (<10,000). The majority lived either alone or with spouse/partner and a third lived with children. The respondents were generally well educated with

almost half of them reporting to have a university degree. Almost three fourths of the men were working which was significantly more compared to women where slightly more than half reported to work. However, significantly more women than men reported to be studying. More than 90% of the respondents had Internet access at home.

Of the total sample, 1458 respondents answered the question whether or not they had met someone online who they later met offline and had sex with, and 35% of the men and 40% of the women reported to have had this experience. The gender difference was significant ( $\chi^2 = 4.1, df = 1, p < 0.05$ ). However, when divided into age groups the distribution changed somewhat. Table 2 shows no gender differences within the two youngest age groups (18–24 and 25–34 year). However, among respondents between 35–65 years there were significant gender differences. In the 35–49 age group, a third of the men and almost half of the women reported to have met someone online who they later met offline and had sex with. Within the oldest age group, 60% of females compared to 22% of males reported having had this experience.

The respondents were also asked how many times they had met someone online with whom they later had sex with offline. Answers ranged

TABLE 2. HAD IRL SEX BY AGE AND GENDER IN PERCENT ( $n = 1458$ )

Had IRL sex	18–24 years		25–34 years		35–49 years*		50–65 years**		Total*	
	Male $n = 215$	Female $n = 275$	Male $n = 338$	Female $n = 201$	Male $n = 193$	Female $n = 137$	Male $n = 54$	Female $n = 45$	Male $n = 800$	Female $n = 658$
Yes	33	34	37	37	36	48	22	60	35	40
No	67	66	63	63	64	52	78	40	65	60

\* $p < 0.05$ , \*\* $p < 0.001$ .

TABLE 3. EFFECTS ON ODDS IF HAVING EXPERIENCE OF IRL SEX BY GENDER: BINARY LOGISTIC REGRESSION (*n* = 1458)

	Men				Women			
	Exp(B)	95% C.I. for Exp(B)		<i>p</i>	Exp(B)	95% C.I. for Exp(B)		<i>p</i>
		Lower	Upper			Lower	Upper	
Age, years								
18–24 (ref.)	1				1			
25–34	1.32	0.81	2.15	ns	1.24	0.78	1.98	ns
35–49	1.53	0.87	2.69	ns	1.98	1.17	3.37	0.011
50–65	1.08	0.43	2.72	ns	4.63	1.98	10.84	0.001
In a committed relation								
Yes	0.43	0.29	0.65	0.001	0.56	0.37	0.83	0.004
No (ref.)	1				1			
Sexual orientation								
Heterosexual (ref.)	1				1			
Homosexual	11.21	2.21	57.01	0.004	2.39	0.47	12.16	ns
Bisexual	3.30	1.50	7.29	0.003	1.49	0.80	2.77	ns
Had Cybersex								
Yes	8.54	5.61	13.01	0.001	5.47	3.66	8.16	0.001
No (ref.)	1				1			
Had STI								
Yes	1.44	0.86	2.41	ns	1.36	0.87	2.13	ns
No (ref.)	1				1			
Have self-defined online sexual problems								
Yes	0.86	0.42	1.77	ns	2.90	0.70	12.06	ns
No (ref.)	1				1			

from 1 to 50, and the mean was 3.8 (*SD* ± 5.4) for men and 2.9 (*SD* ± 3.4) for women (*t* = 2.2, *df* = 511, *p* < 0.05). The vast majority reported that it had happened one or two times, with the median being two. Less than 10% reported six or more occasions.

The binary logistic regression analysis presented in Table 3 shows that women in the two oldest age groups (35–49 and 50–65) were more likely to report that they had met someone online whom they had met offline and had sex with compared to women aged 18–24. Among men, no significant change in odds ratio were found. A decrease in odds ratios indicated that both men and women were significantly less likely to be in a relationship. Increased odds ratios show that homo- and bisexual men were significantly more likely to have met someone online who they later met offline and had sex with. Homosexual men were 10 times more likely and bisexual men were three times more likely than heterosexuals to have this experience. For women, sexual orientation did not effect odds ratios significantly.

For men, to have cybersex increased the odds ratio 8.5 times indicating those with cybersex experience to be more likely to have met someone online who they later met offline and had sex with. The same tendency was found among women for whom the increase in odds ratio was 5.5. Although a slight increase in odds ratios, suggesting both men and women to be more likely to have had an STI, these effects were insignificant. Neither did the presence of self-defined online sexual problems result in any significant changes in odds ratios.

## DISCUSSION

In this study, the respondents were asked if they had met someone online who they later met offline and had sex with. We were surprised to find that as many as 35% of men and 40% of women reported having this experience. This suggests that the use of the Internet to find offline partners is a rather widespread activity. However, the majority



indicated that this had occurred only a few times (median = 2), as a contrast to those 10% who reported six or more occasions when this had happened. The fact that the majority reported few occasions might be related to the findings by McKenna et al.<sup>12</sup> and Whitty and Gavin<sup>13</sup> that suggest relationships initiated online to be stronger and to last longer than those initiated face-to-face.

We found that women aged 35–49 as well as those aged 50–65 were more likely than younger women (under 24 years old) to have met someone online who they later met offline and had sex with. Among men, there were no such relationships. Perhaps this can be explained by the fact that almost twice as many women than men were divorced and that these women are generally older and might find the Internet a valuable tool to find a new partner.

The analysis showed that seeking sex partners online was primarily a singles activity as the majority of the respondents were either singles, divorced, or widowed. One way of interpreting this would be that those who use the Internet to find partners are looking for “sincere” love or sex relationships as opposed to using the Internet for extra marital affairs. If this interpretation holds true, there would be a low risk of causing relationship problems due to infidelity. Another interpretation would be that those who seek extra marital encounters keep them online, for example by having cybersex as an extension of sexual fantasies. However, recent research has shown no relationship between engagement in cybersex and marital status.<sup>16</sup> This suggests that the concerns and worries for online infidelity among people in committed relationships might be redundant in many cases.

The analysis indicated that homo- and bisexual men were more likely than heterosexual men to have met someone online who they later met offline and had sex with. This finding is well supported by prior research showing many men who have sex with men to find their partners through the Internet.<sup>4–9,25</sup>

Contrary to what has been found by prior research,<sup>3,17,18</sup> we did not find an increased prevalence of sexually transmitted infections among those who use the Internet to find sex partners. One explanation could be that Sweden is among the countries with the lowest levels of STIs in the world. Furthermore, contrary to most studies that have found relationships between gay men’s online partner seeking and increased levels of STIs, this study was not aimed toward men who have sex with men in particular and was distributed

through a web site not recognized as a place to meet presumptive sex partners, which could have contributed to our results. In addition, we did not find those who had met someone online who they later had sex with offline to be associated with online sexual problems. This corroborates with prior research stating that online sexual problems are associated with a minority of those who use the Internet for sexual purposes.<sup>10</sup>

Interestingly, those who had met someone on the Internet with whom they also have had sex with were more likely to have engaged in cybersex. This is in line with prior research suggesting that cybersex might be used as a practice ground or to check sexual compatibilities before sexual meetings offline.<sup>2,8,9</sup>

#### *Possible methodological biases*

Despite numerous methodological procedures to maximize randomization, this was still not a truly randomized sample. Constructing a more traditional offline study, more able to control those factors, would greatly increase the ability to make generalizations to the larger population. Ross et al.<sup>26</sup> compared a conventional “gold standard” random sample to an Internet sample with identical demographic, sexual, and relationship questions. They found the Internet sample to diverge from the random sample on age, location, education, currently in a relationship, and the number of sexual partners. However, they found both samples to be comparable with regard to gender distribution, nationality, having been in a relationship, how respondents met their present partner, and if they had discussed separation in the past year.

As the current study was conducted in Sweden, cultural differences may have interfered with the results. However, Cooper et al.<sup>1</sup> have found the Swedish data to corroborate well with previous, non-Swedish, studies that have outlined general patterns of Internet sexuality. This increases our confidence in this study’s results as being cross-culturally valid.

#### *Public health implications*

The results from this study suggest that using the Internet to find sex partners might be less hazardous than has been pointed out by prior research, both regarding sexually transmitted infections and relationship problems. However, many of the prior studies have targeted specific sub groups of Internet users and, thus, more research is needed on the general population of Internet users, preferably by

conducting true randomized studies. Nevertheless, our results might be useful for clinicians who work with clients or patients who use the Internet to find sex partners as well as those who work with sexuality education/information, but also for researchers in the field of public health in general and Internet sexuality in particular.

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## Anyone who wants sex? Seeking sex partners on sex-oriented contact websites

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While the role of the Internet in dating for sexual reasons has been recognized, the amount of research into partner-seeking activities on sex-oriented contact websites is still limited. This study explores the experiences, thoughts and strategies related to partner-seeking activities on sex-oriented contact websites. A qualitative approach is used to complement and expand upon the existing primarily quantitative literature in this field. An analysis of 17 interviews revealed that sex seekers established various types of sexual contacts, located both in the online and the offline worlds. Although online interactions began with the disclosure of sex-related details, not all sexual contacts established online progressed into offline encounters. Those who had sex with a partner found on a sex-oriented contact website tended to outline the context in advance of the sexual encounter to help keep their behavior sexually disinhibited once offline. The theory of sexual scripts has been used to interpret the extent of sexually disinhibited behavior in online dating for sexual purposes.

**Keywords:** Internet; sexuality; online dating; theory of sexual scripts

### Introduction

Searching for sexual partners online is an interactive activity where Internet users contact each other to have cybersex or offline sex (Couch & Liamputtong, 2008; Daneback, Cooper, & Månsson, 2005; Daneback, Månsson, & Ross, 2007; Davis, Hart, Bolding, Sherr, & Elford, 2006; Döring, 2009). Several studies suggest a close link between cybersex and seeking offline sex. Cybersex may precede meeting sexual partners offline (Daneback et al., 2005, 2007) acting as a practice ground or verification of sexual compatibility (Daneback et al., 2007; Tikkanen & Ross, 2003). There is also a connection between engaging in cybersex and having a higher number of offline sexual partners (Daneback et al., 2005).

From a gender perspective, men tend to look for partners online more often than women, for example visiting web contact sites and responding to sex ads (Cooper, Månsson, Daneback, Tikkanen, & Ross, 2003; Daneback & Månsson, 2009; Shaughnessy, Byers, & Walsh, 2010). However, male Internet users are not a homogenous group. Prior research has recognized a group of men who do not

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consider themselves homosexuals but seek sex with men on the Internet (Ross, Månsson, Daneback, & Tikkanen, 2007; Tikkanen & Ross, 2003). It has been found that homosexuals and bisexuals are more likely than heterosexuals to meet contacts from sex orientated contact websites in the real world (Albright, 2008). Women are more likely than men to meet online sexual partners offline (Bolding, Davis, Hart, Sherr, & Elford, 2006; Daneback et al., 2007). It seems that contacting a possible sexual partner via the Internet may correspond to different underlying psychological themes for men and women, with heterosexual men potentially focused more on virtual sexual contacts.

The Internet provides various arenas or platforms for partner-seeking activities, these include chat rooms, instant messaging tools, community networks, contact websites and role playing games such as Everquest and Second Life etc. (Daneback, 2006). While the setting is not focused on in most prior research (Bolding et al., 2006; Ross, Rosser, McCurdy, & Feldman, 2007), some studies have concentrated on particular online environments such as chat rooms (Tikkanen & Ross, 2003) or contact sites (Couch & Liamputtong, 2008; Davis et al., 2006). In general, online dating sites are characterized by their filtering processes (Couch & Liamputtong, 2008; Davis et al., 2006; Ross et al., 2007; Whitty, 2008). These evoke a feeling of control over partner selection while increasing the user's control over self-presentation (Davis et al., 2006; Ellison, Heino, & Gibbs, 2006; Ross et al., 2007; Whitty, 2008 etc.), which creates a unique environment for sexual partner seeking, differing slightly from that of chat rooms and further removed from the more traditional methods used in offline settings. This study focuses on the use of online sex-oriented contact sites to establish sexual contacts.

### **Theoretical approach**

In order to analyze the particularities of sex-oriented contact website use Gagnon and Simon's (2005) ideas on sexual scripts were used. These provided explanations as to when and how the sexual behavior was engaged in. The term "script" is used as a metaphor to explain how sexual conduct becomes possible. It implies that individuals act according to pre-established, socio-culturally constructed scripts and that these scripts are learned and rehearsed and may change throughout one's life span. The script defines the appropriate settings, actors, behaviors and other similar factors. If something is absent or inappropriate, then no sexual event will occur.

Sexual scripts have three components: cultural, interpersonal and intrapsychic (Gagnon & Simon, 2005). Cultural scenarios include the socio-cultural norms and values that influence an individual's sexual behavior. Interpersonal scripts are the individual's interpretations of these cultural scenarios. Intrapsychic scripts capture an individual's thoughts and reasoning about sexuality in relation to both cultural scenarios and their sexual behaviors – these may not always be easily manifested in the physical world. The sexual scripting approach emphasizes the fluidity of sexual scripts and their inter-relation, that is, changes in cultural scenarios affect intrapsychic scripts and vice versa.

An individual's sexual behavior such as same-sex behavior, sexual techniques and their responsibility for this are now publicly discussed in the media. However, sex and the contexts for sexual arousal are still mostly kept private and may be surrounded by shame and guilt (Gagnon & Simon, 2005). This may make it difficult for some to manifest their intrapsychic scripts in the physical world. The

Internet is a specific environment where anonymity can be preserved. It is thus able to fulfill a need for privacy when engaging in sex-related activities. Individuals feel comfortable bringing up sexual matters online because on the Internet there is no conflict with what they have previously learnt. Furthermore, it is easier to gain the acceptance of others on the Internet. The Internet can thus be seen as providing new places to engage in sexual activity. It should also be noted that for this reasoning to hold true individuals must perceive the Internet as anonymous. Online sexual interaction allows users to simultaneously keep and reveal secrets without experiencing any negative sanctions or consequences. This means that it is possible to engage in sexual activities that are guided by individuals' intrapsychic scripts. Thus, a sex-oriented contact website may represent a platform where users disclose their inner sexual thoughts and desires, while simultaneously looking for partners with whom to share sexual fantasies that would otherwise remain undisclosed (see Couch & Liamputtong, 2008; Ross, 2005; Tikkanen & Ross, 2003). Furthermore, these contact sites make it possible to engage in sexual discussions that would be difficult offline, such as asking a complete stranger if they would like to meet and have sex, sometimes in a rather detailed fashion. Although it is also possible to proposition strangers in offline public environments, establishing contacts online is more attractive for those who wish to stay anonymous, to engage in less traditional sexual activity or who are distanced from any offline public sex environment (see Ross, 2005).

### **Purpose of the study**

Based on prior findings that the anonymous online environment facilitated the sharing of sexual fantasies, this qualitative study aimed to examine whether the online environment of sex-oriented contact sites served to enhance offline sexual meetings. This environment is characterized by its filtering processes and personal control over self-presentation. The study of sex orientated contact websites focused on how contacts were established, the different kinds of contacts and how offline sexual encounters were negotiated and transferred (or failed to be) from online interactions into offline encounters. A qualitative approach was chosen to complement and expand upon the existing primarily quantitative literature in this field (Bolding et al., 2006; Cooper, Morahan-Martin, Mathy, & Maheu, 2002; Cooper et al., 2003; Daneback et al., 2007) by exploring the experiences, thoughts and strategies related to sexual partner-seeking activities on sex-oriented contact websites.

### **Methods**

#### ***Sampling***

This study was conducted from 2007 to 2009 and is based on in-depth interviews with participants who used free and legal sex-oriented contact websites to search for sexual partners. Two methods were used to recruit the participants. Firstly, snowball sampling was used (Charmez, 2008) to recruit nine participants. This was done through the first author's contacts and several sex-oriented contact websites – websites specifically designed for making sexual contacts, sexual partner finding and searching for free sex. Secondly, after analyzing the first round of interviews, eight participants were recruited using theoretical sampling to maximize variability. These participants mainly had no Internet-mediated offline sex experience and were

selectively contacted on sex-oriented contact websites. Ten individuals were interviewed face-to-face in public spaces and seven were interviewed via instant messengers.

The study included 4 females and 13 males aged 22 to 56. The sample was diverse with regard to marital status, there were singles ( $n = 7$ ), people living with partners ( $n = 4$ ) and divorcees, widowers and married respondents ( $n = 6$ ). The participants predominately defined themselves as heterosexual, with only one woman considering herself bisexual and one man considering himself homosexual. Of the participants, 12 reported having had sex offline with someone they had met on a sex-oriented contact website. The remainder had never had sex offline with someone they had met online, but were in the process of searching for a sexual encounter(s). Although the sample included participants with diverse backgrounds, it was homogenous in the sense that all had profiles on sex-oriented contact websites and were looking for sexual contacts. Further, despite age differences, the sample can be considered homogenous in that none of the participants represented the digital generation – those who have grown up with Internet access.

### ***Interview***

The interviews were conducted by the first author. Less sensitive questions relating to the participants' general Internet usage patterns were asked first. These were then followed by questions about the participants' histories of Internet use for sexual purposes and their number of established sexual contacts. Later, the participants were asked their reasons for posting an online ad, the types of sexual contacts that they looked for and how they constructed their profile to reflect their use of contact websites. They were then asked about their experiences contacting sexual partners. These questions ranged from how they established sexual contacts, to offline sexual encounters (if they had had this experience). The interview was constructed in such way that it examined participants' understanding of sex-oriented contact websites and their experiences with sex-seeking activity on the Internet. The face-to-face interviews lasted approximately one hour and were less time-demanding than those conducted online. The online interviews were mostly carried out in several sessions and thus in several virtual settings. These interruptions affected the length of data gathering on the Internet, as each new session required a short recapitulation of the previous session to enable participants to reorient themselves before further questioning. Various reasons were given for interrupting the interviews; however, it seemed that participants profited from the ability to log in and out, feeling less obliged to complete the interview in one session. Further, the length of the online interviews may also have been influenced by the ability of participants to communicate with others while being interviewed (Šmahel, 2003).

### ***Analysis***

Data collection and analysis were performed simultaneously (Strauss & Corbin, 1999). Both online and offline interviews were analyzed concurrently. The data underwent a phase of open coding to distinguish several themes. In this step the participants' statements were analyzed line by line, allowing text to be reduced to codes. For example a sentence "We look for almost all categories – for single women and men under certain conditions, because men are more interested in sex than

women” was coded into “no preference in a sexual partner”. Subsequently, focused coding was done to synthesize and explain the data obtained (Charmez, 2008). In this step the most significant or repetitive codes were chosen, enabling the data to be condensed. For example, online activities such as having sex-themed conversation, asking about the sexual desires of others and describing one’s own sexual wishes were compressed into the “Examining a partner’s sexual life alias, exploring one’s own tastes” category. Besides code creation, this step also involved exploring codes and comparing them to pre-existing literature dealing with the characteristics of computer-mediated communication, online disinhibition and online infidelity etc. (Mileham, 2007; Suler, 2004; Walther, 1996). Following the focused coding phase, conceptual categories were established. These included Internet use for establishing only virtual sexual contacts and engaging in sex-seeking activities for the purposes of finding offline sex partners.

## Results

The themes that emerged revolved around the following different patterns of sex-oriented contact website use: a sex-oriented contact website was (1) used only for establishing virtual sexual contacts without the intention of offline realization or (2) used to find sex partners for offline sexual encounters. The use of a sex-oriented contact website for finding an offline sexual partner took on various forms: (1) a strong focus on the “reality” of the sexual contact, (2) the inclination for both offline and online sexual contacts, and (3) expressing the wish to meet someone offline and have sex.

### *Virtual sexual contacts*

Establishing virtual sexual contacts was one of the reasons given for posting ads on sex-oriented contact websites, for two participants this was the sole reason. This included activities such as chatting about sex, sharing sexual experiences and fantasies or exchanging pictures, in some cases followed by masturbation. A noteworthy fact is that these virtual sexual contacts did not result in any offline sexual meetings and the participants intentionally avoided offline encounters. Participants who focused only on sexual interaction online emphasized the role of disclosing sexual content, that is, talking about sex openly and without inhibition:

It is exciting. I can ask any intimate question and I receive an answer roughly 90% of the time. Of course I would not ask the same questions to a woman I met at work, on the metro, or on the street. (male, 28 years)

However, a partner’s disclosure of their sexual feelings was also related to a depreciation of their authenticity. The participants mentioned that a contacted person remained an “unreal” person, even though they had revealed their internal sexual desires:

You do not even know who you are writing to, so anyone can make up anything. I know a few people there, but it is still the Internet, it is still communication with someone you do not know. They can still lie to you, and that is how I see it. (male, 22 years)

It seems that intimacy is limited to the online environment and that the online sharing of only sex-related intimate information contributes less to the establishment of a trusting relationship bond, a bond which could help in the progression towards

offline encounters. Although the interview excerpts above show communication to be disinhibited and sexually-focused, the participants in such sexually-liberated interaction may become unsure of the reality/truthfulness of the disclosed content. It seems that the greater openness produced by the Internet's anonymity may prevent daters from developing trustworthy relationships that could be transferred into the offline world. This may partly explain the participants' preference for only engaging in online sexual contact.

### *From virtual contacts to offline sex*

As mentioned above, sex-oriented contact websites may be used in many ways. Besides establishing virtual sexual contacts, some participants had the intention of turning virtual contacts into actual offline sexual encounters.

### *Only interested in offline sexual contacts*

For 10 participants the analysis revealed a strong emphasis on offline sexual encounters. This strong focus reflected their prior experience with erotic contact sites. These participants had gradually developed strategies and learnt the rules, gaining the experience and the knowledge to navigate and interact on these websites. For example, some participants claimed they did not know exactly what they were looking for when they first uploaded their ad. They knew they wanted to have physical sex but not how to make it happen. Thus online sexual interactions allowed them to discuss and negotiate possible types of sexual meeting and to refine their partner search accordingly, such as by rephrasing their ads:

At first, we [he and his life partner] didn't know what we wanted. So the first step was to make this clear. We learnt that basically there are endless numbers of people proposing friendship . . . so now we try to formulate specific intentions – no friendship, we have enough friends, enough friendship. We focus only on the sexual side. (male, 49 years)

This excerpt is an example of how sex seekers learn to filter their partners on sex-oriented contact websites. This participant's statement points out the difficulties associated with having sex with an unknown person met online. The participant mentioned that potential sexual partners often wished to develop friendship first and then to have sex in this newly formed familiar context.

The following extract, with a participant who with his partner sought sex partners, demonstrates that the filtering process enables users to define the contexts for sexual contact. On the Internet or over the telephone the participant discussed the offline sexual encounters with his potential sex partners, negotiating how they would be realized and outlining the limits:

We agreed to find a couple with a girl who is also bisexual. We want them to become our friends, to have barbecues together, go out and have fun sometimes, simply do more than just have sex. The sex is just a kind of bonus. And as far as it is concerned, we're not interested in switching partners, that's the rule, the girls can have fun with each other but no partner switching. (male, 43 years)

In relation to the aforementioned participant's experience, an important distinction became apparent between those who sought offline sexual contacts and those who



preferred online sexual contacts. The participants created labels for those with no offline sexual encounter experience, such as “virtualists”, “word-slingers” and “collectors of pictures”. This labeling reflected participants’ experiences that exchanging messages with sexual content or chatting about sex with these individuals did not result in offline sexual encounters. Therefore, part of the learning process was to recognize the preferences of other users: is this person willing to meet offline and have sex or only to engage in virtual sex? This meant that in a specific phase, being online appeared reduced to a filtering activity:

Interviewer (I): Is it important for you that a partner has experience?

Participant (P): Well, we like it more when the couple has experience, at least in the sense that they have already met someone and spoken about it with them. The most terrible groups are those who want a first date. Then we cannot speak about sex on the date. . . . So it is the worst group. We can’t say no. We try to find out their attitudes and views over the phone: if there is any jealousy, what they want, what their notions are. (female, 47 years)

There is a noticeable emphasis on prospective partners having experience with Internet-mediated sex as a guarantee for a successful sexual meeting. This excerpt shows how using the telephone to create a context for the sexual encounter becomes an alternative medium to the website. This gives the phone calls an additional function on top of checking mutual compatibility (Döring, 2009). The phone call serves as a trial, testing whether the participants can transfer a sexually oriented interaction from the Internet to an offline encounter and whether their potential partners are capable of talking about sex with strangers rather than just writing sexual scenarios.

#### *Switching between online and offline sexual contacts*

In the study two participants were interested in any type of sexual contact. This inclination towards both online and offline sexual interactions represents their openness to a variety of sexual experiences. They treated the Internet as a space for fantasizing and experimenting with sex in general, as well as for sex dating:

Well, when my relationship with my partner ended, I had no other option than to search alone. I have some experience with this. I mostly just toyed with it, exploring reactions and so on. And I did not stop it if something starting to develop I looked for single men, I tried couples and I tried to contact women sometimes. (female, 36 years)

The continuing importance to users of the Internet as a venue for experimenting with sexual contacts can be seen even in those with experience in meeting sexual partners offline. The online interaction represents play that may precede offline sexual encounters. However, the following excerpts illustrate the variability of explanations given by participants for turning online sexual contacts into offline sexual meetings, though they also show that this transfer may be affected by the impulsivity of online sex-seekers:

I: What do you have to do . . . so you can meet in real life and have sex?

P: Both must be willing to do it, I don't know what exactly it is. But both must consider it more than only virtual talk about sex. (male, 27 years)

Or another example:

Once I met a doctor, or he pretended to be a doctor. He was priggish but he attracted me. So I did it with him. It was quite rough, he didn't ask me about contraception and we had unprotected sex. . . . Perhaps it was my fastest date, we were chatting in the evening and then we hooked up. (female, 36 years)

The excerpts show that experience with virtual sex, and talking about sex, connect the virtual world with offline everyday life, shortening the distance between the online and offline worlds. The negotiation process also seemed to be inhibited when compared to that of users seeking only offline sex. While transferring contacts from the Internet to the offline world can be impulsive, sex seekers may be aware that they do not get to know their sexual partners well on the Internet and that potentially anyone could pretend to be anybody else on a sex-oriented contact website.

#### *On the border between an online sexual contact and an offline sexual encounter*

The following use of sex-oriented contact websites is specific and seems to be situated between using these sites to establish sexual contacts online and establishing them offline. It has the characteristic of a desire to have sex offline which has not yet been fulfilled. This was the case for three of the participants:

I: What do you mean by "you are seeking and yet not seeking"?

P: First, I wanted to have sex – at that time I didn't have a girlfriend [now he has one]. But now that I know more about them [dating sites], what chance is there to find sex there, I would say that it is more about the entertainment. I would bet that a man would have a higher probability of finding sex in a bar. But if I actually got the chance to have sex, I still think I would not refuse. (male, 26 years)

Notably, using sexually-related contact websites is still attractive despite a perceived lower probability of meeting offline sex partners. The extract shows that although the participant had not yet met an online sex contact in real life, having an ad on a sex-oriented contact site was understood as expressing a desire for sex. In addition, contacting potential partners for offline sex allowed him to feel close to having sex, which could be sexually pleasurable. Furthermore, this participant's experiences suggest that contacting potential sex partners online only may not be perceived as infidelity. In other words, an individual using a sex-oriented contact website is virtually close to an offline sexual encounter, while at the same time far from being unfaithful (see Mileham, 2007; Whitty, 2005).

## **Discussion**

Our results suggest that although interaction on sex-oriented contact websites may begin with the disclosure of intimate details such as sexual desires, not all sexual contacts established online progress into offline encounters. Some participants were not able, or did not want, to keep the sexually liberated style of interaction they had expressed online in offline encounters. Moreover, some of those who reported having sex with someone they met online said they developed strategies to recognize

partners who would be willing to meet offline. This suggests that sexually-related online interactions do not always facilitate offline sexual encounters. Based on Gagnon and Simon's (2005) theory of sexual scripts, our data interpretation is that the scripts related to the intrapsychic dimension may be easy to develop in the anonymous online environment where a feeling of privacy and intimacy is preserved. Talking about sexuality on the Internet is actually typing about sexuality (see Ross, 2005). This means that Internet users do not verbally articulate any words with sexual content and are able to communicate things that would be awkward to say out loud. This reveals a large gap between establishing sexual contacts online and offline. On the Internet users can communicate their intrapsychic scripts more easily than in offline life; users' scripts become publicly private on the Internet (see Lange, 2007). This may result in the dominance of intrapsychic scripts over (public) interpersonal and cultural scripts in online sexual encounters. However, while these scripts may be suppressed in anonymous non-physical interactions, they seem to come into play in face-to-face meetings. Participants who had sex offline with a partner they met online reported several common strategies for bridging the gap between the silence and anonymity of the Internet and the face-to-face sexual setting. For example a phone call required them to move on from non-verbal sexual interaction to actively voicing where and how sex would occur.

Developing the argument above based on the theory of scripts, it is also assumed that sex-seekers behave on the Internet according to a script that approves of sexually disinhibited behavior in an anonymous, silent and non-physical environment. This may clash with the more traditional scripts that have previously guided offline sexually-related interaction. This disagreement between sexual scripts may inhibit the progression of online sexual contact into offline encounters.

A noteworthy group of sex seekers were distinguished who had no specific contact preferences, nor did they seem to have any trouble meeting their online sexual partners in the offline world. Experience with online sex may shorten the distance between online and offline sexual contact. Interestingly, sex-related online interaction was still appealing for these participants, even though they could easily cross the borders between online and offline sexual encounters. In relation to the prior research finding that cybersex may precede offline sexual encounters (Daneback et al., 2005, 2007) it is assumed that for these individuals cybersex is arousing and may enhance subsequent offline meetings. Furthermore, it was found that the risks related to the accelerated development of intimacy in online interaction were not a problem for these users (Ross, Rosser, & Stanon, 2004). These sex seekers were less likely to become vulnerable to illusionary feelings of closeness and mutual familiarity, feelings that can enhance offline meetings with online sexual partners, potentially leading to unprotected sex. Some sex seekers seemed to switch settings from online to offline quickly and easily. This reduced the time available for negotiating the sexual encounters, where various health-related issues such as risks and safety could be discussed. Thus, an eagerness to quickly engage in sexual activity may have a negative impact on health.

The last group of online sex seekers lies between online sexual contacts and offline sexual encounters and represents a specific use of sex-oriented contact websites. Although they desire real-life sexual encounters, they admit that they are less active in seeking sexual partners online. In the results section it is suggested that this kind of website usage actually includes contact with potential sex partners, this contact, for example replying to messages or chatting, provides pleasure in its own

right, sometimes accompanied by masturbation. The use of a sex-oriented contact website can be considered both a form of solitary-arousal (viewing sexually explicit materials) and partnered-arousal (sharing sexual fantasies). Both of these activities are more common among male Internet users than female Internet users (Shaughnessy et al., 2010). Even though it requires further research, it is speculated that this particular use of sex-oriented contact websites might be specific to male Internet users who, as prior research has shown, are more likely to look for sexual partners online, to reply to sex ads (Cooper et al., 2002, 2003) and also have a lower tendency to have sex offline (Bolding et al., 2006; Daneback et al., 2007).

In summary, the specific characteristics of the Internet produce new sexual scripts that are not in accordance with the sexual behavior scripted for more traditional offline encounters. This incongruity can be profitable for certain sex seekers, such as married or engaged users who establish online sexual contacts and may not consider this behavior as infidelity. This may bring a new level of both sexual experience and misunderstanding into marital or partner relationships.

It seems that engaging in online sex-seeking activities allows users to communicate the content of their intrapsychic scripts, making them more accessible to an audience and thus open to discussion with others. This may be useful for clinicians in that it provides an explanation as to why some Internet users can become fixed to Internet use for sexual purposes. Online sex-seeking activities give users easy access to the contents of their intrapsychic scripts, namely to their sexual desires and fantasies. This ease of access may accelerate their fulfillment during online interactions. Therefore, clinicians working with clients who are preoccupied with the Internet as a source of sexual satisfaction could aim to find instruments that would enable clients to communicate the content of their intrapsychic scripts offline, for example within an existing partner or marital relationship.

This study has several limitations. Although the data from both online and offline interviews cover a wide range of experiences related to the use of sex-oriented contact websites, the participants interviewed offline emphasized different themes to those interviewed online. This may have induced bias in our study: in face-to-face contact participants may have been less willing to reveal the outcomes of virtual interactions or may have felt less open to disclose their intimate issues than those interviewed via instant messengers. In addition, it is possible that the individuals who volunteered could have an enhanced/escalated agency in their sexual lives on or off the Internet. The findings might also be typical for the Czech Republic, which has a higher rate of extramarital relations than other western countries, for example Great Britain (Weiss & Zvěřina, 2001) and a higher number of sexual partners per person compared to, for example, the USA (Weiss, Kučera, & Svěráková, 1995; Weiss & Zvěřina, 2001). Although this study met the criteria for theoretical saturation, including more participants could possibly have added to the results. Finally, a mixed methods design would probably have increased the validity of the findings.

### **Concluding remarks**

In conclusion, sex-orientated contact websites expand users' opportunities for sexual interaction. Users establish various types of sexual contacts, ranging from those strictly related to the Internet to those connected to the offline world. This study has shown that some daters find it difficult to transfer intimate online contact into an offline meeting. The importance of predefining the context of offline sexual

encounters has been recognized, as it allows individuals to keep their behavior offline sexually disinhibited. However, there are daters who search for sexual contacts, both online and offline, seeming to easily cross the boundaries between sex-oriented contact websites and everyday life. This potentially accelerates their partner-seeking activities. Determining the socio-demographic characteristics of these daters remains a question for future research. In addition, the new scripts present online may also influence offline sexual scripts on a cultural level. How and when this may occur are also questions for future research.

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## Outcomes of using the internet for sexual purposes: fulfilment of sexual desires

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**Abstract.** *Background:* The purpose of the current study was to examine the characteristics of those who report fulfilment of sexual desires as a result of internet use for sexual purposes and which sexually related online activities contribute to the fulfilment of sexual desires. *Methods:* Data were collected through a questionnaire posted on Swedish-language websites in 2009. The sample comprised 1614 respondents who reported using the internet for sexual purposes, 62% women and 38% men. *Results:* The results showed that the majority of the respondents had their sexual desires fulfilled as a result of their sexually related activities on the internet; 21% to a great extent and 59% to a small extent, but 20% did not have their sexual desires fulfilled. Using a multinomial logistic regression analysis, respondents who had their sexual desires fulfilled to a small or great extent were each compared with those who did not have their sexual desires fulfilled at all. At the level of individual characteristics and sexual behaviours, those with no fulfilment of their sexual desires did not differ from those who had their sexual desires fulfilled, with the exceptions of age and masturbation. In comparison to fulfilment to a small extent, fulfilment of sexual desires to a great extent was predicted by a larger number of sexually related online activities that were based on interaction. *Conclusion:* The findings suggest that the internet may contribute to fulfilment of sexual desires among a large internet population, irrespective of sex or sexual identity.

**Additional keywords:** online sexual activities, sexuality, Sweden.

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### Introduction

The massive volume of sexual material and sexual merchandise available on the internet has made it possible for people to explore virtually anything imaginable related to sexuality.<sup>1</sup> Through its specific characteristics such as anonymity and virtual proximity, the internet has allowed users to overcome or break away from some of the prevailing sexual scripts guiding human sexual behaviour in a face-to-face setting.<sup>2</sup> By typing instead of talking, along with virtual proximity, the internet has enabled people to participate in detailed conversations about how to have sex or just anonymously watch these conversations unfold online.<sup>3</sup> Moreover, individuals and couples have been able to approach strangers online and ask for sexual encounters offline,<sup>4</sup> and others have engaged in detailed sexual talk while masturbating.<sup>5</sup> In addition, men and women have been able to consume pornography and to purchase sexual merchandise online without the stigma attached to these behaviours in public settings offline.<sup>6,7</sup> All these forms of behaviours are examples of sexually related online activities, which, according to Leiblum and Döring's definition, capture all sexually related content and activities observable on the internet.<sup>8</sup>

Prior research has focussed on sexual activities on the internet as well as on the characteristics of those who use the internet for sexual purposes. The outcomes of using the internet for these purposes have also been researched, although to a lesser extent. As sexuality researchers turned their eyes to the emergence of the internet in the mid-1990s, both the potential benefits and possible risks were discussed. From a professional perspective, it could be possible to use the new technology to obtain information about various sexual issues, and to use the internet in sexual education and for sexual therapy.<sup>9,10</sup> From a user's perspective, the internet could help establish and maintain sexual and romantic relationships, connect with various subgroups not present in the local community, and allow for the exploration of one's own sexuality through adult websites and purchasing sexual merchandise from online sex shops.<sup>7,11</sup> However, many of these benefits have not been studied and, to the present day, they remain as mere speculations, that have not yet been subjected to empirical studies.<sup>6,12</sup> Overall, only little is known about the effects and influences of the internet on human sexuality.

In one of the world's first large-scale surveys, comprising an internet convenience sample, it was found that 92% of the

respondents considered their use of the internet for sexual purposes nonproblematic.<sup>13</sup> This result was corroborated in subsequent studies in the USA as well as in Sweden where similar proportions of respondents reported their use to be nonproblematic.<sup>14,15</sup> Specifically, in a Swedish study, it was found that the majority consider their use of the internet for sexual purposes as positive or even very positive.<sup>14</sup> However, population-based figures are lacking.

More detailed studies of specific online sexual activities have shown that there are various outcomes of sexually related online activities. For example, having cybersex defined as a web-based mediated form of sexual encounter includes the potential of improving and intensifying partner relationships,<sup>12,16,17</sup> of experiencing better sex<sup>18</sup> and of approximating sexual encounters not possible in offline settings.<sup>4,7</sup> In greater detail, prior research has recognised a group of men who do not consider themselves homosexuals but seek sex with other men on the internet.<sup>4,19</sup> In relation to online pornography, the use of pornography by couples has been associated with a permissive erotic climate, (i.e. expressing personal sexual desires within the relationship),<sup>20</sup> and high pornography consumption in individuals has been linked to positive factors such as satisfaction of sexual needs or curiosity.<sup>21,22</sup> It has also been found that active participation in a sexually related online discussion group may facilitate the expression of one's sexual self and contribute to coming out.<sup>23</sup> Likewise, seeking sexual advice and other sex-related information on the internet has been perceived as a useful source of experience-based opinions, suggestions, and emotional support.<sup>24</sup> Consequently, online sexual activities may have several positive impacts on sexuality such as improving sex-related knowledge, increasing satisfaction in partner relationships and fulfilment of sexual desires. According to a study on understanding sexual desire, it was found that genital arousal, daydreams or sexual fantasies are the best index of this term.<sup>25</sup> The fulfilment of sexual desires broadly refers to sexual gratification associated with sexual arousal, sexual fantasies or daydreams.

However, in spite of the fact that internet use for sexual purposes is regarded as unproblematic or even positive by many users, to the best of our knowledge, there are no studies available providing empirical evidence about those who report having their sexual desires fulfilled by their sexually related online activities. Thus, the purpose of the current study was to examine the characteristics of those who report fulfilment of their sexual desires, and whether the anonymous internet provides access to sexual content and connecting people with various sexual needs and empowers those people (e.g. women, gays and lesbians) who may have difficulty reaching fulfilment of their sexual needs in their traditional social milieu.<sup>4,18</sup>

Furthermore, the internet provides a wide range of sexually related online activities for individuals to engage in.<sup>6,12</sup> These might be qualitatively different in that they vary from less interactive (e.g. accessing sexual information, consuming online pornography) to highly interactive activities such as having cybersex. For instance, cybersex, sometimes followed by experimenting with partner selection as well as different sexual scripts,<sup>12</sup> may contribute greatly to the fulfilment of sexual desires.<sup>18</sup> Nevertheless, the possible link between sexually related online activities and the fulfilment of sexual

desires is currently unknown. Therefore, an additional aim of the current study was to examine which sexually related online activities may predict fulfilment of sexual desires and to what extent.

## Methods

### *Procedure*

The web questionnaire was administered in the Swedish language via four sites: three websites and one Swedish university. Two websites were portal sites oriented towards adults, including a collection of hyperlinks to a variety of web resources (e.g. newspapers, weather forecasts) and various applications (e.g. email, chats), with one leaning more towards online dating. The third website was a youth community, one of the two largest in Sweden for 16- to 29-year-olds. None of the sites were sexual or sexually explicit in their nature. The sites were Passagen.se, Spray.se, and Playahead.se with ~500 000, 400 000 and 100 000 unique visitors per week respectively. The size of the university was nearly 21 000 students.

Between 27 February and 8 March in 2009, a banner was placed on the Passagen.se and Spray.se (part of the Eniro Corporation) web portal site and was visible at all times for all visitors to that site. The banner read 'Participate in a study on love and sex on the internet'. On 11 March, an email briefly describing the study, including a hyperlink to the web questionnaire, was sent to all active student email addresses registered at the university. Finally, on 18 March, a message with similar content to the university email was randomly sent by the administrators to 10 000 members of the Playahead.se community aged 18 years or older. Data collection ended on 20 March 2009.

Participation was totally anonymous and there was no way of connecting completed questionnaires to respondents. Potential personal identifiers such as name and email addresses were not asked for. As such, the study was exempt from an ethical review.

### *Instrument*

The instrument was based on an earlier instrument that was used in a similar study in 2002,<sup>26</sup> but revised and expanded. The web questionnaire comprised 85 questions divided into six subsections. However, by using skip patterns, we were able to personalise the question to some extent. This could reduce the number of questions to 51 for some respondents.

### *Sample*

A total of 1913 respondents completed the questionnaire. The majority of the respondents were recruited from the university (955 respondents) and from the Playahead.se web community (580 respondents). The numbers recruited from Spray.se and Passagen.se were 273 and 105 respondents respectively. The sample comprised 66% women and 34% men. The mean age for women was 28 years and 29 years for men. Fourteen respondents were over 65 years and were excluded from this study. Approximately 1% reported that they were from a country outside Sweden. For this analysis, only those who reported using the internet for sexual purposes were included



( $n=1614$ ), of whom 62% were women and 38% men. Participants were selected if they replied yes to one or more of the following items: reading erotic novels, viewing pornography, chatting about sex, seeking information about sex, shopping for sex products, flirting, seeking romantic partners or seeking sex partners.

#### Dependent variable

The questionnaire included one item on sexual desire and the internet. Participants who reported using the internet for love and sexual purposes were asked to respond to the following statement: 'I have been able to fulfil my sexual desires because of my online activities.' The response alternatives were 'not at all', 'to a small extent', 'to a moderate extent', 'to a great extent' and 'to a very great extent'. To facilitate the analysis, these response alternatives were recoded into a three-category dependent variable: sexual desire not fulfilled, sexual desire fulfilled to a small extent and sexual desire fulfilled to a great extent.

#### Independent variables

The independent variables revolved around three areas: sociodemographic, sexual behaviour offline, and sexual behaviour online. Sociodemographic variables comprised sex (male or female), age (age groups: 18–24 years, 25–34 years and 35–65 years), relationship status (in a relationship or not in a relationship). Sexual orientation was measured by the respondents' reported sexual experience on a five point version of the Kinsey Heterosexual–Homosexual scale (sexual experience with women only, mostly women but sometimes men, both men and women, mostly men and sometimes women, or with men only).<sup>27</sup> Those respondents who reported opposite sexual experience only were coded as heterosexual, those who reported same-sex only experience were coded as gay or lesbian ( $n=31$ ), and those who reported sexual experiences with both sexes were coded as bisexual ( $n=208$ ). Due to the low number of gay men and lesbians, the original variable of sexual orientation was collapsed into a two-category variable (heterosexual or nonheterosexual). Sexual behaviour offline included frequency of having sex (not in last 12 months, rarely, monthly, weekly, daily) and frequency of masturbation (never, rarely, monthly, weekly, daily). Sexual behaviour online was measured by a yes–no scale for several sexually related activities engaged in on the internet. These items were: reading erotic novels, viewing pornography, chatting about sex, seeking information about sex, shopping for sex products, flirting, seeking romantic partners, seeking sex partners, having had sex with a partner met online and having had cybersex.

#### Analysis

Data were analysed by SPSS ver. 17 (SPSS Inc., Chicago, IL, USA). Demographic characteristics were examined by using descriptive statistics. A multinomial logistic regression analysis was used to generate separate profiles for the groups 'sexual desire fulfilled' and 'sexual desire somewhat fulfilled' compared with the reference category 'sexual desire not fulfilled'. Effects are expressed in odds ratios (OR) where values above 1 indicate increased effects and values below 1 indicate decreased effects. Consequently, a value of 1 indicates no effect.

#### Results

The results showed the majority of the 1082 respondents who responded to the question reported to have had their sexual desires fulfilled as a result of their sexually related activities on the internet, 21% to a great extent and 59% to a small extent, while 20% did not have their sexual desires fulfilled. Age and sex differences are displayed in Table 1. The results show that the highest proportions of sexual desires fulfilled were found among men and women aged 25–34 (89% men *v.* 85% women). The lowest proportion was found among men and women aged 18–24 (81% men *v.* 73% women).

The respondents engaged in a range of sex-related activities on the internet, with seeking information about sex being the most endorsed activity (56%) followed by viewing pornography (55%), flirting (51%), reading erotic novels (41%), chatting about sex (32%), shopping for sex products (30%), seeking romantic partners (28%) and seeking sex partners (18%). Forty-five percent of the respondents reported having had sex with a partner they had met online and 25% claimed to have had cybersex.

Table 2 displays the results of the multinomial logistic regression analysis. The likelihood ratio test of the overall model was significant, indicating a well-fitting model ( $P<0.001$ ). Age was found to be a significant predictor of having had sexual desire fulfilled through online sexual activities. Respondents aged 25–34 years were twice as likely as 18- to 24-year-olds to have had their sexual desire fulfilled compared with those who had not had their sexual desire fulfilled through online sexual activities. Other than age, none of the social demographic variables could predict group membership.

The results indicated that those who masturbated daily compared with rarely were more likely to have had their sexual desires fulfilled compared with those who had not had their sexual desires fulfilled. No other significant results were found among the sexual behaviour factors.

Sexually related online activities were the strongest predictors in the model. Those respondents who had had their

**Table 1. Fulfilment of sexual desires as a result of sex-related activities on the internet by sex and age in percent ( $n=1082$ )**

	18 to 24 years old		25 to 34 years old		35 to 65 years old		Total	
	Men ( $n=240$ )	Women ( $n=336$ )	Men ( $n=128$ )	Women ( $n=174$ )	Men ( $n=92$ )	Women ( $n=112$ )	Men ( $n=469$ )	Women ( $n=624$ )
To a great or very great extent	27	17	25	21	24	19	16	22
To a moderate or small extent	54	56	64	64	60	63	58	59
Not at all	20	27	11	15	16	19	25	18

**Table 2. Comparison between categories of sexual fulfilment. Multinomial logistic regression odds ratio (OR) estimates (n = 1082)**Desires not fulfilled is the reference category. CI, confidence interval for OR. \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$ 

Independent variables	Desires fulfilled to small extent OR (95% CI)	Desires fulfilled to great extent OR (95% CI)
<b>Sex</b>		
Woman (ref.)	1	1
Man	1.28 (0.79–2.07)	1.78 (0.99–3.21)
<b>Age group</b>		
18–24 (ref.)	1	1
25–34	1.92 (1.23–3.01)**	2.15 (1.23–3.77)**
35–65	1.39 (0.84–2.29)	1.51 (0.80–2.83)
In a relationship	1.34 (0.81–2.20)	1.25 (0.68–2.30)
Gay/lesbian/bisexual	1.49 (0.82–2.71)	1.57 (0.79–3.13)
<b>Frequency of having sex</b>		
Daily (ref.)	1	1
Weekly	0.56 (0.23–1.32)	0.73 (0.26–2.05)
Monthly	0.99 (0.36–2.13)	0.92 (0.32–2.63)
Rarely	0.64 (0.26–1.60)	0.41 (0.13–1.24)
Not in last 12 months	0.47 (0.17–1.29)	0.44 (0.12–1.60)
<b>Frequency of masturbation</b>		
Daily (ref.)	1	1
Weekly	1.36 (0.72–2.54)	0.88 (0.44–1.77)
Monthly	1.25 (0.63–2.50)	0.51 (0.23–1.15)
Rarely	1.24 (0.60–2.56)	0.37 (0.15–0.92)*
Never masturbate	0.52 (0.20–1.39)	0.52 (0.15–1.78)
<b>Online sexual activities</b>		
Read erotic novels	2.11 (1.45–3.07)***	2.67 (1.67–4.28)***
View pornography	2.93 (1.88–4.56)***	6.99 (3.82–12.79)***
Chat about sex	1.36 (0.87–2.15)	1.84 (1.04–3.27)*
Seek information about sex	1.38 (0.96–1.98)	1.22 (0.77–1.94)
Shop for sex products	1.66 (1.07–2.58)*	1.98 (1.16–3.37)*
Flirt	1.12 (0.68–1.84)	1.18 (0.62–2.24)
Seek romantic partners	0.97 (0.60–1.58)	0.66 (0.36–1.20)
Seek sex partners	1.13 (0.65–1.99)	2.39 (1.25–4.57)**
Had sex with someone met online	1.44 (0.96–2.14)	2.01 (1.60–4.57)***
Had cybersex (online sex)	2.18 (1.33–3.57)**	3.26 (1.85–5.76)***

sexual desires fulfilled to a small extent through their sexually related online activities were more likely than those who had not had their sexual desires fulfilled to read erotic novels (OR = 2.11), view pornography (OR = 2.93), shop for sex products (OR = 1.66) and to have had cybersex (OR = 2.18). The results showed increased ORs as well as additional significant factors among those who had had their sexual desires fulfilled to a great extent. They were more likely than the reference group to read erotic novels (OR = 2.67), view pornography (OR = 6.99), chat about sex (OR = 1.84), shop for sex products (OR = 1.98), seek sex partners (OR = 2.39), to have had sex with someone met online (OR = 2.01) and to have had cybersex (OR = 3.26) compared with those who reported not having had their sexual desires fulfilled through their use of the internet for sexual purposes.

## Discussion

Most respondents reported that their sexual desires had been fulfilled through sexually related online activities. At the level of demographic characteristics, with the exception of age, respondents who had their sexual desires fulfilled to a small

extent and a large extent did not differ from those who did not have their sexual desires fulfilled at all. Similarly, no differences were found at the level of sexual behaviour, with the exception of masturbation. Those respondents whose sexual desires had been fulfilled to a great extent had a slightly higher masturbation frequency. In terms of sexually related online activities and their link to fulfilment of sexual desires, a larger number of activities mostly based on interaction were found to be significant for fulfilment of sexual desires to a great extent.

The finding that neither sex nor sexual identity predicted fulfilment of sexual desires through sexually related online activities indicates that the outcomes of internet use for sexual purposes are no longer privileged to only those who have a limited access to sex in their traditional social milieu.<sup>7</sup> This may reflect some change in internet use in that the internet, through its persistent entanglement in daily life, has become a widely acceptable venue for sexual behaviour,<sup>28</sup> which, in turn, may have an empowering effect on women and their internet use for sexual purposes.

However, age was the only sociodemographic characteristic that was associated with an increased extent of fulfilment of

sexual desires. Those who had their sexual desires fulfilled through their online sexual activities were twice as likely to be 25–34 years old than to be 18–24 years old. Older age groups might live in a longer-term relationship than younger age groups, which could be followed by a decline in sexual satisfaction.<sup>29</sup> Although this problem may be relevant for respondents in the older age group (35–65 years), individuals aged between 25–34 years might be more familiar with internet use in its breadth and potentially more open to treat sexually related online activities as a full-blown form of sexual behaviour than the older age group. This, in turn, might result in a greater fulfilment of their sexual desires.

Furthermore, the fulfilment of sexual desires to a great extent through sexually related online activities was linked to a slightly higher masturbation frequency. When interpreting this finding, an increased variability of sexually related online activities should be considered. For instance, it is widely known that masturbation follows online pornography<sup>21</sup> and its consumption was found to be tripled when predicting fulfilment of sexual desires to a great extent. Similarly, masturbation is often considered a part of cybersex,<sup>12</sup> the effect of which on predicting fulfilment of sexual desires was also increased. Furthermore, chatting about sex was found to predict fulfilment of sexual desires to a great extent. Those who could be unfamiliar with the term ‘cybersex’ might be more likely to report chatting about sex instead of cybersex. Therefore, we assume that a slightly higher masturbation frequency might be a manifestation of involvement in interactive sexually related online activities.

The study showed that fulfilment of sexual desires to a small extent was predicted by fewer and rather less interactive sexually related online activities, whereas fulfilment of sexual desires to a great extent was predicted by a larger number of sexually related online activities. These were more interactive, as they included chatting about sex, seeking sex partners, having sex with someone they met online or cybersex. This indicates that the more interactive sexually related online activities internet users engage in, the greater fulfilment of sexual desires they may experience. The current study may support prior studies documenting possible positive effects of internet use for sexual purposes.<sup>13–15</sup> However, this finding was obtained with no relation to the broader context in which individuals lived. For instance, it remains unclear how fulfilment of sexual desires through sexually related online activities affects relationships and their quality; whether this contributes to satisfaction with a partner relationship or, on the contrary, and whether it has a detrimental effect on it. Therefore, further research seems to be needed before concluding that fulfilment of sexual desires through sexually related online activities, especially through those emphasising interactivity, generally has a positive effect.

A similar cautious approach should be taken when interpreting a strong link between consumption of online pornography and fulfilment of sexual desires. Those who had fulfilled their sexual desires to a great extent were six times more likely to have viewed pornography than those who had not had their sexual desires fulfilled. This finding may support recent research that suggests that pornography can have a positive impact on sexuality for both individuals and couples.<sup>20,22</sup>

However, a broader approach is required to evaluate its positive effect, as the positive influence of online pornography may vary depending on how it is consumed by a couple.<sup>20</sup>

We found a portion of internet users whose online sexual activities did not fulfil their sexual desires. Based on comparisons between groups who had and who had not fulfilled their sexual desires, a relationship was found between less use of the internet for sexual purposes and not fulfilling one’s sexual desires. However, we do not know what the causal link looks like – whether one is less likely to fulfil one’s desires because of lower internet use for sexual purposes or whether one engages in sexually related activities online less frequently because it does not fulfil one’s sexual desires. This should be subjected to further research.

### Limitations

This study had several limitations. First, it was a convenience sample biased by age due to the recruitment sites. Second, it was conducted in Sweden and the results may differ from those from other countries on several parameters. Third, this was a self-reported questionnaire using a single-item measure on fulfilment of sexual desires, which means that participants may have over- or under-, estimated the effects of sexually related activities on the fulfilment of sexual desires. Fourth, the sample consisted of self-selected volunteers, who were predominantly female, and university students. Fifth, the high drop-out rate may have influenced the results, retaining respondents who were more positively inclined towards internet sexuality.

### Conclusion

The current study distinguished users who had fulfilled their sexual desires through online sexual activities to a great extent, to a small extent and not at all. Although fulfilment of sexual desires may be *a priori* considered as a positive outcome of internet use for sexual purposes, the increased role of interaction-based sexually related activities on the internet and heightened consumption of online pornography call for further research to examine the fulfilment of sexual desires with respect to an individual’s social context. Despite this, the findings indicate that the internet may contribute to the fulfilment of sexual desires irrespective of sexual identity or sex, which adds to the currently limited knowledge on the positive aspects of internet sexuality.

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## Sexual orientation and online sexual activity – experimenting with stigmatized identities and behaviors

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## Characteristics of Men Who Have Sex with Men on the Internet But Identify as Heterosexual, Compared with Heterosexually Identified Men Who Have Sex with Women

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### ABSTRACT

We compared men who have sex with other men on the Internet with the remainder of the sample of men who reported only sex with women on the Internet, in a sample of 1,846 Swedish men recruited from a major Swedish portal. We report on the self-identified heterosexual men in the sample who reported engaging in cybersex in the past year, and for whom there was complete data on sexual identity and the gender of cybersexual partners. Of the 244 cases with full data, 76% were heterosexual in both identity and behavior, 16% were gay or bisexual in identity and reported both male and female cybersexual contacts on the Internet, and 8% indicated their sexual preference was heterosexual but also reported at least one male sexual partner on the Internet. Thus, 11% of self-identified heterosexual men had sex with other men online. Comparing the two groups, the men who had sex with men (MSM) who did not identify (MSM-NI) spent significantly more time per week online, although a similar amount of time on sexual pursuits, as the heterosexual men. The MSM-NI were significantly more likely to agree that their online sexuality had affected their sexuality in a positive way, to have bought sex from prostitutes, to agree that they do things online that they would not do offline, have cybersex more often, use a web-camera and microphone more often, flirt and visit contact sites more often, and agree more often that sexual thoughts and behaviors are causing problems, desire to have sex creates problems, and sometimes fail to meet commitments due to their sexual behavior. These data taken together suggest that MSM-NI online are not uncommon and are characterized by the extent of their cybersexual involvement that sometimes extends to other men. Such men may rationalize this cybersex with other men as not, or minimally, sexual in much the same way as Humphreys characterized MSMs in public restrooms.

### INTRODUCTION

THE INTERNET HAS PROVIDED a major opportunity to extend the range of partners and of sexual behaviors available. Now, people can be put in touch anonymously with people with specific characteristics and sexual interests without regard to geo-

graphical location or time zone. This has brought about a revolution in the patterns of making personal and sexual contact, along with associated changes in variables such as STD patterns and rates. Further, it is possible to select contacts from literally thousands of potential partners with like interests and, consequently, to experiment in areas where the

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possibility of finding a person with similar interests in the past might have been restricted or the behavior hidden.

It is this aspect of experimentation that has been one of the most salient in the Internet sexuality revolution. An individual is able to access people with previously hidden or rare interests through "cybersex"—carrying on via computer proxy sexual activity through rich description with accompanying sexual arousal, often to orgasm. Tikkanen and Ross<sup>1</sup> have likened this to technological tearoom trade, following Humphreys.<sup>2</sup> Humphreys described men in public conveniences who met anonymously to take part in homosexual encounters, even though a significant number of these men were heterosexually married and identified. Humphreys noted that for some men, this was simply a form of sexual release, less lonely than masturbation. As Tikkanen and Ross<sup>1</sup> have noted, the Internet may provide a modern equivalent of the "tearooms" described by Humphreys, albeit tearooms where there is the possibility of simultaneously choosing from an array of thousands of partners, and almost no possibility of arrest or exposure. Further, there is a minimal time commitment and no travel required. If the cybersexual encounter is mutually fulfilling, an encounter in real life may also be planned.

Cooper and Griffin-Shelley<sup>3</sup> define cybersex as a subcategory of online sexual activity where Internet is used for sexually gratifying activities. These activities range from looking at pictures to erotic chat sessions including masturbation. The definition we use in this study has a more narrow definition of cybersex which focuses exclusively on the interactive part of having online sex, sometimes referred to as "cybering,"<sup>3</sup> as this was our belief as to what most respondents would understand the term to mean. Thus, for the purposes of this study, cybersex involves two or more people engaging in simulated sex talk while online for the purposes of sexual pleasure and may or may not include masturbation by one or more of the participants. Mostly cybersex is a real-time event involving two persons who are typing each other messages using a chat client like ICQ or Microsoft Messenger. In other cases a couple may find or create themselves a chat room in cyberspace where this interaction takes place. Some even exchange pictures or short movies of themselves or erotic pictures and movies found on the web to accompany the otherwise text based communication.<sup>3,4</sup> Typically persons who engage in cybersex find each other on the Internet and have never met before In Real Life (IRL). The conversations vary ranging from flirting and "talking dirty," to very detailed descriptions of having intercourse. This way

of having "virtual" sex enables people to explore their own sexuality, to try new things they have not yet tried offline, or in other cases have no intention of trying offline. It could be sharing secret sexual fantasies or creating an interactive sex novel. The medium also allows one to play different roles and even pretend to be of the opposite sex and of a different age. Cybersex can be either a goal in itself, or may serve as a first step toward an IRL encounter.<sup>4,5</sup>

Cooper and Griffin-Shelley<sup>3</sup> have argued that the Internet is particularly popular for making sexual contacts because of the triple-A engine: its Accessibility, Affordability, and Anonymity. Ross and Kauth<sup>6</sup> have modified the triple-A engine of Cooper and Griffin-Shelley<sup>3</sup> and they and Tikkanen and Ross<sup>1</sup> have suggested that Approximation (the ability to experiment with sexual identity and behavior by approximating being gay, either through fictitious selves or having cybersex) may also be important. This enables people to experiment with, and experience, an activity closely, without actually engaging in physical sex, to become psychologically and physically (in an autoerotic sense) familiar in the context of a virtual encounter.

The ease with which the Internet provides opportunities for virtual or real sexual contact and release makes it possible to respond to a question on which there is considerable anecdote but few data. Given the relative ease of cybersex, to what extent are heterosexually identified men having cybersex with other men? This question is situated in the debate regarding sexual orientation. The data on the number of men who report sexual attraction to or fantasies about other men has usually exceeded the number who report that they have had actual sexual contact, but there are also those who may have sexual contact with other men in the absence of recognized attraction or fantasy. McConaghy et al.<sup>7</sup> indicated that both attraction to the same sex and degree of acting on such behaviors fall on a continuum. More recent data from a representative 26-year longitudinal study in New Zealand found that 10.7% of men and 24.5% of women reported being attracted to a member of the same sex at some time, although this dropped to 5.6% of men and 16.4% of women who reported some level of current same-sex attraction. This further dropped to 3.5% of men and 3.2% of women who had had same-sex sexual contact in the past year.<sup>8</sup>

The present data analysis was carried out on a large Swedish data set on Internet sexual behavior<sup>4,9,10</sup> to assess the frequency of men who have cybersex with other men in a nonrandom sample of men who completed a questionnaire on cybersexual activities. Further, we attempted to characterize



such men in order to understand how they may differ from heterosexual men who report only sex with women via the Internet.

## MATERIALS AND METHODS

### *Procedure*

The questionnaire, which was administered in the Swedish language, was launched through a Swedish portal site called Passagen ([www.passagen.se](http://www.passagen.se)), which is part of the Eniro Corporation. Passagen is ranked one of the top four domains in Sweden considering the number of unique visitors. A banner was placed on the website for 2 weeks from June 10 to June 23, 2002, and appeared randomly on the portal as well as on its sub-sites. There was no way to control where the banner would appear, neither was it possible to predict for whom the banner would show, thus for all practical purposes its appearance was random. During the 2 weeks, Passagen had 818,422 and 893,599 unique visitors, respectively, and the total number of visits was approximately 2 million, with approximately 14 million pages viewed.

When clicking on the banner, the viewer was linked to an introduction site located on a server within the Göteborg University web. The introduction site also had the University logo and described the project, the nature and number of the questions, the funding source, and material relating to ethics and confidentiality, including the fact that the questionnaire was anonymous. The introduction site also informed participants that this survey was limited to those who were 18 years or older. By clicking on an "accept" button, the viewer was linked to the questionnaire which was also placed on the University server. Below the questionnaire and visible at all times was a set of boxes numbered 1–75 and corresponding to each question (many questions contained more than one item: we measured 165 items in total in the questionnaire). Different colors indicated whether a question had been answered or not, and it was possible, up to completion, for respondents to return to a particular question to revise an answer. The system was running on an Intel-based  $2 \times 450$  Mhz server, placed within the Göteborg University website with a 10-GB connection both ways.

Each respondent opened a session with the server, and this session was active until the questionnaire was finished or quit. If the session was quit, it was automatically shut down. All responses and changes of responses were logged and saved continually.

The specific format used made it possible to get exact information on when the respondent started to answer the questionnaire, and when and on what item the respondent stopped. It was presented in year-month-day-hour-minute-second format for both starts and stops. This format makes it possible to analyze missing values, and when and where respondents drop out, along with other variables that might be related to their discontinuing participation, such as gender and age.

### *Portal data*

Of those who visit the Passagen.se portal site, 54% were women and 46% were men; 12% of the visitors were 18–24 years old. The two largest groups were ages 25–34 (22%) and 35–49 years (27%); 18% of the sample were 50–64 years and 4% 65 years or older. A total of 17% were under the age of 17. More than half of the portal population consists of the following groups: full-time students (17%), within-service occupation (13%), educational work (10%), administrative work (8%), and technical work (7%). Ten percent do not currently have an occupation. The gender and other demographic characteristics are more fully described elsewhere.<sup>3,4</sup>

### *Instrument*

The questionnaire was based on two earlier instruments. The first was used in an earlier study done in conjunction with MSNBC, one of the largest American portals.<sup>11</sup> The second was used in the Sex in Sweden Survey.<sup>12</sup> The instrument in this study consisted of 75 questions presented on 75 web pages, broken down into seven sections\*; Section one had 24 demographic questions including items on Internet access and experience of relationships and sexuality. Section two consisted of 13 questions focusing on perceptions of on-line love and sexual behavior. Section three had seven questions on online sexual activity in the workplace and relevant policies and regulations on such behavior. The fourth section consisted of 17 questions dealing with both on-line and off-line sexual experiences. In section five, respondents were to answer four questions including 12 statements about Internet and sexuality to help make clearer their attitudes about this phenomenon. For example, if cybersex is cheating, if sex on the Internet is better

\*The complete questionnaire can be obtained from Kristian Daneback at Göteborg University, P.O. Box 720, 405 30 Göteborg, Sweden.

suitable for men, if the Internet fosters equality between gender and similar questions. Items were rated on a four-point Likert scale (i.e., whether they fully agreed, agreed somewhat, did not agree, or if they could not answer the question). Section six had eight questions around issues of online sexual problems and STDs. The last question contained a 10-item Kalichman et al.<sup>13</sup> scale on sexual compulsivity. The final item of the instrument provided respondents with an opportunity to comment on the questionnaire.

#### *Missing values, dropouts, and different N's*

Due to the format and technique used in this survey, different *n*'s were obtained for items throughout the questionnaire. The first question (age) was answered by 3,614 persons and the last question (10-item Kalichman scale) by 1,851 persons. This detailed level of accountability provides a unique possibility for special analyses of those who did not complete the entire questionnaire. For example, half of the males have dropped out by item 23, whereas half of the females have dropped out by item 49.

#### *Sample*

The population participating in this survey were those who visited the Passagen.se portal site during the 2 weeks from June 10 to June 23, 2002. As a result of the survey being related to sexuality and the resulting ethical and legal complications of involving minors, it was decided to restrict participation to adults (over the age of 18). If a respondent filled out the questionnaire and claimed to be under 18, that case was removed from the database. An upper age limit was set at 75 years, because of the small population claiming to be older and also to be able to compare the results with earlier related research.<sup>3,12</sup> Data on the sample characteristics are presented in Table 1. For those who reported engaging in online sexual activity (*n* = 2,035), the mean age for females was 29.7 (SD = 10.6) and for males 32.0 (SD = 10.5).

The gender distribution of those who engage in online sexual activity in the Swedish study are 55% males and 45% females, which are the same percentages as found in the overall use of the Internet in Sweden,<sup>14</sup> and statistically almost identical to the percentages of those who visited the portal site where the questionnaire was launched (54% males and 46% females). Less than 3% claimed to be from a country outside Sweden, and almost all of these were from adjacent Scandinavian countries (Denmark, Norway, Finland).

#### *Analysis*

Male data were analyzed using SPSS version 11.5. The male sample was divided into two groups: those who defined themselves as heterosexual and reported sexual contacts with only women online (heterosexual men, *n* = 186) and those who defined themselves as heterosexual and reported sexual contacts with men, or with men and women online (men who have cybersex with men and do not identify as gay/bisexual: MSM-NI; *n* = 20). Men who defined themselves as homosexual or bisexual (*n* = 38) were excluded from this first analysis, since the objective of the study was to describe differences between heterosexually-identified men who had sex with women only compared with those who also had sex with men. Where there were significant differences found in the first analyses, the *three* groups were then compared in order to ascertain how the scores of the MSM-NI group were related to the other two groups.

Data were subject to comparison using chi-squared tests for categorical data (with Yates correction for discontinuity where appropriate) and *t*-tests (unequal variance assumed where Levene's *F* for equality of variances was significant at *p* < 0.05) for bivariate linear data, or one-way analysis of variance with post-hoc Scheffé tests for three-group comparisons. Given the small sample sizes for the MSM-NI sample, significance was set at the 10% level.

## RESULTS

Data are presented in Tables 1 and 2. Thirty percent of men and 34% of women reported having cybersex. Of the 244 males who both engaged in cybersex and for whom there were complete data on their reported sexual orientation and gender of Internet partners, 186 (76.2%) were heterosexual in both orientation and behavior, 38 (15.6%) were gay or bisexual and reported male or both male and female sexual contacts on the Internet, and 20 (8.2%) indicated that their sexual preference was heterosexual but reported at least one male partner on the Internet. Thus, of the self-identified heterosexual men in the sample, 10.8% reported sex with other men online.

Comparing the self-reported heterosexual groups (Table 2), the MSM-NI group spent significantly less time per week on the Internet than the heterosexual group, but there was no difference between the groups in time spent on *sexual* activities on the Internet, indicating that the MSM-NI group spent a greater proportion of their Internet time (almost all

TABLE 1. SAMPLE CHARACTERISTICS (%)

<i>Variable</i>	<i>Males (n = 1,846)</i>	<i>Females (n = 1,637)</i>
Age (mean $\pm$ SD)	32.5 $\pm$ 11.3	29.2 $\pm$ 10.5
	$t = 9.1, df = 3,445, p < .000$	
Marital status		
Single	39.2	36.0
Married	20.0	11.8
Co-habiting	22.7	28.0
Divorced/widowed	5.8	8.5
Live apart	9.7	13.4
	$\chi^2 = 67.9, df = 4, p < .000$	
Nationality		
Swedish	91.7	91.4
Other Scandinavian	2.4	2.8
Other European	1.3	1.9
Non-European	1.1	0.7
	$\chi^2 = 9.5, df = 3, p < .03$	
Residence		
Large city	34.9	29.3
City	40.7	43.9
Town or rural	17.7	21.1
Other Scandinavian place	1.1	1.4
	$\chi^2 = 17.6, df = 4, p < .002$	
Grew up in		
Large city	22.4	20.8
City	35.1	34.9
Town or rural	30.4	34.8
Capital or large city outside	2.5	2.2
Town or rural area outside	1.8	2.4
	$\chi^2 = 7.0, df = 4, p < .13$	
Living arrangement		
Alone	38.1	35.6
Parents	12.8	18.0
Spouse/partner	40.1	37.1
Friend(s)	2.8	5.2
	$\chi^2 = 30.6, df = 3, p < .000$	
Living with children		
Yes	33.7	31.6
No	59.9	64.5
	$\chi^2 = 3.6, df = 1, p < .06$	
Highest education		
Elementary school	6.5	7.7
High school	41.0	43.0
University	38.4	39.5
	$\chi^2 = 1.39, df = 3, p < .71$	
Occupation		
Working	58.8	45.9
Student	14.1	23.8
Unemployed	5.7	8.0
Retired	1.7	1.1
Housewife/man, Parental leave	0.5	3.3
Sick leave	1.9	3.8

TABLE 1. CONTINUED

Variable	Males (n = 1,846)	Females (n = 1,637)
Other	4.8	6.1
	$\chi^2 = 135.7, df = 6, p < .000$	
Work with computers		
With Internet access	64.9	62.9
	$\chi^2 = 1.6, df = 1, p < .02$	
Without access	5.6	7.2
	$\chi^2 = 3.9, df = 1, p < .05$	
Internet access		
At home	80.0	84.1
	$\chi^2 = 9.8, df = 1, p < .002$	
At work	54.2	42.6
	$\chi^2 = 34.7, df = 1, p < .000$	
At school	15.4	25.4
	$\chi^2 = 54.3, df = 1, p < .000$	
At Internet cafés	5.1	4.6
	$\chi^2 = 0.5, df = 1, p < .48$	
At other places	3.5	6.4
	$\chi^2 = 15.6, df = 1, p < .000$	

Where responses total < 100%, the remainder are missing responses.

TABLE 2. CHARACTERISTICS OF MEN WHO HAVE SEX WITH MEN ON THE INTERNET BUT WHO DO NOT IDENTIFY AS GAY OR BISEXUAL

Variable	MSM-NI	Hetero
Time/week spent on the Internet (mean hours $\pm$ SD)	26.6 $\pm$ 21.7	15.1 $\pm$ 11.2*
Time/week spent on sexual activities on Internet	14.9 $\pm$ 29.0	12.1 $\pm$ 20.9
	%	%
My online sexual activity has affected my sexuality in general in a very positive way	15.0	8.6*
Before I started to use Internet I never bought sex from prostitutes	75.0	87.1*
There are things I do online that I would not do offline	50.0	21.0***
How often do you have cybersex? (often/very often)	30.0	3.2***
Use a Web-camera	30.0	7.5**
Use a microphone	25.0	4.5**
What do online related to love and sex? (flirt)	45.0	72.6***
What do online related to love and sex? (visit contact sites)	70.0	52.7*
<i>Kalichman scale:</i>		
My sexual thoughts and behaviors are causing a problem in my life (never)	36.8	62.6**
My desire to have sex creates problems in my everyday life (never)	26.3	37.2*
I sometimes fail to meet my everyday life commitments and responsibilities due to my sexual behavior (never)	63.2	79.9*

\* $p < 0.10$ .

\*\* $p < 0.05$

\*\*\* $p < 0.01$ .

of it) on sexual pursuits, whereas the heterosexual group spent less than half their Internet time per week on sexual activities. On analysis of variance, the MSM-NI group reported the lowest time per week on line for all purposes, with the gay/bisexual group scoring midway (21.7 h per week:  $F = 3.8$ ,  $df = 2$ ,  $p = 0.02$ ). The MSM-NI group reported significantly more often that their online sexual activity had made their sexuality in general more positive, and were significantly more likely to report buying sex from prostitutes (gender unspecified) prior to their Internet activity, than the heterosexual group. Of particular interest, the MSM-NI group was significantly more likely to indicate that they did things online that they would not do offline (50% versus 21% of the heterosexual group). On three group analysis (heterosexual, gay/bisexual, MSM-NI), this was significantly higher also than the gay/bisexual group (32.4%;  $\chi^2 = 17.8$ ,  $df = 2$ ,  $p = 0.007$ ).

The MSM-NI respondents also reported almost ten times the rate of having cybersex (gender unspecified) "often or very often" than the heterosexual group. On three group analysis, the gay/bisexual group scored midway between the two heterosexually-identified groups (17.7%,  $\chi^2 = 41.3$ ,  $df = 2$ ,  $p = 0.001$ ). Related to this, the MSM-NI group also reported very significantly higher rates of using a web-camera and a microphone in their Internet activities. On three-group analysis, the gay/bisexual group were most similar to the heterosexual group (only 7.6% used a web-camera:  $\chi^2 = 29.0$ ,  $df = 2$ ,  $p = 0.001$ ; and only 2.5% used a microphone:  $\chi^2 = 32.8$ ,  $df = 2$ ,  $p = 0.001$ ).

Between the two groups, there were also significant differences in Internet sexual activities, with the MSM-NI group reporting lower rates of flirting and higher rates of visiting contact sites. For the "flirting" variable, three-group analysis indicated that the gay/bisexual group (67.7%) was similar to the heterosexual group (72.6%;  $\chi^2 = 6.6$ ,  $df = 2$ ,  $p = 0.04$ ), while the MSM-NI group was significantly lower (45.0%). There were no significant differences on the Contact Site three-group analysis ( $\chi^2 = 2.3$ ,  $df = 2$ ,  $p = 0.31$ ).

On the individual items of the Kalichman scale, the MSM-NI group reported on three items significantly more problems regarding their sexual thoughts and behaviors, problems in their everyday life relating to their desire to have sex, and failure to meet everyday commitments and responsibilities due to their sexual behavior. In all three items on three-group analysis, the gay/bisexual group scoring "never" were close to the heterosexual group for the three items (respectively, 45.6%,  $\chi^2 = 32.6$ ,  $df = 8$ ,  $p = 0.001$ ; 45.6%,  $\chi^2 = 35.4$ ,  $df = 8$ ,  $p = 0.001$ ; and 86.7%,  $\chi^2 = 32.3$ ,  $df = 8$ ,  $p = 0.001$ ).

There were no significant differences between the MSM-NI group and the heterosexual group on the proportion who said that one of the main reasons that they used the Internet was to have sexual activities online that they would not have offline (14.5% and 25%, respectively,  $\chi^2 = 0.17$ ,  $df = 1$ ,  $p = 0.18$ ) or who said that they had met someone on the Internet with whom they had had sex in real life (60% and 61.8%, respectively,  $\chi^2 = 0.33$ ,  $df = 1$ ,  $p = 0.95$ ). Nor were there any significant differences between the two groups on the variables of meeting people on the Internet for cybersex (MSM-NI 100% versus heterosexual 99.5%, respectively,  $\chi^2 = 0.11$ ,  $df = 1$ ,  $p = 0.90$ ), on the variable "I have tried new sexual things online" (MSM-NI 15%, heterosexual 18.3%,  $\chi^2 = 1.63$ ,  $df = 1$ ,  $p = 0.64$ ) and those scoring "fully agree" with the item "The Internet increases the possibility of trying new things sexually" (MSM-NI 25%, heterosexual 30.1%,  $\chi^2 = 0.58$ ,  $df = 1$ ,  $p = 0.99$ ). There were also no significant differences between the MSM-NI group and the heterosexual men on the variable "When I engage in sexual activities I masturbate" (often/very often, MSM-NI 45% versus heterosexual men 33.3%,  $\chi^2 = 1.2$ ,  $df = 1$ ,  $p = 0.19$ ), and on number of sex partners in the past 12 months (heterosexual mean  $8.1 \pm 23.9$ , MSM-NI  $6.5 \pm 21.8$ ,  $t = 0.28$ ,  $df = 204$ ,  $p = 0.78$ ).

## DISCUSSION

These data must be interpreted with the caveat that this is based on only those men who provided data on *both* reported sexual identity (heterosexual, bisexual, homosexual) *and* the gender of their on-line sexual partners (same sex, opposite sex, or both), and the relatively high dropout rate in this study.<sup>10</sup> In view of the fact that we were asking about stigmatized (homosexual and cybersex) behaviors, it might be expected that those who dropped out were those who were disproportionately more likely to report on such stigmatized behaviors. Thus, if there is a dropout bias, proportions reported here are likely to be underestimates of stigmatized behaviors. The period of one year in which the gender of Internet sexual partners was requested may also have had the effect of decreasing the proportion of men in the MSM-NI group, since it would exclude those who might have had sexual contact with men on the Internet prior to this. Daneback et al.<sup>15</sup> report on the characteristics of men and women who have cybersex and the media used in greater detail from the present sample. They note that most interaction takes place in chat rooms or via ICQ/Microsoft Messenger®, so cybersex is mostly in real time. They also note that men with cybersex experience have twice as many

IRL sex partners as those without cybersex experience. Homosexual men are four times more likely to have had cybersex than heterosexual men.

These data suggest that about one in 10 heterosexually identified men using the Internet for sexual purposes may have on-line sex with another male, without identifying himself as homosexual or bisexual. Of particular interest is the finding that the MSM-NI group is significantly more likely on several items of the Kalichman<sup>13</sup> scale to report problems related to their sexuality than the heterosexual group, which suggests that their Internet sexual activity is significantly more ego-dystonic in some specific areas (sexual thoughts causing problems, desire to have sex causing problems, failing to meet commitments because of sexual behavior), although not overall. On the other hand, they report that cybersexual interaction has made their sexuality in general significantly more positive than the heterosexual group, suggesting a degree of ambivalence or denial about their sexuality. These data are consistent with the finding in previous work on married homosexual men,<sup>16,17</sup> including a Swedish sample. The apparent differences in three items on the Kalichman scale, however, was not translated into a scale difference between the groups, suggesting that overall sexual compulsivity does not differ between the groups.

These data suggest that the MSM-NI group have cybersex very much more frequently than the heterosexual group, and indeed have the equipment (web camera and microphone) to better facilitate this. In this regard, they are also significantly different from the gay/bisexual group. Their sexual activity on the Internet takes a much greater proportion of their time online, suggesting that it is much more targeted. They are more likely to actively pursue cybersex and to have a reduced level of flirting, compared with both the heterosexual and gay/bisexual groups, suggesting that their cybersexual behavior with other men is not the result of chance or furtive encounters, but actively pursued. How far this goes, however, is unclear: half of the MSM-NI group indicated that they do things online that they would not do offline, and that a much higher proportion have cybersex often or very often compared with both heterosexual and gay/bisexual groups. There is however no significant difference in the proportion who cite as one of the main reasons for going online to have sexual activities online that they would not have offline, or who have met someone online who they have had sex with in real life (60% of the MSM-NI group versus 62% of the heterosexual group).

What is particularly interesting is the extent to which the MSM-NI group stands out in the comparisons on the use of web camera and microphones,

given that the heterosexual and gay/bisexual groups are more similar in their use of this technology. These data suggest that the MSM-NI respondents are much more focused on the full sensory spectrum of cybersex, and that it may be providing them with more than cybersexual release. One might speculate that the MSM-NI group are turning their cybersex into as close a facsimile of real sex as possible with the technology available. These limited data support a speculation that the MSM-NI are more sensually focused and that they are likely to pursue opportunities for arousal and cybersex (possibly without much concern for the gender of the partner), rather than using the Internet to specifically engage in behaviors that they may be reluctant to engage in offline. This is supported by the lack of significant differences in numbers of offline partners.

Ross and Kauth<sup>6</sup> and Tikkanen and Ross<sup>1</sup> have argued that one must add to the so-called "triple A" engine proposed by Cooper et al.<sup>18</sup> the variable of "approximation." By this, they mean there is a possibility for experimentation, or approximating situations, in cybersex that is relatively absent from real life. These data on MSM-NIs partially support this contention. First, there is a relatively high proportion (one in 10) of self-identified heterosexual men who report sex with other men on the Internet. Second, this cybersex is characterized by increased technology to enhance the experience. Third, they report to a much greater extent than heterosexual or gay/bisexual peers that they are prepared to do things online that they would not do in real life. Fourth, their activity on the Internet appears to be much more sexually focused than that of homosexual or gay/bisexual peers. Taken together, these data make a case for arguing that the Internet has provided a niche midway between fantasy and actual physical contact in experimenting with, or approximating, homosexual behavior. There is a space for *doing*, without the physical contact that would bring the individual closer to *being*, homosexual. In many ways, this is the stage prior to the subjects of Humphreys<sup>2</sup> work, where he observed that, for men who had anonymous physical sex with men in public toilets, many did not identify as homosexual or bisexual. On the other hand, there is no evidence that the MSM-NI respondents are deliberately targeting male partners on the Internet: rather, they seem to be taking advantage of the opportunity as it arises. We cannot tell whether it may be part of a "coming out" process, or may simply be a broadening of the sexual repertoire.

Traditional models of gay identity development<sup>19</sup> emphasize the stages of self-identification and de-emphasize homosexual behaviors in real life. For homosexual *activity*, these data suggest that the new

technology of the Internet has allowed a group of men to *approximate* doing, rather than *actually* doing (as in Humphreys<sup>2</sup> study) or being (as in self-identified gay or bisexual men). This approximated doing creates a new space between private fantasy and physical behavior in which a behavior can be simulated without all the psychological and social ramifications of *doing* or *being*. It would appear that it is this opportunity of having such activity, removed from the constraints of stigma, labeling, and intentionality, in men who are focused on sexual arousal and release, and the opportunity of experimenting online with things that may not be pursued offline, that differentiates this group of men. Thus, this group may reflect those who Dickson et al.<sup>8</sup> refer to as reporting some same-sex attraction, but not activity, with the Internet providing an opportunity that may otherwise be infrequently available to pursue this attraction. However, the small size of this group (the small numbers in the MSM-NI and gay/bisexual groups make it more difficult to achieve statistical significance in the present study) makes it critical that this study be replicated, if possible with qualitative interviews, to further understand men who have sex with other men on the Internet (cybersex) yet who identify themselves as heterosexual.

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## BISEXUALITY AND SEXUALLY RELATED ACTIVITIES ON THE INTERNET

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*The aim of the current study was to investigate differences and similarities in participants' use of the Internet for sexually related purposes. An additional goal was to compare heterosexuals, bisexuals, and gay men/lesbians in Sweden regarding the kinds of sexually related activities that they engage in online. Data were collected in 2002 through an online questionnaire from 1,458 respondents who reported that they use the Internet for sexually related purposes. The results suggested bisexuals use the Internet as a resource for information and to interact with people with the same interests and to engage in behaviors that they would not engage in offline. In contrast, gay men and lesbians made use of the Internet more as a tool in their everyday lives, using it more frequently to find offline sex partners and for sexual gratification. By comparison, heterosexuals did not use the Internet for sexual purposes to the same extent as bisexuals or gay men and lesbians. Based upon the results, the authors suggest that greater attention should be paid to sexual orientation in future studies and that failing to acknowledge sexual orientation subgroups as distinct categories might bias research results.*

Keywords: Internet, sexuality, sexual orientation, sexual preference, bisexuality, bisexual, homosexuality, gay, lesbian, heterosexuality, heterosexual

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## INTRODUCTION

Prior research has found that many people use the Internet for sexual purposes and engage in a variety of online sexual activities. Online sexual activities range from reading erotic novels online and viewing erotica to having cybersex (engaging in mutual sexual talk for the purposes of sexual gratification) or seeking partners for offline love or sex. Cooper, Månsson, Daneback, Tikkanen, and Ross (2003) found that the majority of users engaged in either noninteractive activities (e.g., view erotica) or interactive activities (e.g., engage in cybersex). They also found that overall men preferred the former whereas women preferred the latter.

Hitherto, gay men have been the most extensively studied group regarding their use of the Internet for sexual purposes. Prior research has shown that gay men sometimes take advantage of the Internet for the purposes of meeting offline sex partners, but also for "trial runs" as part of the process of coming out as gay. However, Ross, Månsson, Daneback, and Tikkanen (2005) found that some self-identified heterosexual men use the Internet to engage in cybersex with other men. The results of their research suggest that the Internet constitutes an arena where it is possible to experiment with stigmatized sexual identities and behaviors.

An overview of prior research shows that problematic aspects of Internet sexuality, such as online sexual addiction and compulsivity, and human immunodeficiency virus (HIV) and sexually transmitted infections (STI) have been of particular concern for researchers. For example, a substantial part of the research concerning HIV and STIs and sexually related uses of the Internet has focused on gay men who meet offline sex partners online (e.g., Bolding, Davis, Hart, Sherr, & Elford, 2005; Bowen, Williams, & Horvath, 2004; Bull, McFarlane, Lloyd, & Rietmeijer, 2004; Elford, Bolding, & Sherr, 2001; Hospers, Kok, Harterink, & de Zwart, 2005; McFarlane, Ross, & Elford, 2004; Tikkanen & Ross, 2000, 2003). The rationale for conducting these studies has partly been to investigate how the Internet can be used by health professionals for intervention and preventive actions (e.g., Bolding et al., 2005; Hospers, Harterink, Van Den Hoek, & Veenstra, 2002; Kalichman, Benotsch, Weinhardt, Austin, & Luke, 2002; Keller, Labelle, Karimi, & Gupta, 2004; Klausner, Levine, & Kent, 2004; Levine & Klausner, 2005).

Two groups that are largely absent in the research literature on Internet sexuality are bisexual men and bisexual women. This is also true of other non-Internet-related studies focusing on sexual orientation as well, where bisexuals are often not considered as a distinct category (Sell, 1997). In the few cases where these groups have been the focus in Internet related sexuality research, the focus has mainly been on problematic aspects of Internet use. For example, Cooper, Delmonico, and Burg (2000) and

Daneback, Ross, and Månsson (2006) found that among their study participants, a greater proportion of self-identified bisexuals than self-identified heterosexuals appeared to have sexual compulsive disorders. However, Daneback et al. (2006) discussed whether the scale used to measure sexual compulsivity also measured latent normativity of sexual behavior. On that basis, they suggested that for some of the bisexuals who scored high on this scale, the instrument might have measured their current level of sexual curiosity, development, and experimentation unrelated to sexual compulsiveness.

Månsson, Daneback, Tikkanen, and Löfgren-Mårtenson (2003) found that among respondents in their research who used the Internet for sexual purposes, 6% of the men and 11% of the women self-identified as bisexual. However, other than the findings mentioned above relating to problematic aspects of Internet use, little is currently known about how and why bisexual men and women use the Internet for sexual purposes and how their usage and reasons for it compare to that of other, more researched groups. Prior research has indicated that usage patterns might be different between sexual identities as well as within them. For example, Daneback et al. (2006) found that bisexual men were more likely than heterosexual men to have used the Internet to meet offline sex partners, but no such relationship was found among women.

The aim of the current study was to investigate differences and similarities in participants' use of the Internet for sexually related purposes. An additional purpose was to compare heterosexuals, bisexuals, and gay men/lesbians in Sweden regarding the kinds of sexual activities that they engage in online.

## ***METHOD***

### ***Procedure***

The questionnaire was launched through a Swedish portal site called Passagen (<http://www.passagen.se>). A banner ad was placed on the website for 2 weeks from June 10 through June 23, 2002 and appeared randomly on the portal as well as on its subsites. There was no way to control where the ad would appear, and it was not possible to predict for whom the banner would be displayed; thus, for all practical purposes, its appearance was random according to the Passagen website administrators. In the time period during which the ad was on the website, Passagen.se had 818,422 unique visitors the first week and 893,599 unique visitors the second week. The total number of visits was approximately 2 million, with approximately 14 million pages viewed.

By clicking on the banner, the viewer was linked to an introductory website located on a Göteborg University server. This site showed the University logo and described the project, the nature and number of the questions, the funding source, and material relating to ethics and confidentiality, including the fact that the questionnaire was anonymous. The site also informed participants that the survey was limited to those who were age 18 or older. By clicking on an "accept" button, the viewer was linked to the questionnaire, which was also on the University server. Below the questionnaire and visible at all times was a set of boxes numbered 1 to 75, corresponding to each web page with questions. Different colors indicated whether the question or questions on a web page had been answered or not, and it was possible, up to completion of the survey, for respondents to return to a particular question to revise an answer.

### *Measure*

The questionnaire was based on parts of two earlier instruments. The first was developed and used in an earlier study done in conjunction with MSNBC, one of the largest American portals (Cooper, Scherer, & Mathy, 2001); the second was developed and used in the Sex in Sweden survey (Lewin, Fugl-Meyer, Helmius, Lalos, & Månsson, 1998). The instrument in the current study consisted of 93 questions, primarily taken from the above mentioned surveys, shown on 75 web pages, and broken down into seven sections. The first section included 24 demographic questions including questions on the Internet, relationships, and sexuality. The second section had 13 questions focusing on online love and online sexual activities. Section 3 presented 7 questions on online sexual activities in the work place. In section 4, 17 questions appeared regarding online and offline sexual experiences. Section 5 consisted of 14 statements about Internet and sexuality to help make clearer respondents' attitudes about this phenomenon. Questions asked were, for example, about whether respondents thought that cybersex is cheating, if Internet sexuality is better suited for men or for women, and if the Internet fosters equality between genders. Section 6 had 8 questions regarding issues of sexual problems and STDs. The last section included a 10-item Kalichman scale (Kalichman et al., 1994) on sexual compulsivity. All questions were asked in the Swedish language.

### *Sample*

Participation was restricted to adults. Surveys by respondents who reported being younger than age 18 years were excluded from analyses. An upper age limit was set at 65 years, due to the small numbers of older respondents and also to be able to facilitate comparison with earlier related research. A

total number of 1836 respondents (932 women, 904 men) completed the questionnaire.

Of the total number of respondents, 1458 (658 women, 800 men) reported use of the Internet for sexual purposes. The mean age for these respondents was 29.7 ( $SD \pm 0.3$ ) for women and 31.5 ( $SD \pm 9.8$ ) for men ( $t = 3.269$ ,  $df = 1456$ ,  $p < .001$ ). The proportions by gender of those respondents using the Internet for sexual purposes was 55% for men and 45% for women ( $\chi^2 = 88.01$ ,  $df = 1$ ,  $p < .001$ ). These percentages were similar to the proportions found in the overall everyday use of the Internet in Sweden (Statistics Sweden, 2004), and these are also practically identical to the percentages of those who visited the portal site where the questionnaire was launched (54% men and 46% women). Of the 1,458 respondents, the majority, 90%, considered themselves heterosexual, while 2% self-identified as gay or lesbian, and 8% identified as bisexual. The mean age for bisexuals was 27.7 years, for gay men/lesbians 30.0 years, and for heterosexuals 30.9 years. A comparison of means between groups indicated significant age differences ( $F = 5.8$ ,  $df = 2$ ,  $p < .01$ ). A Scheffe's post hoc test showed bisexuals to be significantly younger than heterosexuals, but there were no age differences between bisexuals and gay men/lesbians or between gay men/lesbians and heterosexuals. For more detailed information about the sample characteristics see Daneback, Månsson, and Ross (2007).

### **Data Analysis**

Data were analyzed by using SPSS version 12. Demographic characteristics were considered by gender and compared by using chi-squared tests (with Yates correction for discontinuity where appropriate) for categorical variables and  $t$  tests (unequal variance assumed where Levene's  $F$  for equality of variances was significant at  $p < .05$ ) as well as ANOVAs (with Scheffe's post hoc test performed on all significant associations to identify specific differences between groups) for comparing continuous variables between groups.

## **RESULTS**

### **Sexually Related Online and Offline Activities**

Table 1 displays the distribution of online and offline activities compared in terms of sexual orientation self-identification. Gay men and lesbians spent an average of 7 hours per week online, bisexuals spent 6 hours online per week, and heterosexuals spent fewer than 5 hour online per week ( $F = 3.8$ ,  $df = 2$ ,  $p < .05$ ). However, a Scheffe's post hoc test did

**Table 1. Online Sexually Related Activities by Sexual Orientation Self-Identification in Percent (n=1443).**

Sexual Activity	Sexual Orientation			
	Bisexual n = 116	Gay/Lesbian n = 29	Heterosexual n = 1283	
Looking for love contacts	39	49	40	$\chi^2 = 1.1, df = 2, ns$
Flirting	49	64	48	$\chi^2 = 6.7, df = 2, p < .05$
Looking for a partner	14	33	27	$\chi^2 = 10.5, df = 2, p < .01$
Staying in contact with love/sex partner	41	46	29	$\chi^2 = 12.2, df = 2, p < .01$
Reading erotic texts	57	46	32	$\chi^2 = 33.4, df = 2, p < .001$
Viewing erotica	54	61	48	$\chi^2 = 3.0, df = 2, ns$
Visiting contact sites	32	49	35	$\chi^2 = 3.4, df = 2, ns$
Replying to sex ads	13	24	5	$\chi^2 = 30.3, df = 2, p < .001$
Chatting with people with same interests	41	73	28	$\chi^2 = 39.6, df = 2, p < .001$
Educating oneself about sex/getting professional help	29	21	19	$\chi^2 = 7.4, df = 2, p < .05$
Buying sex products	24	18	14	$\chi^2 = 9.0, df = 2, p < .05$
Other things	6	2	4	$\chi^2 = 1.3, df = 2, ns$

not confirm these differences as being significant. A greater proportion of bisexual and gay/lesbian respondents met more people (mean = 4.8 and 4.7, respectively) online who they later met offline and with whom they had sex, compared to the heterosexual study participants (mean = 3.1). The difference was significant ( $F = 4.3, df = 2, p < .05$ ). A Scheffe's post hoc test, however, indicated that the difference was significant only between bisexuals and heterosexuals. There were no differences between the heterosexual, bisexual, and gay/lesbian groups regarding their number of offline sex partners during the last year ( $F = 0.8, df = 2, ns$ ).

The online activities endorsed by study respondents included the following: looking for love contacts, flirting, looking for partners, staying in contact with love/sex partner, reading erotic texts, viewing erotica, visiting linked websites, replying to sex ads, chatting with people with the same interests, educating oneself about sex, getting professional help, or buying sex products.

Table 1 shows that a greater proportion of bisexuals than gay men/lesbians and heterosexuals used the Internet to read erotic texts, to educate themselves, and to buy sex products. A smaller proportion of bisexuals than gay men/lesbians and heterosexuals used the Internet to look for offline sex partners. No significant differences were found between the

groups regarding looking for love contacts, viewing erotica, and visiting contact sites. In contrast, a greater proportion of gay men and lesbians than bisexuals used the Internet to flirt, to look for a partner, to stay in contact with love/sex partner, to reply to sex ads, and to chat with people with the same interests. On the other hand, a smaller proportion of heterosexuals than bisexuals and gay men/lesbians used the Internet to flirt, to stay in contact with love/sex partner, to read erotic texts, to reply to sex ads, to chat with people with the same interests, for education/support, and to buy sex products.

### ***Sexually Related Online Activities: Heterosexuals and Bisexuals Compared***

Table 2 displays the distribution of sexually related online activities among bisexual and heterosexual men and among bisexual and heterosexual women. Due to the low numbers of gay men and lesbians in the sample, the following analysis includes only the heterosexual and bisexual study participants.

Compared to heterosexual men, a greater proportion of bisexual men used the Internet to stay in contact with a love/sex partner, to read erotic texts, to visit contact sites, to reply to sex ads, and to chat with people with the same interests. There were no significant differences between these two groups regarding the other listed activities: looking for love contacts, flirting, looking for partners, viewing erotica, seeking education/support, and buying sex products. A greater proportion of bisexual women than heterosexual women used the Internet to read erotic texts, to view erotica, to reply to sex ads, to chat with people with the same interests, to seek education/support, and to buy sex products. However, compared to heterosexual women, a smaller proportion of bisexual women used the Internet to look for partners. No significant differences between the groups were found regarding looking for love contacts, flirting, staying in contact with a love/sex partner, and visiting linked web-sites.

### ***Reasons for Engaging in Online Sexually Related Activities: Bisexuals, Gay Men/Lesbians, and Heterosexuals Compared***

Table 3 describes the distribution of reasons that respondents provided for their online sexually related activities, by sexual orientation self-identification. The reasons included the following items from the list provided in the survey: education, distraction, talking about sex, curiosity, dating, meeting someone offline, meeting people online with the same interests, engaging in sexual activities they would not engage in offline,

**Table 2. Online Sexually Related Activities of Self-Identified Heterosexuals and Bisexuals by Gender in Percent (n = 1399)**

Sexual activity	Gender				$\chi^2$	df	p
	Men (n=770)		Women (n=629)				
	Bisexual (n = 44)	Heterosexual (n = 726)	Bisexual (n = 72)	Heterosexual (n = 557)			
Looking for love contacts	36	41	46	39	1.3	1	ns
Flirting	59	49	50	47	0.2	1	ns
Looking for a partner	27	30	8	23	8.2	1	p<.01
Staying in contact with love/sex partner	46	25	44	33	3.4	1	ns
Reading erotic texts	59	34	49	29	11.5	1	p<.001
Viewing erotica	75	71	49	19	33.8	1	p<.001
Visiting contact sites	55	39	22	29	1.3	1	ns
Replying to sex ads	25	9	8	1	27.5	1	p<.001
Chatting with people with same interest	50	27	42	29	5.1	1	p<.05
Educating oneself about sex/getting professional help	18	15	40	24	9.0	1	p<.01
Buying sex products	18	13	31	15	10.9	1	p<.001
Other things	7	2	6	6	0.0	1	ns



**Table 3. Reasons to Engage in Online Sexually Related Activities by Sexual Orientation in Percent (n = 1434)**

Reason	Sexual Orientation			
	Bisexual (n = 116)	Gay/Lesbian (n = 29)	Heterosexual (n = 1283)	
Education	21	9	15	$\chi^2 = 3.7, df = 2, ns$
Distraction	81	97	76	$\chi^2 = 9.4, df = 2, p < .01$
Like talking about sex	37	49	23	$\chi^2 = 23.5, df = 2, p < .001$
Curious	71	55	68	$\chi^2 = 3.2, df = 2, ns$
To date	13	30	13	$\chi^2 = 7.7, df = 2, p < .05$
To meet someone offline	18	33	14	$\chi^2 = 10.0, df = 2, p < .01$
To meet people online with same interest	29	36	7	$\chi^2 = 96.8, df = 2, p < .001$
To engage in sexual activities I would not engage in offline	14	3	6	$\chi^2 = 12.9, df = 2, p < .01$
To get support in sexual issues	19	15	11	$\chi^2 = 8.0, df = 2, p < .05$
To buy sex products	17	9	10	$\chi^2 = 7.8, df = 2, p < .05$
To reach orgasm	26	36	20	$\chi^2 = 7.3, df = 2, p < .05$

getting support regarding sexual issues, buying sex products, and reaching orgasm.

A greater proportion of bisexuals than gay men/lesbians or heterosexuals indicated that they used the Internet to engage in sexual activities they would not engage in offline. Furthermore, they used the Internet to get support regarding sexual issues and to buy sex products to a greater extent than gay men/lesbians and heterosexuals. The only reason from the list for which there was not a significant difference was using the Internet for educational purposes. By comparison, a greater proportion of gay men/lesbians than bisexuals or heterosexuals used the Internet for sexual purposes, for distraction, because they liked to talk about sex, to date, to meet someone offline, to meet people online with the same interests, and to reach orgasm. Compared to bisexuals and heterosexuals, a smaller proportion of gay men/lesbians used the Internet for education, to engage in activities they would not engage in offline, and to buy sex products. A smaller proportion of heterosexuals than bisexuals and gay men/lesbians used the Internet for sexual purposes, to meet someone with the same interests, to get support in sexual issues, to reach orgasm, and because they liked talking about sex.

### ***Reasons for Engaging in Online Sexually Related Activities:***

**Table 4. Reasons to Engage in Online Sexually Related Activities by Sexual Orientation and Gender in Percent (n=1390).**

Sexual activity	Gender				
	Men (n = 770)		Women (n = 629)		
	Bisexual (n = 44)	Heterosexual (n = 726)	Bisexual (n = 72)	Heterosexual (n = 557)	
Education	21	15	24	15	$\chi^2 = 3.6, df = 1, ns$
Distraction	82	79	78	72	$\chi^2 = 1.0, df = 1, ns$
Like talking about sex	34	23	43	22	$\chi^2 = 14.6, df = 1, p < .001$
Curious	66	63	71	74	$\chi^2 = 0.3, df = 1, ns$
To date	23	18	10	8	$\chi^2 = 0.4, df = 1, ns$
To meet someone offline	34	21	11	6	$\chi^2 = 2.5, df = 1, ns$
To meet people online with same interest	41	10	28	3	$\chi^2 = 75.2, df = 1, p < .001$
To engage in sexual activities I would not engage in offline	18	8	14	4	$\chi^2 = 12.8, df = 1, p < .001$
To get support in sexual issues	7	8	29	14	$\chi^2 = 11.4, df = 1, p < .001$
To buy sex products	11	8	24	11	$\chi^2 = 8.7, df = 1, p < .01$
To reach orgasm	46	29	18	8	$\chi^2 = 7.3, df = 1, p < .01$

### ***Bisexuals and Heterosexuals Compared***

Table 4 describes the distribution of reasons for using the Internet for sexually related purposes among bisexual and heterosexual men and among bisexual and heterosexual women. As above, due to the low number of gay men/lesbians in the sample, they were not included in this analysis. Compared to heterosexual men, a greater proportion of bisexual men used the Internet to meet people offline, to meet people online with the same interests, to engage in sexual activities they would not engage in offline, and to reach orgasm. No significant differences were found between bisexual and heterosexual men regarding their reasons for using the Internet for education, for distraction, because they like talking about sex, because of curiosity, for dating, for getting support about sexual issues, and for buying sex products. A greater proportion of bisexual women than heterosexual women used the Internet for sexual purposes, because they liked talking about sex, to meet people online with the same interests, to engage in sexual activities they would not engage in offline, to get support about sexual issues, to buy sex products, and to reach orgasm. No differences were found between bisexual and heterosexual women regarding using the Internet for education, distraction, curiosity, dating, and meeting someone offline.

### ***DISCUSSION***

The current study is one of the first attempts to specifically focus on the use of the Internet for sexually related purposes with attention to sexual orientation in general and bisexuals in particular. Although the results should be interpreted with caution due to the low percentages of bisexual and gay/lesbian respondents in the sample, the results suggest that sexual orientation accounts for variations in sexually related activities engaged in on the Internet and the reasons for engaging in them and should be considered when investigating sexually related uses of the Internet.

The findings from this study suggest that different online sexually related activities appeal to different subgroups of users that can be related to their sexual orientation, and that the reasons to engage in online sexually related activities might, to some degree, mirror the needs and interests of these particular subgroups. In addition, we found that there were similarities and differences between bisexuals and heterosexuals for men and women regarding the activities they engage in as well as the reasons for doing so. As a consequence, not considering sexual orientation in future research might bias its results. In addition, the results from this study strongly suggest that bisexuals and gay men/lesbians ought not to be grouped nor analyzed together in studies of Internet sexuality. Furthermore, identifying how the

activities and reasons are different and similar for particular subgroups might help professionals working with these groups to understand their motives to use the Internet for sexually related purposes.

More specifically, we found that bisexuals used the Internet to educate themselves, to read erotic texts, and to buy sex products, but to a lesser extent to seek partners. This suggests that bisexuals might prefer noninteractive use of the Internet for sexually related purposes. In contrast, gay men/lesbians were more interested in interactive activities, such as chatting with others with the same interests, flirting, looking for partners, and replying to sex ads, pointing in the direction of a usage that is more integrated into everyday life when it comes to partner related activities. This supports the findings of prior research, and the suggestion that the Internet is an erotic oasis, a new kind of "tea room," for gay men/lesbians, and that it is extensively used by this group to find partners for love and sex (Tikkanen & Ross, 2000, 2003). Interesting, on the basis of the results of the current study, heterosexuals appear to have taken less advantage of the Internet for sexual purposes as compared to bisexuals and gay men/lesbians. One explanation for this could be that even though sexuality is surrounded by guilt, shame, and silence for heterosexuals, they are less stigmatized offline and, thus, heterosexuals might not need the Internet to express their sexuality to the same extent as sexual minorities, as heterosexual behaviors are considered to be the norm offline.

However, we did find that bisexual men, more than heterosexual men, used the Internet to stay in contact with a love/sex partner, to read erotic texts, to visit contact sites, to reply to sex ads, and to chat with people with the same interests. It appears that bisexual men use the Internet more for interaction than heterosexual men, but less so to read erotic texts. Bisexual women, on the other hand, used the Internet for sexually related purposes to a greater extent than heterosexual women, including to read erotic texts, to view erotica, to reply to sex ads, to chat with people with the same interests, for education/support, and to buy sex products. Interesting, bisexual men and women used the Internet to find partners and to chat with people with the same interests more than heterosexuals. Again, this suggests that the Internet might constitute an arena that makes it possible for sexual minorities to discuss and explore sexually related interests that they might experience as stigmatized in an offline context.

When asked about their reasons to engage in sexual activities on the Internet, a greater proportion of bisexuals than gay men/lesbians or heterosexuals indicated that they use the Internet to engage in sexual activities that they would not engage in offline and to get support about sexual issues. Perhaps this could be related to bisexuals being a stigmatized group offline. They might therefore find the Internet to be a safe haven where

they can experiment and express their sexuality and, thus, avoid or at least prevent the kinds of negative personal sanctions that they might experience offline. Compared to gay men/lesbian respondents, a greater proportion of whom sought sexual gratification through meeting sex partners through the Internet or through masturbation when online, bisexuals seemed to use the Internet more as a resource for support and to meet people with similar interest, but also to keep these issues online. We found that gay men/lesbians did not use the Internet for educational purposes to the same extent as bisexuals and heterosexuals. This is interesting because gay men, in particular, are often a target for information relating to health issues through the Internet.

Compared to heterosexual men, bisexual men took greater advantage of the Internet to engage in offline as well as online sexual activities, to seek partners, and to masturbate. The reasons that bisexual women used the Internet for sexually related activities were primarily because they sought people for online interactions, to buy sex products, and to masturbate. Compared to the reasons provided by bisexual men, bisexual women used the Internet less to find partners offline but rather kept their sexual activities online.

This study had several limitations. Despite numerous methodological procedures to maximize randomization, this was still not a truly randomized sample. Constructing a more traditional offline study, more able to control those factors, would greatly increase the ability to make generalizations to the larger population. Ross, Månsson, Daneback, Cooper, and Tikkanen (2005) compared a conventional “gold standard” random sample to an Internet sample with identical demographic, sexual, and relationship questions. They found that the Internet sample diverged from the random sample in terms of age, location, education, whether respondents were currently in a relationship, and the number of participants’ sexual partners. However, they found both samples to be comparable with regard to gender distribution, nationality, having been in a relationship, how respondents met their present partner, and if they had discussed separation in the past year. As the current study was conducted in Sweden, cultural differences may have influenced the results. However, Cooper et al. (2003) found that the Swedish data corresponded to that of earlier non-Swedish studies that have delineated some general patterns of Internet sexuality.

Furthermore, this study included relatively few gay/lesbians and bisexuals. Therefore, further research is needed to validate and expand on the similarities and differences between bisexuals and gay/lesbians and between women and men in particular. In addition, more cross-cultural research is needed to compare the patterns found here with those found in other countries and cultures. To make for a more complete understanding of how bisexuals use the Internet for sexually related purposes,

qualitative research would also compliment and expand upon the findings of this study.

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## **Fluid Versus Fixed: A New Perspective on Bisexuality as a Fluid Sexual Orientation Beyond Gender**

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*Sexual orientation has been conceptualized by Ross and Paul (1992) as fixed in terms of sex object (exclusively heterosexual or homosexual) versus fluid (bisexuals, for whom sex of partner may be unimportant). The authors of the present article investigated characteristics of 1,913 young men and women with fixed and fluid sexual orientation recruited in an Internet-based study of sexual behavior in Sweden. One half of the respondents were students at a major Swedish university. Data indicated that women were twice as likely as men to report a fluid orientation. There were major differences between men and women, with maximal fluidity in the 25 to 34 age range, fluid women being more likely to be urban and not religious, and fluid men reporting higher education levels. Higher sexual partner numbers were associated with fluidity in women but fixedness in men. For both, living away from the family was associated with fluidity. These data suggest that fluidity is more prevalent in women, and that it may be associated not with an unformed sexual preference but with an expanding one in the midtwenties. Conceptualizing sexual orientation as fixed or fluid may be a useful alternative approach to conceptualization of sexual orientation as homosexual, heterosexual, or bisexual.*

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## INTRODUCTION

The concept of sexual orientation has traditionally been conceived as heterosexual (preference for an opposite-sex partner) or homosexual (preference for a same-sex partner), with bisexuals holding an intermediate position (Kinsey, Pomeroy, & Martin, 1948). This traditional conception is based on seeing gender as a primary or 'master status' under which other characteristics such as personality, interaction style, and social sex role are subsumed. However, this 'gender fixation' in partner selection obscures other sexual partner attraction and selection characteristics that may or may not be associated with gender (such as age, class, race/ethnicity, and power or dominance considerations, among many more). Indeed, Giddens (1992) suggested that Kinsey's work, in addition to analyzing sexual behavior, also influenced it, altering and informing lay views of sexual actions and involvement.

Ross and Paul (1992) proposed a model of sexual attraction 'beyond gender': that is, where the preferred gender of the partner was not used to define the actor, but where the gender of the partner was defined as fixed (exclusive preference for a same-sex or opposite-sex partner) or fluid (where gender was immaterial or contextual). Ross and Paul argued that with the reproductive element largely removed (or removable) from most sexual behavior, at least in Western societies (Giddens, 1992; Ross, 2005), and the decreasing gap between men and women in terms of status and behavior, reliance on own and partner gender as an absolute determinant for sexual attraction became only one possible model for sexual attraction. They used repertory grids to study bisexual men and women in California and found that even with the provided constructs of masculine-feminine to define preferred partners, dimensions of preference were rarely based on these. Instead, they were based most often on (elicited) constructs such as interactive variables and personality. Preferred partners were closer to 'self' than 'best nonsexual friend' over the grids, and data showed that although gender-based sexual distinctions can be made, they are not made for preferred sexual partners (Ross & Paul, 1992, p. 1288) for some bisexuals.

In a Norwegian study, it was found that 12% of men and 31% of women had had same-sex fantasies. In the same study, 8% of men and 7% of women reported they had had same-sex experiences (Træen, 1997). Figures from the national random-sample Sex in Sweden study (Lewin, Fugl-Meyer, Helminius, Lalos, & Månsson, 2000) found that 4.2% of men and 16.7% of women had had same-sex fantasies, and 2.6% of men and 2.1% of women reported that they had had sex with them.

Diamond (2009) argued that one of the fundamental, defining features of female sexual orientation is its fluidity. "Sexual fluidity means situation-dependent flexibility in women's sexual responsiveness. This flexibility makes it possible for some women to experience desires for either men or women under certain circumstances, regardless of their overall sexual orientation" (p. 3). In her recent book on sexual fluidity, Diamond cited Baumeister (2000), who was the first to synthesize the existing strands of evidence into a comprehensive argument for a distinctively female capacity for fluidity and sexual variability, suggesting that women's sexuality overall is more 'plastic' than men's. And, according to Diamond, the explanation for this is as much a function of biology as it is anything else.

However, as Diamond (2009) pointed out, not all sexuality researchers agree with this view. Some argue that women's greater sexual variability is mainly due to social and cultural factors (Hyde & Durik, 2000). Furthermore, a distinctive argument for a male capacity for sexual fluidity can be derived from anthropologist Gilbert Herdt's (1984) now-classic account of ritualized homosexuality among young men in Melanesia. Herdt's perspective on this rests comfortably within a social constructionist model of sexuality, which posits that sexual identities do not exist as fixed types but are created and given meaning through continuous social interaction and cultural traditions and ideologies.

Ross and Paul's proposal, and their argument (1992) that we need to further investigate sexual attraction beyond the master status of gender, especially in bisexual men and women for whom partner gender is immaterial, is consistent with the work of recent social theorists including Baumann (2003), whose argument is that traditional bonds of family, class, religion, marriage, and even love are loosening. Indeed, his term "liquid love" partially inspires our use of the labels of fluid and fixed to describe gender and gender attraction and Ross and Paul's conception of partner gender as being gender immaterial versus gender critical. It is further fuelled by two trends in society: first, the reduction in social and occupational differentiation between men and women in western (and particularly northwest European) societies, and second, the influence of the Internet. Ross (2005) argued that the Internet allows individuals to experiment with sexual behavior in terms of their own profile and characteristics, including representation of self in terms of varying gender, age, and physical and personality characteristics (among others). It follows, then, that an Internet study from a Scandinavian country is likely to provide an accessible sample of what we have traditionally described as 'heterosexual, homosexual, and bisexual' respondents to examine the presence and characteristics of those with a fixed (exclusive heterosexual and homosexual preference) or a fluid (bisexual) one. In this study, we investigated the characteristics of men and women with fixed and fluid sexual orientations in a Swedish Internet sexual behavior sample.

## METHOD

### Procedure

The web questionnaire was administered in the Swedish language on four sites: three public web sites and one Swedish university web site. Two of the public web sites were portal sites oriented toward adults, presenting information from diverse sources and including various applications (such as e-mail); one of the two leaned more toward online dating. The third web site was an explicit youth community, one of the two largest in Sweden for 16- to 29-year-olds. The sites were Passagen.se with approximately 500,000 unique visitors, Spray.se with approximately 400,000 unique visitors, and Playahead.se with approximately 100,000 unique visitors (all per week). The size of the university was nearly 21,000 students, all of whom had some form of access to the university's web site.

Respondents were recruited in the following way. Between February 27 and March 8, 2009, a banner was placed on the Passagen.se and Spray.se web portal sites and was visible at all times for all visitors to both sites. The banner read "Participate in a study on love and sex on the internet." On March 11, an e-mail briefly describing the study, including a hyperlink to the web questionnaire, was sent to all active student e-mail addresses registered at the university. Finally, on March 18, a message with the similar content (as the university message) was randomly sent by the administrators to 10,000 members age 18 or older of the Playahead.se community. Data collection ended on March 20, 2009.

By clicking the banner ads or the hyperlink, the respondents were taken to an introductory web page located on a server owned by the web survey company Entergate. The introduction page had the Malmö University logo (visible throughout the questionnaire) and described the study, questions related to ethics and confidentiality, the number of questions, and the estimated time it would take to complete the questionnaire. The respondents were also informed that participation was voluntary but limited to people age 18 and older. The introduction page included links to the researchers' profile pages on the university's web site, which in turn included contact details. At the bottom of the introduction page the respondents were asked to click the 'continue' button if they had read through the information, were age 18 or older, and agreed to participate in the study. By clicking the button, the respondents were taken to the questionnaire itself (also hosted on Entergate's server).

The web questionnaire contained a total of 85 questions. However, by using skip patterns we were able to personalize the questionnaire to some extent. This could reduce the number of questions to 51 for some respondents. Each respondent opened a session on the server and replies were recorded on the server; subsequently, the respondents could go back and forth in the questionnaire before finally submitting their answers. Due to

the format and technique used, we were able to identify those who dropped out from the questionnaire before completion. A total of 4,637 respondents began to fill out the questionnaire, and 1,913 completed it—an internal dropout rate of 58%. The dropouts will be subjected to further analyses, but the current study tabulates only completed questionnaires.

When the respondents had finished or quit the questionnaire, the session was shut down. Those who completed their questionnaire were taken to a web page thanking them for their participation and encouraging them to contact the researchers if they had any questions. Finally, they were returned to the research program's website.

### Instrument

The questionnaire was a revised and expanded version of an earlier instrument that we used in a similar study in 2002 (see Cooper, Månsson, Daneback, Tikkanen, & Ross, 2003). Many of these questions, including the questions on sexual fantasies and behavior, were adapted from the Swedish national sexuality study (Lewin et al., 2000). The questionnaire consisted of 85 questions divided into six subsections. The first section had 24 sociodemographic questions including items on Internet access, various forms of relationship constellations, love, and sexuality. Section 2 had 28 questions about love and sexual activities on the Internet, focusing on what activities the respondents engage in, how frequently, and why. Section 3 comprised 11 questions about sexual exposure and sexual exploitation. The fourth section had six questions about sexual activities performed in exchange for money or goods (attitudes and experiences). Section 5 had six questions about positive and negative experiences from using the Internet for love and sexual purposes. The sixth section consisted of 10 questions on online sexual problems (i.e., loss of control, addiction to online sex, sexually transmitted infections, and HIV). The five questions comprising the Internet Sexual Problems (ISP) measure appear in Table 2 and were scored on a 4-point Likert-type scale of problems (*none, some, few, big*). Before submission, the respondents were provided with a possibility to comment on the questionnaire in an open ended question (text box).

### Sample

The sample participating in this study (Table 1) came from the population who visited the Passagen.se and Spray.se web portals during the time for the study, from those who were members of the Playahead web community as of March 18 and/or who were enrolled in the University through the spring semester of 2009.

A total of 1,913 respondents completed the questionnaire. The majority of the respondents were recruited from Malmö University (955 respondents)

**TABLE 1** Sample Characteristics

Variable	Men ( <i>n</i> = 652)	Women ( <i>n</i> = 1250) <sup>a</sup>
Age ( <i>M</i> ± <i>SD</i> )	28.91 ± 12.67	28.12 ± 9.91
Residence (%)		
Greater Stockholm/Göteborg/Malmö	54.5	49.0
City or large town	28.2	29.6
Town < 10,000 people or rural	16.3	20.1
Born in Sweden (%)	87.8	90.1
Current living arrangements (%)		
Alone	32.3	29.9
Parents	34.1	21.0
Partner	28.1	43.0
Friend	5.5	5.8*
Living with children in household (%)	23.0	29.8*
Education (%)		
No high school	1.9	0.7
Junior high school	9.4	4.7
Senior high school	52.2	49.5
University or college	36.6	45.1*
Occupational status (%)		
Work	34.2	26.0
Study	47.7	62.9
Unemployed	11.8	6.0
Pension	2.8	0.7
Housework/parental leave	0.6	1.2
Sick leave	1.2	1.7
Other	1.4	1.3*
Religious identification (%)		
None	63.9	56.7
Islam	4.3	3.8
Catholic	2.6	1.6
Orthodox	1.7	1.7
Judaism	0.0	0.2
Lutheran	22.7	33.7
Other protestant	2.5	1.7
Other religion	2.3	0.6*
How religious are you? (%)		
Very	2.8	1.3
Somewhat	12.1	10.3
Not very	27.6	41.7
Not at all	57.5	46.8*
Sexual experience with (%)		
Always women	87.1	12.0
Mostly women, sometimes men	4.2	0.6
Both men and women	3.1	1.0
Mostly men, sometimes women	2.0	13.1
Always men	2.8	80.4
Never had sex	3.7	3.7*
Frequency of sex (%)		
Daily	8.2	5.0
Weekly	34.9	42.1
Monthly	32.7	34.1
Rarely	24.2	18.9*

*(Continued on next page)*

**TABLE 1** Sample Characteristics (*Continued*)

Variable	Men ( <i>n</i> = 652)	Women ( <i>n</i> = 1250) <sup>a</sup>
Number sex partners past year ( <i>M</i> ± <i>SD</i> )	2.94 ± 4.37	2.07 ± 2.62*
Frequency of masturbation (%)		
Daily	24.7	3.1
Weekly	41.0	24.7
Monthly	18.3	31.3
Rarely	5.1	27.9
Do not	3.5	13.0*

<sup>a</sup>*ns* may vary slightly because of some missing values.

\**p* < .001.

and from the Playahead.se web community (580 respondents). The number recruited from Spray.se and Passagen.se were 273 and 105, respectively.

The overall sample consisted of 66% women and 34% men. However, the sex ratio differed strikingly as a function of recruitment site (University, 78% women vs. 22% men; Playahead.se, 50% women vs. 50% men; Spray.se, 63% women vs. 37% men; Passagen.se, 42% women vs. 58% men). In the sample as a whole, the mean age for women was 28 and for men 29. This, too, differed quite a bit as a function of recruitment site (University, 29 years for both sexes; Playahead.se, 20 years for women vs. 21 years for men; Spray.se, 37 years for women vs. 43 years for men; Passagen.se, 36 years for women vs. 46 years for men). Approximately 1% claimed to be from a country outside Sweden.

## Analysis

Data were analyzed using the PASW statistics package (SPSS, version 18). The characterization of respondents into fixed and fluid was carried out using the category of “those you have sexually fantasized about,” the largest category. Fixed were those whose response was in the heterosexual or homosexual category (only men or only women), whereas those in the fluid category were in the mostly or both categories. Analysis was carried out separately for men and women using the  $\chi^2$  statistic (with Yates correction for discontinuity) for categorical data, and using *t* tests (independent samples, separate variance estimates where Levene’s *F* was significant) for continuous data. Significance was set at the 5% level (2-tailed).

## RESULTS

Data are presented in Tables 1 to 3. Table 1 illustrates the demographics of the sample, with two thirds of the sample being female, about one

**TABLE 2** Measures of Direction of Sexual Interest (%)

	Only Women	Mostly Women	Both	Mostly Men	Only Men	Fluidity
<i>Men</i>						
People you have been in love with	89.8	4.3	0.3	1.6	2.6	6.2
Who you have had sex with <sup>a</sup>	90.4	4.3	0.3	2.1	2.9	6.7
Who you have been sexually attracted to	86.4	8.0	0.6	1.7	2.8	10.3
Who you have sexually fantasized about	81.8	12.0	1.7	1.7	2.6	15.4
<i>Women</i>						
People you have been in love with	1.2	0.9	1.7	9.9	86.2	12.5
Who you have had sex with <sup>a</sup>	1.3	0.7	1.0	13.6	83.4	15.3
Who you have been sexually attracted to	1.2	1.7	4.9	28.5	63.7	35.1
Who you have sexually fantasized about	1.1	3.7	8.5	37.6	49.0	49.8

<sup>a</sup>Excluding 3.7% who have never had sex.

half born in one of the three major metropolitan areas of Sweden (Stockholm in the East, Göteborg in the West, and Malmö in the South) and 90% born in Sweden. The sample was young, with a mean age of 28, and a majority studying for a university/college education. As is the case in highly secular Sweden, a majority had no religious affiliation and little religiosity.

Table 2 illustrates the direction of sexual interest response patterns for men and for women, with the ranking of degree of fluidity for men and women ranging from the lowest level for people one has been 'in love with' (the highest level of involvement) to people the respondent has 'sexually fantasized about' (the lowest level of involvement) in the same order. On the Fluidity (FI) index (those who indicated that they were in the three middle categories, mostly/both sexes), the male categories were less than one half the magnitude of the female categories. Almost one half the women, but less than one sixth of the men, were fluid with regard to sexual fantasies about both sexes.

Table 3 illustrates the demographic and sexual variables distinguishing the fixed (exclusive heterosexual and exclusive homosexual interest) groups. For men and women, maximal fluidity was in the age range 25 to 35, with a general decreasing trend over age in women. For women, being born in Sweden, living in a larger population center, and being less religious were associated with significantly higher levels of fluidity, whereas for men, higher education was associated with higher levels of fluidity. For both, living with parents was significantly associated with lower levels of fluidity.



**TABLE 3** Demographic Variables Distinguishing Fluid and Fixed Respondents (%)

Variable	Men		Women	
	Fluid	Fixed	Fluid	Fixed
Age groups				
18–24	11.5	88.5	49.8	50.2
25–34	23.7	76.3	56.6	43.4
35–49	10.1	89.9	42.4	57.6
50–65	25.0	75.0**	37.3	62.7**
Where born?				
Sweden	15.4	84.6	51.3	48.7
Overseas	14.1	85.9	36.4	63.6**
Where living?				
Major metropolis <sup>a</sup>	15.1	84.9	54.7	45.3
Large city	15.4	84.6	49.2	50.8
Town < 10,000	16.2	83.8	39.1	60.9**
With whom do you live?				
Alone	17.7	82.3	54.5	45.5
Parents	8.6	91.4	40.8	59.2
Partner	18.8	81.2	48.9	51.1
Friend	27.8	72.2**	69.4	30.6**
Education				
Junior high school or less	8.2	91.8	44.8	55.2
Completed high school	14.2	85.8	47.9	52.1
University/college	19.5	80.5*	52.5	47.5
Religiosity				
Very religious	16.7	83.3	25.0	75.0
Somewhat religious	13.2	86.8	42.2	57.8
Not very religious	19.6	80.4	46.3	53.7
Not religious	13.9	86.1	55.4	44.6**
Discussed separating with partner?				
Yes	17.1	82.9	57.1	42.9
No	14.4	85.6	47.9	52.1**
Frequency of sex				
Daily	12.0	88.0	57.6	42.4
Weekly	11.9	88.1	56.1	43.9
Monthly	17.7	82.3	46.6	53.4
Rarely	16.8	83.2	43.2	56.8**
Frequency of masturbation				
Daily	20.3	79.7	69.2	30.8
Weekly	16.2	83.8	64.8	35.2
Monthly	13.5	86.5	55.8	44.2
Rarely	7.5	92.5	40.2	59.8
Do not masturbate	13.0	87.0	21.1	79.9**
Number of sex partners past 12 months	2.4 ± 3.6	3.1 ± 4.5	2.3 ± 2.9	1.9 ± 2.4**

<sup>a</sup>Stockholm, Göteborg, Malmö.

\* $p < .05$ , \*\* $p < .01$ .

Sexual variables distinguished the fixed and fluid groups quite a bit for women, and rather less for men. Fluid women were more likely to have significantly higher frequencies of sex and masturbation (neither variable was significant for men) and to have discussed separating from their partner more frequently. Numbers of sexual partners in the past 12 months showed

contrasting patterns in men and women: for men, it was the fixed category of men who reported higher partner numbers, whereas for women, the fluid category reported higher partner numbers.

## DISCUSSION

These data are subject to the limitation that the sample is based on an Internet questionnaire and in a Swedish population. Nevertheless, as we have noted, this is probably where we are likely to oversample people in a fluid gender orientation category. We have previously compared an Internet sample with a random population sample in a sexual survey in Sweden (Ross, Månsson, Daneback, Cooper, & Tikkanen, 2005) and know that Internet samples will tend to oversample the young, gay and bisexual, the urban, the single, and the better educated. The sample characteristics generally bear this out.

On the fluidity (FI) measure, the data indicate major sex differences in levels of fluidity between males and females, with females being more than twice as likely as males to report a fluid orientation. This was particularly noticeable with regard to sexual fantasies, with nearly one half of the women but less than one sixth of the men reporting that they had sexual fantasies about both sexes, which is in line proportionally with prior research in Sweden and Norway (Lewin et al., 2000; Træen, 1997). This may relate to greater stigma associated with same-sex behavior in men compared with women, or to male roles being more specified than female ones. These ideas find support in a Norwegian interview survey (Pedersen, 2005), which shows that fear of homosexuality is clearly lower among women than men, especially among younger women. Also mentioned there is the smooth transition between friendship-based intimacy and sexuality, and bisexual experimentation in combination with an otherwise heterosexual lifestyle.

Interestingly, maximal fluidity was in the age range 25 to 35. Of course, this could reflect cohort influences instead of developmental ones. However, rather than fluidity occurring (as has been previously hypothesized) primarily at adolescent ages, these data suggest that fluidity may occur later, and as men and women become socialized away from the more rigid prescriptions of adolescence and early adulthood. This is supported by the finding that living away from parents (and from the influence of family socialization and role models) is associated with greater fluidity. However, it suggests that fluidity is not about having unformed sexual preferences in adolescence, but about an emerging awareness in early adulthood. This coincides with Diamond's (2009) findings in her study of the erotic attractions of nearly 100 women over a time period of 10 years. Whereas many of them initially self-identified as lesbians, a decade later two thirds reported occasional attraction to men. The question is: had the same research been done with men, is it

likely or not likely that one would find the same fluidity in terms of the objects of desire?

For men and women, however, this study showed different patterns of fluidity. For women, being exposed to a more cosmopolitan and less religious tradition appears to be associated with greater fluidity, whereas for men it is higher education. There is some suggestion that it may be associated with nontraditional sex roles, given that the fixed category was associated with higher partner numbers in the past year for men, whereas for women it was the fluid category that was associated with higher partner numbers. Being exposed to a more cosmopolitan tradition also implies exposure to a gradually more permissive sexual climate, especially for women. Maybe one can suggest that the increased visibility in popular culture of female artists and actresses kissing each other or making out in public is a sign of normalization of fluid sexual expression for women in particular.

These data represent a first attempt to apply the concept of fixed versus fluid in sexual orientation, and to move beyond the issue of gender to the matter of how we might conceptualize men and women with a preference for a fixed partner gender as opposed to those with a more fluid partner preference. Although Ross and Paul (1992) suggested that this is a useful alternative approach to the partner gender-defined one studying issues involved in sexual partner choice, there has been little research on this subject. The usefulness of this alternative is to remove the focus from sex object gender and instead place it on flexibility of sex object choice (which may also see gender as immaterial). Allowing the conceptualization to concentrate on factors other than gender may illuminate an aspect that has been obscured from the research gaze, and particularly how fluidity of sexual object choice may be a function of variables other than partner gender.

The present data, however, do suggest that fluidity is much more prevalent in women than in men, and that rather than being associated with an unformed younger sexual preference, fluidity appears to be associated with a more mature reconsideration of sexuality associated with a more cosmopolitan and less traditionally focused context. However, these data are suggestive only, and await additional studies in greater depth to elaborate the usefulness of using the concepts of fluid versus fixed sexual preference to describe sexual partner preferences.

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## Use of Pornography in a Random Sample of Norwegian Heterosexual Couples

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**Abstract** This study examined the use of pornography in couple relationships to enhance the sex-life. The study contained a representative sample of 398 heterosexual couples aged 22–67 years. Data collection was carried out by self-administered postal questionnaires. The majority (77%) of the couples did not report any kind of pornography use to enhance the sex-life. In 15% of the couples, both had used pornography; in 3% of the couples, only the female partner had used pornography; and, in 5% of the couples, only the male partner had used pornography for this purpose. Based on the results of a discriminant function analysis, it is suggested that couples where one or both used pornography had a more permissive erotic climate compared to the couples who did not use pornography. In couples where only one partner used pornography, we found more problems related to arousal (male) and negative (female) self-perception. These findings could be of importance for clinicians who work with couples.

**Keywords** Couples · Pornography · Internet · Sexuality · Norway

### Introduction

Pornography can be defined in several ways and there is no agreed upon definition. This is because the phenomenon is socially constructed and contains culture-bound meanings and expressions that change over time (Haavio-Mannila & Kontula, 2003). What has been denoted pornography has varied over time: In the 1960s, so called “men’s magazines” that showed pictures of women’s bare breasts or pictures of naked women from a distance was considered pornography. In the 1970s, genitals were portrayed in pornography and, in the 1980s, pictures of people having sexual intercourse emerged. Despite the lack of an agreed upon definition, one common denominator seems to be that pornography contains sexually explicit material (Davis & McCormick, 1997) and shows naked or nearly naked bodies in genital contact/sexual acts (Davis & McCormick, 1997; Træen, Sørheim-Nilsen, & Stigum, 2006). However, to classify something as pornography is often self-defined and the line between so-called “soft core” and “hard core” pornography is often blurred as is the distinction between erotica and pornography.

In contemporary Western societies, pornography is easily accessible, partly because of advance in technology, such as cable TV and the internet, and partly because it has blended into art, music videos, and advertisements. Furthermore, it can be seen on prime-time television shows, such as *Big Brother* and the like. McNair (1996) discussed this process as “the pornographication of the mainstream.” Træen, Spitznogle, and Beverfjord (2004) found that, in Norway, a cultural change in attitudes toward pornography has occurred. They found that negative attitudes toward pornography increased with age and, in comparison, that the younger participants expressed much more positive views. Löfgren-Mårtenson and Månsson (2006) argued that the increasing accessibility of pornography has contributed to a process of normalization

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with regard to young people's attitudes and behaviors in relation to pornography. In accordance with Gagnon and Simon's (2005) sexual script theory, a cultural change is likely to have an effect upon people both on an interactive and a personal level, and this is probably what the above mentioned studies show. Sexual scripts guide our sexual behavior, possible and acceptable actions, proper settings, and presumptive and legitimate partners. What does this mean for couples? Do couples use pornography within their relationships? For what and to what extent? And what characterizes those who use or do not use pornography?

So far, studies focusing on couple relationships and pornography are rare. Most of the research in the field concentrates on the use of pornography among individuals and groups of individuals. For example, it is well known that men in the Nordic countries consume more pornography than women (e.g., Daneback, 2006; Haavio-Mannila & Kontula, 2003; Hald, 2007; Månsson, 2000; Træen et al., 2006). However, even if women do not seem to be as interested in pornography as men, the results from a Swedish study on internet and pornography indicated some interesting differences between women from different age groups. While only 4% of women aged 50–65 years reported having watched pornography on the internet, approximately 25% of the women in the age group 18–34 years reported having done the same (Månsson, Daneback, Tikkanen, & Löfgren-Mårtenson, 2003). On the whole, the study showed a distinct tendency that men and women have converging habits in the younger age groups when it comes to using the internet for sexual purposes, including an interest in online pornography. Research also shows that men primarily use pornography during auto sexual activity (Hald, 2007; Træen et al., 2006). Furthermore, it has been found that those who are aroused by pornography are likely to engage in sexual activities (e.g., masturbation, coitus) relatively close to the exposure (Davis & McCormick, 1997).

In a Swedish study, Månsson (2000) showed that women most often watched pornographic films that had been bought or rented by their male partner. Likewise, 75% of the women who had watched a pornographic film during the preceding 12 months had done so in the company of their male partner. This suggests that women's pornography consumption might be related to their male partners' pornography consumption patterns and emphasizes the importance of investigating the use of pornography by couples.

The effects of pornography use on the family and the relationship can be discerned as one area of interest for researchers. However, many of these studies have focused on the effect of one partner's use upon the other, and the consequences for the relationship (e.g., Schneider, 2000, 2002; Whitty, 2003), but not by researching couples. In the early 1970s, two studies focused on married couples and how they reacted to pornographic material/erotic stimuli. Byrne, Cherry, Lamberth, and Mitchell (1973) suggested that spouses

did not diverge on sexual arousal, judgment of pornography, and attitudes on censorship. However, the couples that were categorized as authoritarian seemed to become more sexually aroused, and also labeled more stimuli as being pornographic, compared to those categorized as egalitarian couples. In a study of 32 married couples, Mosher (1972) found that married high sex-guilt men reported an increase in positive feelings compared to married low sex-guilt men when viewing pornography. All these studies indicate an association between pornography consumption and the psychology of the individual. For instance, frequent negative thoughts about oneself may be dysfunctional (Haaga, Dyck, & Ernst, 1991; Verplanken, 2006). There is some evidence that those who often think negatively about themselves are more vulnerable to developing sexual problems, for instance related to reduced sexual desire (Træen, Martinussen, Øberg, & Kavli, 2007). Thus, it is assumed that habitual negative thinking about oneself will inhibit rather than promote sexual activity and use of pornography.

Apart from the two above mentioned studies measuring the response on erotic stimuli in married couples, no studies, to the best of our knowledge, have focused on the use of pornography within couple relationships. Because of the lack of prior research on couples, we interpret our results within the theoretical framework of Gagnon and Simon's (2005) sexual scripts. The purpose of this study was, thus, exploratory with the goals of (1) to gain greater insight into the prevalence of use of pornography to enhance the sex life in heterosexual married or cohabiting couples and how such experience is distributed within the couple; (2) to find out to what extent men and women in couples use pornography together or alone to enhance their sex lives; and (3) to identify any discriminating variables separating couples where one or both partners use pornography and couples that do not use pornography to enhance their sex lives, specifically regarding variables measuring differences in interpersonal communication, sexual experience, and habitualized negative thinking.

## Method

### Participants

The data presented in this study come from a representative sample of Norwegian married or cohabiting couples. Participants included 399 couples (798 individuals) aged 22–67 years. Data collection was carried out in March and April 2006 by means of self-administered postal questionnaires. Data were collected in two steps. First, trained telephone interviewers from the poll organization Synovate MMI contacted the subjects. The interviewers contacted 3,954 people within the target group, from which 1,214 (607 couples) agreed to participate. This gave a response rate of 31%.



Second, after the couple had agreed to participate, the questionnaires were sent in separate envelopes to each partner. Of the 1,214 who had agreed to participate, 830 returned the questionnaires. This gave a completion rate of 68%; however, 32 of these responses were from only one of the partners within the couple. These 32 were excluded. Accordingly, the net sample consisted of 789 individual responses or responses from 398 heterosexual couples and 1 homosexual couple. The homosexual couple was excluded from the analysis in this study.

The mean age for men was 46 years and for women 44 years. The participants were relatively well educated; approximately 50% reported to have at least 1 year of university study. Compared to figures from Statistics Norway 2006, the percentage of respondents with higher education was somewhat over-represented. Men in the sample reported a higher gross income than women. If we compare the self-reported income figures with tax return accounts among persons 17–74 years from Statistics Norway (2004), persons with low income were somewhat underrepresented in the sample.

As our questionnaire contained the same questions as previously used in a sexual behavior study among a representative sample of adult Norwegians in 2002, findings may be compared directly (Træen, Stigum, & Magnus, 2003; Træen et al., 2007).

As can be seen in Table 1, the coital frequency of the participants in our sample was lower than what was found in the sexual behavioral study. On the other hand, there was no significant difference between the studies in extra dyadic activity.

## Procedure

The landline phone sample was based on Synovate MMI's central register of landline phones in Norway and chosen according to stratum, county, and community type as criterion variables. Nearly all Norwegian households (about

97%) have a landline or home phone. The sample was drawn randomly within each stratum. In addition, another sample was drawn based on mobile phone numbers. The recruitment via mobile phones was made to account for the systematic bias that would occur in the data if the sector of the population which only uses mobile phones was denied the opportunity to participate. A total of 80% were recruited via landline/home phones and 20% via mobile phones.

The overall response rate, considering both steps, was just above 20% (798/3,954). This is marginally lower than other Norwegian self-completion people studies performed in this manner. We believe this can be explained by the requirement that both partners in each couple had to agree to participate in the survey. Studies show that non-response in self-administered questionnaire studies performed in this manner is coincidental and does not normally yield particular biases in the net samples (MMI, 1985–2006). Through step one and two, there was also a strict emphasis on anonymity, ensuring everyone understood none of their answers could be traced back to them.

This study was not designed exclusively to elucidate use of pornography and the participants were asked if they would like to participate in a study about couple relationships. In other words, the study was not presented to the participants as a sexuality study. The questionnaire included 47 questions related to social background, communication with the partner, sexual behavior, the relationship to one's partner, and living together. Fifteen of the 47 questions contained sub-questions. Some questions were developed specifically for this study, including questions about partnership communication on sexual issues and use of pornography. However, the majority of the questions have been used in previous studies, among other from the Norwegian Sexual Behavior Surveys (Træen et al., 2003); questions related to loss of sexual interest were adapted from the Swedish Sexual Behavior Survey (Lewin, 2000; Öberg, 2005), and questions on the frequency of various sexual experiences from an earlier MMI survey (MMI, 1997). In addition, the questionnaire contained a scale of negative thinking habits (Verplanken, 2006), assessments

**Table 1** Comparison of coital frequency and experience of extra dyadic activity in the MMI couple study and the Norwegian sexual behavior survey 2002

	Men		Women	
	MMI	Sex survey	MMI	Sex survey
Mean coital frequency <sup>a</sup>	5.6 ( <i>n</i> = 234)	5.2 ( <i>n</i> = 854)*	5.7 ( <i>n</i> = 273)	5.2 ( <i>n</i> = 1,344)*
Extra dyadic experience (percent) <sup>b</sup>	12.6 ( <i>n</i> = 231)	16.4 ( <i>n</i> = 850)	10.1 ( <i>n</i> = 268)	10.9 ( <i>n</i> = 1,346)

\*  $p < .001$

<sup>a</sup> Question: How often have you and your spouse/partner had sexual intercourse during the past 30 days?, with response categories 1 = several times per day to 8 = not at all

<sup>b</sup> Have you had other sex partners since having established your present marital/cohabiting relationship? The response categories were 1 = no and 2 = yes

of negative work-to-home interference (Geurts et al., 2005), and satisfaction with the division of domestic labor (Østlyngden, Storjord, Stellander, & Martinussen, 2003).

## Measures

### *Use of Pornography to Enhance Sex-Life*

The general use of pornography was measured by the question: *Have you and your partner used pornography to enhance your sex-life during the past 12 months?* The response categories were 1 = yes, 2 = no, and 3 = don't want to tell. The 13 persons who did not want to tell were excluded from the analyses.

### *Online Pornography*

The online use of pornography was measured by the question: *Have you during the past 12 months surfed the internet for pornography?* The response categories were 1 = yes, 2 = no, and 3 = don't want to tell. Four persons did not want to answer the question and were excluded from the subsequent analyses. Those who answered yes were asked if their partner knew about this and the response categories were 1 = yes, 2 = no, and 3 = uncertain.

### *Communication about Sexual Issues*

The participants reported communication with their partner about sexual fantasies/secrets desires, and about what the participants considered sexually positive, in their responses concerning the frequency of communication (*As regards your sexual life, how often do you talk to your partner about...*), and related evaluations of how important it was for the person to talk about these issues (*How important is it for you to talk to your partner about...*). The items regarding frequency were evaluated on a scale from 1 = never, to 7 = always, and the items regarding importance from 1 = not important, to 7 = very important. The variables concerning communication about sexual issues were calculated as the product of frequency and importance.

### *Frequency of Sexual Problems*

Frequency of sexual problems was measured by the question: *How often do you experience the following types of sex or sexual activity?* Among a total of 9 sub-questions, the subjects were asked whether they had experienced: *problems becoming sexually aroused or motivated* and *rejection when you*

*want sex*. The response categories were 1 = never, 2 = seldom, 3 = sometimes, and 4 = often/always.

### *Habitual Negative Perception of Oneself (Verplanken, 2006)*

This measure comprised a heading and six sub-statements: *Thinking negatively about myself is something... (1) I do frequently, (2) ...I do automatically, (3) ...that feels sort of natural to me, (4) ...I do without further thinking, (5) ...I start doing before I realize I'm doing it, and (6) ...that's typically "me"*. Respondents evaluated each of the six statements on a scale of 1–5, on which 1 = agree completely and 5 = disagree completely. Each item was reversed, summarized and calculated as a mean score for all the items. On the scale on habitualized negative perception of oneself, Cronbach's alpha was 0.94 for both sexes.

## Statistical Analysis

All statistical analyses were performed using SPSS/PC Version 13. To explore the differences in interpersonal communication, frequency of sexual problems, and habitualized negative thinking, between three groups of couples (both used pornography; he or she used pornography; neither used pornography), a discriminant analysis was performed. The variables were entered into the analysis by Wilk's lambda (Klecka, 1980). A lambda of 1 occurs when the mean of the discriminant scores is the same in all groups and there is no between-groups variability. Wilk's lambda provides a test of the null hypothesis that the population means are equal. The larger lambda is, the less discriminating power is present.

To meet the mathematical requirements for discriminant analysis, we examined the variables included in the analysis to ensure that there were no linear correlations between them (Klecka, 1980). As the sample comprised couple data and, thus, non-independent observations, we also examined the variables to ensure that they were not highly correlated between genders. No highly correlated variables were found and, thus, all variables were included in the analysis (two variables were moderately correlated; *Communication about what is good for you* ( $r = .42$ ) and *Communication about your sexual fantasies/secret desires* ( $r = .38$ ) and two were weakly correlated).

## Results

The majority of the couples did not use of pornography to enhance their sex-life during the past 12 months; however,

15% of the couples reported that they had used pornography for this reason (Table 2).

Regarding the use of online pornography, 36% of the men and 6% of the women reported use. The bivariate correlation between use of pornography to enhance sex-life and use of online pornography was moderate ( $r = .30$  for both genders;  $p < .001$ ). A total of 62% of the couples reported no experience with online pornography (Table 2). In 4% of the couples, both had watched pornography on the internet; in 32% of the couples, the man had watched pornography on the internet; and in 2% of the couples, the woman had done this. A total of 43% of the men reported that their female partner knew of the online activity, 29% reported that the partner did not know, and 28% were uncertain. The corresponding figures for women were 59%, 27%, and 14%. Men whose partners knew that they watched online pornography also reported that they found it easy to talk to their partner about sex (Table 3).

To explore the differences between couples where both, none, or only one of the parties reported having used pornography to enhance the sex-life in communication, frequency of sexual experiences, and habitualized negative thinking, a discriminant analysis was performed. The results from the analysis in terms of Wilk's lambda of the functions, the group centroids, and the standardized canonical discriminant function coefficients of the variables included in the model are presented in Table 4. The standardized canonical discriminant function coefficients show the relative association between the discriminating variables and the discriminant functions. Two discriminant functions were identified and both were statistically significant (see Wilk's lambda).

The first discriminant function was dominated by variables about interpersonal communication about fantasies

and needs. Thus, this discriminant function seems to express how permissive the climate for expressing personal sexual desires within the couple is. For this reason, the first discriminant function was labeled "Erotic climate". As can be seen from the magnitude of the standardized canonical discriminant coefficients, the second discriminant function was dominated by the variable on men's reported frequency of experiencing problems with sexual arousal, the women's degree of habitualized negative thinking about herself, and women's reported frequency of experiencing problems with sexual arousal. Thus, the results point to a couple constellation of a man with arousal problems and a female partner without arousal problems who frequently thinks negatively about herself. In accordance with this finding, the discriminant function was labeled "Dysfunctions".

In order to focus more on the group differences, the group centroids were studied. Group centroids are the mean discriminant scores for each group on the respective functions. The centroids summarize the group locations in space defined by the discriminant functions. This is visualized in Fig. 1, where the group centroids are plotted on a graph defined by the two discriminant functions. Couples who both reported pornography use grouped to the positive pole on the "Erotic climate" function and somewhat to the negative pole on the "Dysfunctions" function. Couples where neither reported use of pornography grouped in the direction of the negative pole, but close to the point of intersection between the two function lines, on the "Erotic climate" function and close to the point of intersection between the two functions on the "Dysfunctions" function. This indicates that, compared to couples who do not use pornography, couples who both use pornography are characterized by a more permissive erotic climate and have

**Table 2** The prevalence of pornography use among Norwegian heterosexual couples (past 12 Months, in percent) ( $N = 398$ )

	Use online pornography ( $n = 384$ ) <sup>a</sup>	Use pornography to enhance sex life ( $n = 386$ ) <sup>a</sup>
Neither use pornography	61.7	76.7
Both use pornography	3.9	15.0
Only she use pornography	2.1	3.1
Only he use pornography	32.3	5.2

<sup>a</sup> Lower  $N$  due to missing responses

**Table 3** Partners knowledge of online pornography use and perceived ease of communication about sex by gender (in percent)

	Men			Women		
	Not easy ( $n = 57$ )	Easy ( $n = 79$ )	$\chi^2$	Not easy ( $n = 7$ )	Easy ( $n = 15$ )	$\chi^2$
Partner knows of online pornography use						
Yes	22.8	58.2	17.02*	42.9	68.8	2.14
No	36.8	21.5		28.6	26.7	
Uncertain	40.4	20.3		28.6	6.7	

\*  $p < .001$

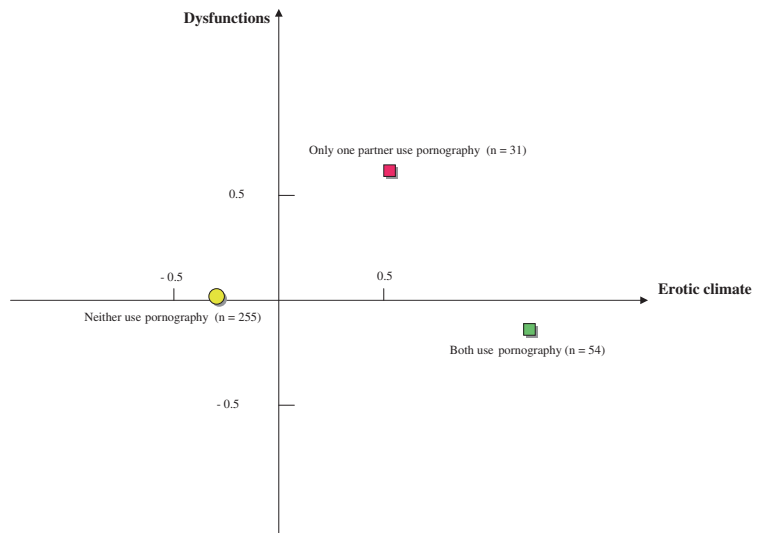
**Table 4** Selected variables connected to sex and life-together according to three distinct groups of respondents having used or not used pornography to enhance sex life during the past 12 months (discriminant analysis) ( $n = 340$ )

	Erotic climate	Dysfunctions
Pooled within group correlations between discriminating variables and standardized canonical discriminant functions		
Men: communication about your sexual fantasies/secret desires	0.83 <sup>a</sup>	0.05
Women: communication about your sexual fantasies/secret desires	0.68 <sup>a</sup>	0.19
Men: communication about what is good for you	0.66 <sup>a</sup>	-0.03
Women: communication about what is good for you	0.64 <sup>a</sup>	-0.10
Men: frequency of experiencing problems with sexual arousal	-0.01	0.56 <sup>a</sup>
Women: habitualized negative thinking about herself	-0.01	0.56 <sup>a</sup>
Women: frequency of experiencing problems with sexual arousal	0.02	-0.47 <sup>a</sup>
Men: habitualized negative thinking about himself	0.04	0.27 <sup>a</sup>
Canonical correlation coefficient	0.43	0.21
Wilk's lambda	0.78**	0.96*
Group centroids		
Both use pornography	1.0	-0.2
Neither use pornography	-0.3	-0.0
Only one partner use pornography	0.5	0.6

<sup>a</sup> Largest absolute correlation between each variable and any discriminant function

\*  $p < .05$ , \*\*  $p < .001$

**Fig. 1** The placement of the discriminant groups in terms of group centroids along the two discriminant functions



fewer problems related to sexual (male) or mental (female) function. The group where only one partner had used pornography, grouped close to the positive pole on both functions.

## Discussion

The results from this study provide new insight into the use of pornography in couples. Referring to the cultural change

represented by more positive attitudes toward pornography in the population (Træen et al., 2004), we have previously stated that this change in attitudes may have had an effect upon people both on a personal and a relational level. However, the majority of the couples in this study did not use pornography to enhance their sex-lives. Applying sexual script theory (Gagnon & Simon, 2005), this indicates that use of pornography is not part of the sexual script guiding sexual conduct in Norwegian heterosexual couples. Pornography may not be regarded as

acceptable within a “healthy” couple relationship, and could also be seen as interfering with love. Furthermore, the use of pornography within a relationship demands an active decision process. The subject needs to be brought up and negotiated, and this may be difficult in an environment where sexuality is surrounded by silence (Gagnon & Simon, 2005). As a consequence, pornography is primarily a solitary activity for most Norwegians. It is not part of the interpersonal sexual script applied to guide sexual conduct between committed lovers. Nevertheless, 15% of the couples reported having used pornography to enhance their sex-lives. To the best of our knowledge, use of pornography has not previously been studied in couple studies. It is, therefore, difficult to compare our results. The lack of similar studies to compare with also makes it difficult to indicate if there has been an increase in couple’s pornography use due to increasingly positive attitudes towards it.

Focusing on the relatively new phenomenon, to view pornography online, this was less prevalent among the couples compared to the general use of pornography to enhance their sex-lives. Furthermore, there was only a moderate correlation between the two activities, which may indicate a preference for one or the other.

On the background of the findings from the discriminant analysis, it can be assumed that the sexual activity in the three groups of couples was guided by three different sexual scripts. The plotting of the group centroids along the two discriminant functions gives an image of distinct systems of the erotic climate in the relationships and the dysfunctions. Of particular interest was how the non-users differed from the other groups regarding their erotic climate and how the “only-one partner user group” positioned itself in a different compartment than the other groups on the dysfunction axis.

We can regard the dyad as living together in a certain environment or climate. The climate the couple creates is likely to affect the individual directly. However, each individual enters into a relationship with his or her own personality, gender role expectations, and past experiences. This comes to influence the sexual scripts that are followed by the couple. A permissive erotic climate is likely to facilitate use of pornography, provided the individuals have pornography present in the intrapsychic scripts as a guide to achieve arousal and pleasure.

The couples who did not use pornography were found to have a less permissive erotic climate within their relationships and may be considered more traditional in relation to the theory of sexual scripts. At the same time, they did not seem to have any dysfunctions.

We found that those couples where both partners used pornography to enhance their sex-lives had an open erotic climate in terms of talking about sexual desires and fantasies and less dysfunctions. Perhaps this indicates an openness

concerning their sexuality and a willingness to experiment with it. This may have led them to overcome their intrapsychic and interpersonal scripts that promote or restrain their sexual repertoire and at the same time to brake with Gagnon and Simon’s (2005) notion that heterosexual sexuality is often surrounded by silence.

In those couples where one partner used pornography there was a permissive erotic climate. At the same time, these couples seemed to have more dysfunctions. Perhaps pornography is used in these couple relationships to overcome or compensate for the problematic aspects. However, the opposite could be true as well; that the use of pornography is the source of their problems despite a liberal erotic climate. A third explanation could be that they have no problems talking about their sexual dreams and fantasies, that their intrapsychic sexual scripts allow them to use pornography to enhance their sex-lives individually, but that their interpersonal sexual scripts disallow them, for various reasons, to incorporate pornography in the couple relationship.

We believe that the changes in attitudes to pornography and its consequences can be understood by applying the theory of sexual scripts and where changes on different levels have impact on the couple’s use of pornography to enhance their sex-lives as well as on the use of online pornography. A more positive attitude on the cultural level can make it easier to overcome one’s intrapsychic scripts (individual use of pornography) and, for some, change in both the cultural and interpersonal scripts can make it easier to overcome the intrapsychic scripts and to incorporate pornography in the couple relationship. Consequently, this may mean that the attitudes to pornography will be more liberal in the future. In addition, attitudes to pornography are also related to its content and changes in attitudes may vary with changes in content as well.

As studies on pornography use in couple relationships are scarce, we believe the current study to be an important contribution to the existing body of research as well as important knowledge for professionals who work with couples, for example therapists and counselors. To capture future changes in the use of pornography in couple relationships, the results may be used as baseline data for comparison. Future studies should also investigate in what ways various content of pornographic material relates to its usage within couple relationships.

We recognize that this study had several limitations. First, no definition of pornography was given to the participants. Thus, we do not know what kind of pornography the participants referred to. Second, the questionnaire did not include information about the time married or cohabiting. Therefore, we are unable to identify any changes in pornography use over time related to the length of relationships. Third, we do not know the thoughts and feelings of a spouse in relationships where only one partner use pornography to enhance the sex life.

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## Lust, Love, and Life: A Qualitative Study of Swedish Adolescents' Perceptions and Experiences with Pornography

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*There is a widespread concern in Western society about the visibility of pornography in public places and on the Internet. What are the consequences for young men and women, and how do they think about gender, sexuality, and pornography? Data was collected, through 22 individual interviews and seven focus groups, from 51 participants (36 women and 37 men aged 14–20 years) in Sweden. The results indicated a process of both normalization and ambivalence. Pornography was used as a form of social intercourse, a source of information, and a stimulus for sexual arousal. Pornography consumption was more common among the young men than among the women. For both the young men and women, the pornographic script functioned as a frame of reference in relation to bodily ideals and sexual performances. Most of the participants had acquired the necessary skills of how to deal with the exposure to pornography in a sensible and reflective manner.*

Pornography has been a heated topic in Swedish society for several decades, especially concerning its relationship to gender roles and sexuality (Forsberg, 2007). The societal context includes principles about gender equality and compulsory sex education since 1955, which emphasizes unrestricted rights to sexuality for both men and women. As a consequence, views about pornography are generally negative, though opinions do differ (Forsberg, 2007; Hammarén & Johansson, 2007). Nevertheless, Sweden became the second country in the world, after Denmark, to legalize pornography in 1971 (Månsson, Löfgren-Mårtenson, & Knudsen, 2007). The content and dissemination of pornography has, however, changed considerably since that time (Månsson et al., 2007; Månsson & Söderlind, 2004). One way to describe this transformation is that boundaries have been stretched. Pictures and images that society defined as pornography some decades ago now appear in mainstream media (McNair, 1996, 2002; Sørensen, 2007). At the same time, it is clear that the visibility and accessibility of hardcore pornography in public space in the Nordic countries has increased dramatically over the last decade, not least due to the Internet (Hirdman, 2007; Kolbein, 2007; Månsson, Danéback, Tikkanen, & Löfgren-Mårtenson, 2003). Television programs, advertisements, and the music industry exploit and play with pornographic

codes and scenarios. The pornography industry also launches and promotes its products via youth channels and Web sites. In other words, relationships have been forged between pornography and youth culture, which is somewhat of a new development. Even if it is a general aspect of popular culture, the so-called “mainstreaming” of pornography (McNair, 2002) has special significance for young people (Sørensen, 2007).

### Experiences of Pornography

Research shows that the experiences of pornography among young Nordic people are extensive. The results from an Internet-based study carried out among Danish, Norwegian, and Fenno-Swedish youth in 2005 demonstrated that 92% of the respondents had seen pornography at least once (Sørensen & Kjørholt, 2007). These results are consistent with other recent findings in the Nordic countries (e.g., Hægström-Nordin, Hansson, & Tydén, 2005; Hammarén & Johansson, 2002; Svedin & Priebe, 2004). Gender differences have been documented in several studies, suggesting that women are more critical of pornography than men (Hald, 2007; Svedin & Priebe, 2004). A recent study including more than 4,000 Swedish high school students showed that, compared with male students, a much larger proportion of the young women described pornography in negative terms such as “disgusting” and “sexually off-putting” (Svedin & Priebe, 2004). Other findings suggest that young men view pornography more frequently compared to young women (Hald,

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2007). At the same time, research has shown that there is a certain amount of ambivalence toward pornography among young women. For example, Svedin and Priebe indicated that, while the majority of the young women in their sample felt negatively about pornography, approximately one-third thought that it was interesting and sexually exciting. This pattern of ambivalence was also very clear in Berg's (2000) qualitative interview study of Swedish 15-year-old young women. The female participants said that they could get turned on by pornography but, at the same time, they were very clear that this was not something that could be talked about openly if one wanted to be respected.

### Public Concern

Svedin and Priebe (2004) identified a group of high frequency consumers of pornography among the young men in their sample (10%), who used pornography more or less daily. In addition, these men had more experiences of buying or selling sexual services compared to other men their own age. According to the researchers, these experiences were mediated by factors such as home background, personality characteristics, alcohol consumption, and current emotional and mental health. In addition, several studies have shown that young people are increasingly reporting experiences of sexual intercourse on the first date and a greater acceptance of more occasional sexual contacts (Forsberg, 2005; Hammarén, 2003; Herlitz, 2004). This could be seen as a continuous disconnection of what Giddens (1995), among others, called the romantic love complex, where sexuality is legitimated by love. These and other research findings, such as reports that teenagers who watched pornography were more likely to engage in anal sex than those not exposed to pornography (Häggström-Nordin et al., 2005; Hammarén, 2003; Rogala & Tydén, 2003), have caused widespread concern and public debate in the Nordic countries about the implications and consequences of pornography.

### Objectives and Research Questions

Young people's own voices are, however, seldom being heard in this debate. Our study attempted to remedy this by asking normative middle-class teenagers about their experiences, views, and relationships to pornography. We were interested in deeper knowledge and in-depth descriptions of young women's and men's experiences of pornography and how they talked about the subject. In which situations do they use pornography and what functions does it serve? What do young women and men think about the physical images and ideals displayed in pornography? What effects does

pornography have on their views of sexuality and gender relations? What similarities and differences are there between young women's and men's discussions about these issues?

### Theoretical Framework

Guiding our analysis was an interactionist and social-constructionist perspective on sexualities, sexual expressions, and behaviors (Weeks, 1986). A basic assumption of this perspective is that it is through interaction with others that we learn how to think and act sexually in different situations. We employed Gagnon and Simon's (2005) sexual script theory, which suggests that through sexual socialization we learn our scripts the same way actors learn their part in a play. We learn why some things make us feel sexy and others do not. Put simply, the script is a manual for the when, where, how, with whom, and why of sexuality. However, the sexual scripts are never static, and they also differ from culture to culture. They can vary according to the situation, who is involved, and in relation to the previous experiences that an individual brings into a sexual situation. An interesting question is what role pornography plays in the development and content of these scripts for young men and young women.

The scripts occur on different levels: cultural scenarios, interpersonal scripts, and intrapsychic scripts (Gagnon, 1990; Gagnon & Laumann, 1995; Simon & Gagnon, 1999). The increased exposure to pornography in society is an example of a cultural scenario that necessitates an increased reflexivity and strategic positioning both on an interpersonal and an intrapsychic level. But, at the same time, it seems unclear to which norms and values a person is expected to conform. On the one hand, the overall societal attitude in Sweden to pornography is negative; it is regarded as something dirty and distasteful, especially if you are a female user (Hammarén & Johansson, 2007). On the other hand, pornography is part of daily life nowadays (Månsson & Söderlind, 2004; Sørensen, 2007). Thus, it is something that one has to take a position on, to have an opinion about, even among those who choose not to use, or who consciously try to avoid, pornography. However, an individual's actual decision to use or not use pornography is rarely independent of the influence of others. On the contrary, in addition to more or less explicitly articulated cultural scenarios regarding pornography use, attitudes to it include relational aspects on different levels (Löfgren-Mårtenson & Månsson, 2006; Rogala & Tydén, 2003). Each individual belongs to, or moves within and between, different social worlds that consist of family life, friends, work, school, and leisure (Gagnon & Simon, 2005).



### Method

We chose a qualitative and phenomenological approach to elucidate our research questions that deal with the task of exploring meanings and consequences of pornography among young people. Bancroft (1997) pointed out the importance of understanding the cultural meaning and significance that is connected to sexuality, which we believe to be of special value when it comes to pornography as a research area. The ambition of qualitative studies is to explain and illuminate the character of a phenomenon and its meaning (Starrin & Renck, 1996; Widerberg, 2002), which is relevant to explore young people's experiences and opinions of pornography. We used both focus groups and qualitative interviews to obtain in-depth information from participants. We wanted to gain access both to the more detailed individual experiences and to the same-sex groups' values and experiences related to pornography. By using both of these research methods we were able to compare, triangulate, and validate the data that we collected (Morgan, 1998; Wibeck, 2000). Nevertheless, the aim was not to make generalizations about youth in general, but to gain comprehensive knowledge about this sample of young men and women. An advantage of using both methods is that because of the focus group discussions, we were motivated to ask more detailed questions in the individual interviews; the interview data also generated questions we incorporated into the focus groups (cf. Wibeck, 2000).

### Focus Groups

A focus group is commonly defined as "a research technique that collects data through group interaction on a topic determined by the researcher" (Morgan, 1996, p. 130). The rationale behind using focus groups in our case was to gain access to young people's discussion about pornography and to explore the norms and values in relation to pornography among the group members. According to Morgan (1998), focus groups are suitable when the aim is to gain insight into how people think and talk. In this study, we were particularly interested in possible differences and similarities between the young men's and women's conversations about pornography (Wibeck, 2000). For this reason, we aimed for gender homogeneous groups. Finally, focus groups are also an appropriate approach when there is a need for a friendly and respectful research method and when the topic is sensitive (Morgan, 1998).

### Individual Interviews

The aim of the individual interviews was to explore, understand, and identify different properties and

meanings of pornography for the young men and women (Starrin & Renck, 1996). In the interviews, we wanted to get more detailed and unique information about how each individual female and male participant talked about their experiences. Also, we wanted to listen to how the young men and women expressed and described their experiences and opinions without being interrupted or influenced by other people in the room (cf. Wibeck, 2000).

### Site and Research Participants

We decided to recruit both male and female participants, ranging from 14 to 20 years of age, to understand how gender and age matter in young people's talk about pornography. Because some of the participants were under 15 years of age, we also needed parental consent, according to the ethical guidelines and rules developed by the Swedish Research Council in cooperation with the Centre for Research Ethics and Bioethics at Uppsala University (Eriksson, 2000). The study was conducted in accordance with four ethical principles related to information, consent, confidentiality, and usefulness.

The participants were recruited from four different schools in Southern Sweden. We sent a letter with study information to the parents of the minors (<15 years old). All approved their children's participation. The remaining students were asked by their teachers and by invitations from the researchers during school visits to participate in the study. Two of the schools were situated in a mid-sized town, one in a suburb outside a major city, and one in a small village. The social composition of all four schools was characterized as lower middle class or middle class. Schools that were considered problematic, with high rates of truancy and other types of social limitations, were not included. This was in line with our ambition to capture the meaning of pornography among normative middle class young people. There was representation of students with an immigrant background, although the majority of the participants were ethnic Swedes.

There were 73 participants who volunteered and completed the study. We conducted seven focus groups, each comprising 6 to 10 participants (24 young women and 27 young men). There were four groups involving 14- to 16-year-olds, and three groups of 17- to 20-year-olds. With one exception, all of the groups were single-sex (one of the male 17-20 groups included one woman). In addition, we conducted 22 individual interviews with 10 young men and 12 young women, evenly distributed along the age continuum between 14 and 20 years.

### The Interview Process and the Analysis

An interview guide was employed as a checklist for the topics and issues to be covered. We used the same

guide in both the focus groups and in the individual interviews (see the Appendix). Themes were constructed according to the research questions: the participant's own experiences of using pornography, how and in which situations pornography was used, and the potential effects that pornography might have had on themselves and on others. We also included an introductory theme concerning conceptions and experiences of similarities and differences between sexuality, erotica, and pornography. This theme was primarily used as a gateway to the individual interviews and the focus group discussions and therefore these results are not presented in this article. All interviews and group sessions were conducted on the premises of the respective schools. Both the focus groups and the individual interviews took approximately one hour. The sessions were recorded on audiotape and thereafter transcribed verbatim. In anticipation of the processing and analysis of the interviews, a synopsis was developed for each informant and each group session. Thereafter, an initial structuring of the themes in the material was conducted, which was followed by more extensive and in-depth description and analysis made by both of the researchers. The patterns that gradually emerged in the various portions of the material were then positioned in relation to other elements and to the dataset as a whole. In the process of analysis we consistently worked in a reflective manner, where we thought it was an advantage to be researchers of both sexes. Several methods have been applied: categorizing the text along different themes, condensing the individuals' statements into meaning-concentrations, and interpreting the text against the background of previous research and theoretical concepts.

A fundamental ambition of the analysis was to identify patterns and common themes, while at the same time allocate space for ambiguity and complexity. However, there was one notable difference between analyzing the individual interviews compared with the focus groups. In the latter, the group as a unit was the focus of the analysis (Wibeck, 2000). Thus, the analysis primarily followed an inductive model, fluctuating between theoretical concepts and the emergent categorization of the data, and implied a move from the purely descriptive, to gradually analyze and develop categories at a higher level of abstraction. Validity in qualitative research is about credibility and describing the approach and the purpose of the study (Kvale, 1997). In this case, we have aimed for an open account of these, even though we are aware of the risk of obtaining results that agree with preconceived conceptions.

#### **The Researchers' Influence on the Results**

As a researcher in the field of sexuality, it is important to review personal starting points and conceptions. Reflections concerning how sexuality is shaped

differently according to age, gender, and social class become important. The aim of the researchers, one male and one female, both of whom were middle-aged, was an open and non-judgmental attitude to attain a constructive and permissive atmosphere in the interviews and the group sessions. Nevertheless, we were aware that our age and gender status could potentially make the participants too embarrassed to discuss a topic seen as charged and sensitive. In addition, some of the participants may have felt more at ease with an interviewer of the same, or the opposite, sex. Thus, we listened with respect and carefully avoided any leading questions. We also maintained a more reserved stance in the focus groups than in the individual interviews to capture how the participants talked about the subject. In the focus groups and in the individual interviews, we used follow-up questions from our interview guide to clarify some of their comments, and to elicit more information.

#### **Presentation of the Results**

The results are presented as themes, connected to the patterns that emerged during the process of analysis. Each theme starts with an overview of the results that were consistent across the focus groups and the individual interviews. Thereafter, the findings are presented separately for the focus groups and the individual interviews, even though they shared many characteristics. The focus group data contained, to a greater extent, opinions that mirrored or contradicted cultural norms negotiated among the participants. In the individual interviews, more detailed or unique personal experiences are described in the participants' own words, without influences from the group.

#### **Results**

##### **“Girls are Getting the Wrong Picture of Us Guys”: Gendered Aspects of Pornography**

All of the young participants reported that they had come into contact with pornography, voluntarily or involuntarily, primarily on the Internet. They had either gone looking for it themselves or had encountered pornographic textual messages or pictures without actively seeking these out. However, compared with young women, men were much more likely to actively seek out pornography, irrespective of age. The young women in our study who did consume pornography also stated that they did so infrequently.

**Focus groups.** The young men spoke openly in the groups about their experiences of pornography. Their statements were without shame, embarrassment, or hesitancy, and the atmosphere was playful and humorous.

The general opinion was that everyone, especially young men, was in contact with pornography from a very young age. However, they sometimes disagreed about the age young men usually first experienced pornography:

- R: How old were you when you first got in contact with porn?  
 M2<sup>1</sup>: I don't remember. Seven years or something [laughing]!  
 (Everyone starts laughing)  
 M2: No, but 13–14 maybe...  
 M3: I was 10–11.  
 M8: It depends if you had it [porn] at home or not.  
 M1: Or when you discovered your "dick"!  
 R: When did you do that then?  
 M4: He has not done it yet [laughing]! (Male focus group, aged 17–20 years)

The male participants agreed that young men today do consume pornography. However, opinions differed regarding the extent of pornography use. The atmosphere was more charged and uncertain in the younger male groups, including questions such as, "Do all young men really consume porn everyday? And for several hours?" This was a topic of some interest. Some of the male group participants were anxious to provide a balanced picture of their consumption:

- M4: Girls are getting the wrong picture of us guys. They think that we are looking at porn all the time.  
 M3: Well, some of us might look...  
 M4: Yes, some think it is *macho*... Those who don't commit themselves to school work... (Male focus group, aged 14–16 years)

The discussion in the female focus groups was more hesitant and negative toward pornography consumption. However, if a participant expressed a contrary opinion, the general view might shift and new, different statements surfaced in the groups. Some argued that women do not like pornography because "it is not allowed in society" for women to do so. Others claimed that it is because pornography is produced in a way that does not attract women (e.g., porn is made by men, for men). Many ambivalent feelings and opinions were expressed:

- F1: I think that a lot of girls do get turned on by porn...  
 F2: But I have never felt that! Actually, I have never seen a porn movie. I saw the movie *Language of Love*, but I didn't like it. (Female focus group, aged 14–16 years)

In addition, some of the female participants maintained that pornography consumption among young women depended on the context. For example, when

in the company of somebody they liked and felt secure with, most often a boyfriend or a girlfriend, some of them would consider viewing pornography. Among our participants, only a minority of those between 17 and 20 years of age said that they had watched pornography together with a partner. No participants in the 14- to 16-year-old groups reported this experience. Nevertheless, this was discussed in the female focus groups. Some pointed out that they thought that love and sexuality belong together and that this was a reason they did not like pornography. Pornography was perceived as sexuality without emotions and too "rough":

- F2: It [porn] should be nicer, kind of.  
 F1: With lit candles.  
 F3: Yes, less hard, quite simply!  
 F2: Yes, they almost hit the girls in the porn movies. (Female focus group, aged 17–20 years)

**Individual interviews.** There was considerable hesitancy and ambivalence in the individual reflections of the young women, as well as in the groups. Again, if the situation was right, which means if they were together with a partner or someone they like, some of the young women said they might consider viewing pornography. This pattern may also explain why some of the positive views expressed about pornography were more conditional. One young woman reflected:

- I don't know, but actually I think I would do it. I haven't done it, but maybe. (Female interview, aged 18 years)

On the other hand, feelings of doubts and insecurity were expressed among the young women. Looking at pornography together with a partner, when one was lacking in sexual experience, might lead to unfulfilled expectations. Some of the participants were also afraid that their potential partner would be disappointed:

- You might be a virgin, and then having sex together after watching porn. It might be better in the porn movie then... (Female interview, aged 15 years)

The young men who did consume pornography stated that they regarded these experiences as something completely different from sexuality experienced in more conventional situations and relationships. They discussed the subject more thoughtfully in the individual interviews than in the focus groups. In addition, several of the young men stated that they were tired of pornography and also of the portrayals of the stereotypical female body. This was confirmed by experiences reported by the young women:

- There are guys that are sick and tired of silicone breasts and do get tired of all this plastic (in porn movies). (Female interview, aged 18 years)

<sup>1</sup>M = male participant, F = female participant, and R = researcher. The numbers indicate different participants in the focus groups.

**“You Might Learn a New Way of Having Sex”:  
Reasons for Pornography Consumption**

In our study, we identified three main functions of pornography in young people’s lives. These were pornography as (a) a form of social intercourse, (b) a source of information, and (c) a stimulus for sexual arousal. Pornography as a form of social intercourse was primarily focused on the interaction between the viewers.

**Pornography as a form of social intercourse.**

*Focus groups.* Looking at pornography together with friends, either on the computer or in movies on television, was a common experience, according to the focus group discussions. Sometimes these situations occurred during meetings for computer games, a so-called local area network:

M1: Half of the guys were playing games . . . half were looking at porn.

M7: I have never seen as much porn as then! (Male focus group, aged 17–20 years)

These situations were, for the most part, not discussed as involving sexual arousal. Instead, the young men described these shared experiences as a way of testing one’s own and others’ reactions to the actors’ and actresses’ behaviors, appearances, and bodies. The jokes, laughs, and sighs became a normative guideline for the young and perhaps sexually inexperienced viewer. This phenomenon was recognized and discussed in the female focus groups as well:

F1: They probably sit on the sofa, making fun of the women in the porn movie.

F2: Yes, (say the other girl!) even if the guy hits the woman they say: “well, she likes it!” (Female focus group, aged 17–20 years)

**Pornography as a source of information.**

*Focus groups.* The content of the pornography was usually described in both the male and female focus groups as rather violent and rough. Nevertheless, some of its substance also functioned as a source of information for the young people. The discussions illustrated that pornography as a source of information was critically reviewed by the young people. Sometimes it was perceived as a reliable source; more often, it was judged as exaggerated, distorted, or downright false:

Sure, you can get some tip-offs by pornography. . . . But, they do it completely brutally! Ok, you can do it fast, kind of. . . . But in the porn-movie they do it ten times faster! (Female focus group, aged 17–20 years)

*Individual interviews.* Information on sexuality is acquired in different ways, depending on access to sources

and consideration of what is reliable and useful, which, in turn, depends on one’s previous experience. Some of the participants explained that behaviors could be depicted in pornographic movies that they did not know about beforehand—for example, different sexual positions and techniques about how to satisfy a partner sexually:

We didn’t learn that much in school about sex education, so one has to look in porn magayyyyyyzines. But the only good thing is that you might learn a new way of having sex, kind of. . . . (Male interview, aged 18 years)

**Pornography as a stimulus for sexual arousal.**

*Focus groups.* The third function of pornography was as a stimulus for sexual arousal, either alone or in the company of someone else. This was primarily described as a private activity but, all the same, a subject that was permissible to talk about in the focus groups. Overall, the young men described becoming sexually aroused by pornography more often than the young women did, and they also said that they used it for this reason. Sexuality was often described by the men as a frustrating need that had to be satisfied. In addition, the general opinion was that young men are more interested in sex (and, therefore, in pornography) than women:

M1: Well, you know . . . we as guys are horny all the time. . . . [ . . . ]

R: Is it really that way, or is it something that guys just are saying?

M1: Not all the time. . . .

M6: No, but it is not an awkward thing to say if you’re a guy . . . compared to if you were a girl

M2: It is a funny thing to say! (Male focus group, aged 14–16 years)

*Individual interviews.* The male participants were more taciturn and reserved in the individual interviews. They still talked about pornography consumption without expressions of shame or guilt, however, and often described it as an easy way of getting sexually satisfied:

Sometimes I just want to get rid of the energy in my body. . . . And then it [porn] is a fast way of doing that! Afterwards I can do other things . . . go to school, exercise and so on. (Male interview, aged 15 years)

As mentioned earlier, the women in our study were generally more ambivalent regarding pornography than the men. It is important to point out that some of the young men also told us that they were not sexually excited by pornographic pictures or films but, concurrently, said that this was expected of them as men. Thus, just as the women felt that they were

expected to react to pornography in a negative way, some of the men articulated the opposite:

It is humiliating...that is the way I see it. And when you see a porn movie with six guys and one woman... How fun can that be? (Male interview, aged 18 years)

### **“I Save a Little Tuft to Show That I Am a Woman”: Ideal Bodies and Perfect Performances**

Our participants described what we called a “pornographic script” for physical appearances and sexual performances. Participants of both sexes agreed that women and men in porn were portrayed unequally in sexualized images in the media, particularly in pornography.

**Focus groups.** The task of women in pornographic movies was described by both the female and male participants as “to satisfy the men’s sexual needs.” The image of the woman was that she is less valued than the man. This opinion was criticized by both the young women and the men, across the different age groups:

M1: It is kind of weird...  
M2: Girls are inferior.  
M3: It doesn’t have to be like that, but it is often that way... Well, the guy says to the girl: “Do that and that!” Most of the times the girl does everything for the guy! (Male focus group, aged 17–20 years)

In particular, the young women reacted negatively to what they perceived as a lack of sexual pleasure portrayed by the women acting in pornographic films. They were also critical of the physical ideals displayed in pornography. Some of our participants, again mostly the young women, encouraged active involvement against pornography. They encouraged each other in the groups to stand up against men’s persistent demands about how to look and act sexually. However, the young men stated that they do not always perceive the female physical ideals portrayed in pornography as attractive, even if these are supposed to be sexually arousing for the average male:

M1: I mean some of the women in porn videos are totally shabby...with wave permanents and bodies destroyed by too much plastic surgery! They are neither attractive nor good looking girls! (Male focus group, aged 14–16 years)

A topic of heated discussion in the male focus groups was that in pornographic movies, it seemed as if men were always sexually willing and able to perform sexually for hours. How was this possible? How can

one stay aroused and erect for so long? The explanations put forward varied:

M1: Usually the male porn actors are gay.  
R: So?  
M1: That is why they can go on for hours. They don’t feel horny with women. (Male focus group, aged 17–20 years)

We were confronted with two parallel, intersecting discourses in the interviews: one that critically described the physical ideals in pornography and one that highlighted the impact that these ideals have on young people. One example cited by the participants was the importance of having not only shaved axillae and legs, but also shaved genitals.

**Individual interviews.** In the individual interviews, we obtained more detailed information on feelings and experiences of shaving one’s body, particularly before a potential sexual encounter. It is important to mention that it was not only young women who shaved their genitals. Young men also shaved their entire bodies, even though masculinity was ultimately measured by performance. However, it was the young women who expressed concerns regarding this topic:

If I meet a guy for a one-night-stand... then I am afraid that he will say “no” because I have hair between my legs! But, I save a little tuft to show that I actually am a woman and not a ten year old girl! (Female interview, aged 18 years)

Overall, it was the young women that admitted being influenced by the physical ideals displayed in pornography. They expressed some insecurity about their own bodies and about whether they would be considered adequate in the eyes of their sexual partners. They worried that they would be compared against the physical standards of the women in pornography and that they would be found lacking. A young woman recalled a situation when she was watching a pornographic movie together with male friends:

Q: How did you feel then?  
F: Well, like very unattractive...you can say that you aren’t influenced by this, but no one can resist. You do want to have these ideal bodies.  
Q: Why does one think like that?  
F: Well, even though I don’t think it is good looking to have huge silicone breasts, but...everyone in the movies have those and they all have shaved bodies...so, well...they have what is regarded as gorgeous bodies. (Female interview, aged 15 years)

The young men stated that they were not affected by these physical ideals. The young women, however,

thought that the men were not willing to admit this and maintained that “nobody can resist the influence of these ideals.” Apart from being compared in appearance, the women were also concerned that young men would expect them to act in a similar way to the women in pornographic movies. Engaging in anal sex was cited as one example of this, clearly influenced by porn, the female participants argued. A young woman related an episode when her boyfriend wanted to try anal sex:

Well, I told him that neither I nor my girl friends want to do that [anal sex]. But because I knew that the boyfriend to one of my girlfriends also wanted to try it, I told my boyfriend to do it with him! (Female interview, aged 19 years)

However, most of the male participants in our study did not agree with the views of the female participants. They fervently denied, both in the focus groups and in the individual interviews, that they wanted to do everything that is shown in pornographic movies. Furthermore, they asserted that sex in real life is something completely different and they can keep the two things apart from each other. Once more, we see how pornography differs from the participants’ experiences of sexuality in more conventional relationships.

#### “Self-Esteem is Important”: Navigation in the Pornographic Landscape

We use the metaphor of navigation to describe the participants’ accounts of having to sail upwind between contradictory norms and values regarding sexuality in the pornographic landscape. Even though most of the participants declared that pornography does affect everyone to some degree, especially when it comes to physical appearance and sexual performance, they argued that the majority managed to avoid becoming psychologically harmed. In other words, they navigated successfully and the older they became, the easier this was to do.

**Focus groups.** With increasing age, the curiosity about pornography diminished, and its role was downplayed in the young participants’ lives; they reported that life experiences, rather than specific sexual experiences, contributed to experiences with pornography becoming more nuanced and defused. Most of our participants, regardless of gender, said that young people’s interest in pornography decreased with age:

M2: I do pornography myself instead of looking at it nowadays (laughing)!

M4: Yes, that is pretty common when you get older.

Q: So you don’t look that much if you have a partner of your own?

M4: That is the way it is. (Male focus group, aged 17–20 years)

Our participants also pointed out the importance of including pornography in sex education in schools to reach those who do not have anyone else to discuss the subject with, as well as those who believe the subject is important and interesting to discuss.

**Individual interviews.** Our participants reported that their self-confidence and self-esteem increased as they grew older. In addition, they found it easier to assert their own sexual preferences and sexual desire:

It is important to be able to say that I don’t want to do that! And if you don’t respect my wishes, so . . . well, drop off! But, also it’s important to sometimes stretch your borders and try . . . because then you know more about what you like and dislike. (Female interview, aged 19 years)

Our participants also described anxiety that pornography consumption could lead to abuse for some people, even though none of them declared that they were at risk of this. They told us about a small group of young people, young men in particular, who were at risk. According to descriptions from our participants, these individuals suffered from social isolation and loneliness, which, in turn, may lead to vulnerable situations:

If you have poor self esteem . . . and don’t dare to date girls in real life. . . . Then, if you are drinking beer and looking at porn instead . . . and get the idea that you just can go out and fuck a girl. Then you will end up with a thick ear! (Male interview, aged 18 years)

The majority of our participants stated that they could handle the exposure to pornography satisfactorily because they have friends and close relationships with family members. In addition, they had positive life experiences that made it possible to develop good self-esteem:

It is important to have someone to talk with . . . and to have a family as a support and someone in the same situation. And of the same age. . . . And not being alone. Friends are very important! (Male interview, aged 20 years)

## Discussion

Overall, the young participants seemed to enjoy talking about this subject, both in the individual interviews and in the focus groups. Initially, we believed that the interviews would provide an opportunity to talk more openly and freely about the subject. However, the topic seemed easy for participants to discuss both in the focus groups and in the interviews. Indeed, we noted a tendency for participants to speak more unreservedly in the focus groups and also for individuals to sometimes change perspective on a subject in response to comments

from others in the group. This has also been reported by other researchers using focus groups (e.g., Wibeck, 2000). The openness in both the focus groups and in the individual interviews could also be a consequence of the research situation. The participants were expected to discuss pornography in front of the researchers. Furthermore, they seemed to appreciate the opportunity to talk about a subject that they valued as important and absorbing. Similar observations have been made in previous sexuality studies (e.g., Lewin, 1998; Löfgren-Mårtenson, 2005). The interview situation can become an occasion to systematize and organize experiences and to create a context and overview about one's own sexual conduct.

### Normalization and Ambivalence

The results from this study illustrate that the cultural script concerning pornography seems to have changed from having been regarded as shameful and morally reprehensible to something socially accepted. Primarily due to the Internet, pornography has become an integral part of the everyday life of young people, which is supported by other research (e.g., Häggström-Nördin et al., 2005; Hammarén & Johansson, 2002; Sørensen, 2007). Consistent with several studies (Häggström-Nördin et al., 2005; Hald, 2007; Svedin & Priebe, 2004), actively seeking out pornography was significantly more common among the young men than among the women, irrespective of age. One reason for this could be the cultural context (Gagnon & Simon, 2005), where it is more socially accepted in Western society for men to consume pornography than it is for women (Hammarén & Johansson, 2002). Historically, consuming pornography is a male act and seldom done by women; this may reflect Gagnon and Simon's "homosexual reinforcement of masculinity" (p. 201). Heterosexual masculinity is then a central part of the ethnography of pornography and also illustrates the connection to the social world of roles, values, and social structure in society.

On the whole, the young women in our study expressed a restrictive, hesitant, or critical stance in relation to pornography. However, they also expressed ambivalent feelings similar to the female participants in Berg's (2000) qualitative study, who described physiological reactions associated with sexual arousal concurrent with negative feelings toward pornography. This could be a consequence of the current cultural script, which makes it more difficult for women to acknowledge a positive attitude toward pornography (cf. Berg, 2000; Hammarén & Johansson, 2007). However, some of the young men in our sample were also ambivalent, which may, in part, be a response to the societal context, which has generally negative attitudes to pornography (cf. Hammarén & Johansson, 2007). On the other hand, the young participants' ambivalence could also be understood as a substantial critique of the content of

pornography that usually is produced by men, with men as potential consumers (Månsson & Soderlind, 2004).

Our study indicated that the so-called love ideology (Giddens, 1995), where love legitimates sexuality, still seems to have a rather firm grip on our participants, especially on the young women. Pornography was perceived by the female participants as sexuality without emotions, whereas the male participants seemed far more open to pure sex or to sex just for the sake of it. This pattern may also explain why some of the women's positive views on pornography were more conditional. If the situation was right, which meant if they were together with someone they liked, they might consider viewing pornography. In the spirit of Gagnon and Simon (2005), the sexual potential in pornography is defined as appropriate for women if consumed in a socially accepted environment or with a socially accepted co-consumer. Another way of understanding our participants' different reactions and descriptions of their experiences of pornography is to see how they defined situations as "sexual." According to Gagnon and Simon, the basic question in the integration of sexual elements in the social script is about "who does what to whom in what kind of relationship, and to what consequence" (p. 206). Among our participants, it seemed that their individual scripts differed in varying degrees, regardless of age and gender, depending on how much they related to the cultural level, where violent or unequal sex is not socially accepted in Swedish society.

### The Pornographic Script

This study highlighted the functions of the pornographic script as a frame of reference for young people in relation to physical ideals and sexual performances. The participants agreed that women and men in pornography are portrayed in an unequal manner. They were also critical of the physical ideals displayed in pornography, foremost for women who are supposed to be thin with large, surgically enhanced breasts. According to their reports, these ideals do influence young people. One example of the impact of physical ideals was the importance of shaving one's genitals. Even though men were seen as also measured by these ideals, they were primarily influenced by performance ideals of the actors' performances in pornographic movies. Consistent with previous studies (Häggström-Nördin et al., 2005; Hammarén, 2003; Rogala & Tydén, 2003), anal sex was cited as one example of this. Even though our participants agreed about pornography's influence on young people, other studies have suggested that young people usually think that this is something that concerns others and not themselves (Häggström-Nördin et al., 2005; Rogala & Tydén, 2003). More detailed knowledge about how and to what degree these ideals influence young people in the long term would be interesting research questions to pursue.

### Navigation in the Pornographic Landscape

Our findings indicate that young men and women nowadays have to cope with different parallel norms regarding sexuality. Forsberg (2005) discussed the task of acting in congruence with what is seen as appropriate behavior as influenced by different factors (e.g., gender, age, family culture, and religion). Several of our participants emphasized the connection between sexuality and love and argued that sexuality in real life was more exciting than pornography; some of the male participants also stated that they were tired of pornography. Possible consequences of early extensive consumption of pornography in relation to interpersonal and intrapsychic scripts are important to investigate. Further research including young adults who have grown up in the pornographic landscape might contribute to our understanding in this area.

Our findings suggest that most of our participants had acquired the necessary skills of how to navigate in the pornographic landscape in a sensible and reflective manner. The way they reasoned about the exposure and impact of pornography indicated that most of them had the ability to distinguish between pornographic fantasies and narratives, on the one hand, and real sexual interaction and relationships, on the other. To validate these results might require another research method, such as field observations or interviews with other people (e.g., parents and teachers).

The participants described a small group of individuals that they judged as being at risk for abuse of pornography, even though none considered themselves in this group. To admit problems in a focus group or in an individual interview might be difficult, and those who are at risk might not volunteer to participate in a study such as this. This "at-risk" group, however, warrants attention and further research. Notwithstanding this, daily consumption of pornography is not automatically problematic or risky. Research indicates that the potential problems of high-frequency porn consumption depend on the situation and the circumstances in which it is consumed (Svedin & Priebe, 2004).

### Limitations

This qualitative study has several limitations. First and foremost, it is not possible to generalize from the results since the sample was not random and, in addition, recruitment was restricted to schools in lower middle-class or middle-class areas. The young men and women volunteered for the study and we do not know the views of those who did not want to talk about the subject. However, through using a combination of focus groups and interviews, we obtained a rather varied and multifaceted sample that provided us with the opportunity to explore and analyze the different navigational strategies in relation to pornography used by the

participants. Nevertheless, it would be of interest to conduct further research with more diverse samples. Another limitation is that we did not collect demographic data from the participants. If we had done so, we might have highlighted other factors of importance such as social class or ethnocultural background. Also, an initial choice of a different theory might have highlighted other aspects of the interviews concerning sexuality, gender, and pornography. As Gagnon (1990) pointed out, "theory remains a map that is not to be believed, or held on too fiercely, or forced on anyone else. It is a way of constructing or inventing a world rather than discovering it" (p. 2).

Finally, it is not possible to know how the young people would have talked about pornography without the researchers present. We have tried to link the young participants' voices about pornography to the social context in which they live and act. However, it is hard to say if the map of the pornographic landscape that we have constructed is the same as the one the young people used and responded to. Clearly, the picture of the young participants' experiences of pornography is both complex and far from unambiguous and needs further research.

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## Appendix

### Interview Guide

*Theme: Similarities and differences between sexuality, erotica and pornography*

- Is it possible to distinguish between sexuality, erotica and pornography? If so, how would you define the differences?
- Have you ever come in contact with pornography and/or erotica? Where and how, in that case (e.g., on the Internet, on the television, in magazines, at movies)? If not, how come?
- Do you talk with friends, family or others about pornography, erotica and/or sexuality? Why or why not, and how do you talk, in that case? Is there a gender and/or age difference?
- Other comments

*Theme: Experiences of using pornography, how and in which situations*

- Do you think that it is common or unusual for young people to consume pornography? Is there a gender and/or age difference? Why and how, in that case?
- How would you describe young people's feelings toward pornography in general and toward consuming pornography more specifically (e.g., excitement, curiosity, shame, embarrassment or acceptance)?
- What do your own experiences of pornography look like? How would you describe your own attitude towards pornography?

LUST, LOVE, AND LIFE

- Do you consume pornography? Why or why not? What function(s) does it fill (if answered yes)?
- In what situations do you consume pornography (e.g., not at all, alone, together with friends, together with a partner) (if answered yes)?
- Other comments

*Theme: The effects and influences of pornography*

- Are there differences in the ways that young men and young women are described and pictured in pornography, and how in that case (bodily ideals,

performances etc.)? Does this affect you and/or your friends, partners etc.? Why or why not?

- Do you think that pornography and/or erotica have influences on your own sexuality? How, for instance (e.g., positive, not at all, negative)? Why not, otherwise? Are there gender and/or age differences?
- Have you been together with a partner or friend(s) who is consuming pornography? Does it affect you, and how in that case? If not, how come?
- Is it necessary to have strategies to handle the effects of pornography? Can you describe these, in that case?
- Other comments

### Problematic sexual internet use

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## **Characteristics and Behaviors of Sexual Compulsives Who Use the Internet for Sexual Purposes**

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*This study aimed to investigate the characteristics of those who engage in online sexual activities and who are sexually compulsive according to the Kalichman sexual compulsivity scale. It also aimed to investigate if online sexual activities had changed the sexually compulsive respondents' offline sexual behaviors, such as reading adult magazines, viewing adult movies, and/or having casual sex partners. Data were collected in 2002 through an online questionnaire in Swedish, which was administered via the Swedish portal Passagen.se. Approximately 6% of the 1458 respondents who answered the 10-item sexual compulsivity scale were defined as sexually compulsive. A multivariate regression analysis showed sexually compulsives more likely to be men, to live in a relationship, to be bisexual, and to have had an STI. The time spent online for sexual purposes was found to be a measure of the kind of sexual activity rather than a measure of online sexual compulsivity. A bivariate analysis of nominal data showed that engagement in online sexual activities made respondents quit, decrease, maintain or increase their offline sexual behaviors. Sexual compulsive respondents were found to increase their offline pornography consumption to a greater extent than did non-sexually compulsives.*

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We would like to dedicate this article to our friend and colleague AI Cooper, whose tragic death while working on this project is a major loss to the field of Internet sexuality.

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## INTRODUCTION

As the Internet is expanding throughout the world, online sexuality has been researched and debated by numerous disciplines and media. Today we know that the Internet is a place more or less integrated with everyday life of which sexuality is a part for most people (Mustanski, 2001). Earlier research has shown that online sexuality includes an array of activities ranging from reading erotic novels and seeking information on sexuality to having cybersex (two or more people engaging in simulated sex talk while online for the purposes of sexual pleasure) and seeking offline sex partners. Adult men and women of all ages are known to engage in one or more of these activities for a variety of reasons (e.g., Cooper, Månsson, Daneback, Tikkanen, & Ross, 2003; Cooper, Morahan-Martin, Mathy, & Maheu, 2002; Månsson, Daneback, Tikkanen, & Löfgren-Mårtenson, 2003). It is also known that online sexual activities can be either beneficial or destructive for individuals as well as for relationships (Cooper & Griffin-Shelley, 2002; Cooper, Scherer, & Marcus, 2002; Delmonico, Griffin, & Carnes, 2002; Leiblum & Döring, 2002; Månsson et al, 2003; Schneider, 2002).

Much research and media coverage have been focusing, and sometimes alarmingly so, on the problematic side of online sexual activities, although only a minority experience online sexual problems. Cooper, Delmonico, and Burg (2000) found approximately 17% of those using the Internet for sexual purposes to have online sexual problems, while Månsson et al. (2003) found less than 10% to have online sexual problems. Perhaps this problem oriented focus emanates from a belief in the Internet being a hazardous domain containing pornographic pictures and movies, prostitution, pedophilia, and online infidelity.

While it is true that the Internet can be experienced as problematic in various ways, it is important not to over-emphasize the problematic side, but rather to understand it. Most people who use the Internet for sexual purposes do not experience any problems, but rather view online sexual activities as healthy and positive activities (Månsson et al., 2003). Nevertheless, even though only a minority experience online sexual problems, more research is needed to better understand online sexual problems and to know who might be at risk in order to be able to provide adequate help and to facilitate treatment.

Online sexual problems refer to the full range of difficulties that people may experience related to their online sexual activities. The difficulties may be financial, legal, occupational, or personal and may occur once or on multiple occasions (Cooper & Griffin-Shelley, 2002). One aspect of online sexual problems is Internet-enabled sexual compulsive behavior. According to Schneider (1994) three criteria can be used to screen compulsive behavior: not being able to choose to engage in the behavior, continue to engage in the behavior despite negative consequences, and obsession with the behavior.

Cooper, Delmonico, & Burg (2000) defined cybersex compulsivity as spending 11 hours or more online per week for online sexual activities and being sexually compulsive according to the Kalichman sexual compulsivity scale. Sexual compulsivity, where the goal is sexual arousal and satisfaction, can be manifested online by viewing adult pictures and movies as well as having cybersex or using the Internet to find offline sex partners (Cooper & Griffin-Shelley, 2002; Greenfield & Orzack, 2002; Schneider, 2002). Regardless of one's preferences the Internet can, often easily, satisfy many or all of these manifestations.

In cases where the sexually compulsive behavior consists of meeting people offline for "real life" dates, there may be a risk for sexual transmitted infections (STI). It is fairly common, both among men and women, to use the Internet for partner seeking activities (Cooper et al., 2003; Cooper, Scherer, & Marcus, 2002). An earlier study found more than one third of the respondents to have met someone online who they later had sex with offline (Månsson et al., 2003). It has also been found that those using Internet to seek sex partners are more likely to put themselves at risk for STI (McFarlane, Bull, & Rietmeijer, 2000). Only a few studies have been conducted on Internet and STI and most of them focus on the homosexual community (Ross & Kauth, 2002; Tikkanen & Ross, 2003). Hospers, Harterink, van den Hoek, and Veenstra (2002) found that 30% among male homosexual chatters had had unprotected intercourse with casual partners they had met online. This finding was supported in another study (Benotsch, Kalichman, & Cage, 2002), which compared those who used the Internet for meeting sex partners with those who did not.

Kalichman, Johnson, Adair, Rompa, Multhau, & Kelly (1994) have developed a 10-item sexual compulsion scale using 106 homosexual men in the United States. They reported an Alpha coefficient of 0.89 for this scale, and found it significantly correlated with loneliness, low self-esteem, and low sexual self-control. The items for the sexual compulsivity scale were derived from an earlier study of sexual addictions. In a later study, Kalichman and Rompa (1995) extended their sample to women and heterosexual men, and reported similar Alpha coefficients and 3-month test-retest reliabilities of 0.64–0.80. Sexual compulsivity was significantly correlated with partner numbers and frequency of unprotected sex, although not to substance use before sex.

The scale consists of 10 questions on sexual behavior and feelings, where each question can be answered on a scale ranging from 1 to 5. The score on each question is summed and those who score higher than two standard deviations above the mean are considered sexually compulsive. In their study of 1850 respondents, Månsson et al. (2003) found 8% men and 4% women to be sexually compulsive according to the Kalichman sexual compulsivity scale. Further, they found that those scoring high on the scale and, thus, falling into the sexually compulsive group, subjectively reported

having difficulties controlling their online sexual activities and that it was a problem in their life. In other words, this group seemed aware of their problems.

The aim of this study was twofold. First, by analyzing data collected by Månsson et al. (2003), the authors aimed to expand upon the understanding of the demographic characteristics of people using the Internet for sexual purposes and being sexually compulsive as defined by the Kalichman sexual compulsivity scale. Besides finding demographic characteristics, the first aim was also to determine if sexually compulsive respondents spent many hours online for sexual purposes and whether they had had any STIs.

Second, the authors aimed to investigate if the sexually compulsive respondents had changed any of their offline sexual behavior (reading adult magazines, viewing adult movies, and/or having casual sex partners) after they started to use the Internet for sexual purposes. The study also compared the sexually compulsive respondents with non-sexually compulsive respondents in this regard.

## METHODS

### Procedure

The questionnaire was launched through a Swedish portal site called Passagen (<http://www.passagen.se>). A banner was placed on the website for two weeks, from June 10 to June 23, 2002, and appeared randomly on the portal as well as on its sub-sites. There was no way to control where the banner would appear and it was not possible to predict for whom the banner would show; thus, for all practical purposes, its appearance was truly random according to the Passagen administrators. During the two weeks, Passagen.se had 818,422 unique visitors the first week and 893,599 unique visitors the second week, and the total number of visits was approximately 2 million with approximately 14 million pages viewed.

By clicking on the banner, the viewer was linked to an introduction site located on a server within the Göteborg University web. The introduction site also had the University logo and described the project, the nature and number of the questions, the funding source, and material relating to ethics and confidentiality, including the fact that the questionnaire was anonymous. The introduction site also informed participants that this survey was limited to those who were 18 or more years old. By clicking on an "accept" button, the viewer was linked to the questionnaire, which was also placed on the University server. Below the questionnaire and visible at all times was a set of boxes numbered 1 to 75 and corresponding to each web page with questions. Different colors indicated whether the question or questions on a web page had been answered or not and it was possible up to completion for respondents to return to a particular question to revise an answer. The



system was running on an Intel based 2×450 Mhz server, placed within the Göteborg University web with a 10 giga-bite connection both ways.

Each respondent opened a session with the server and this session was active until the questionnaire was finished or the respondent quit. All responses and changes of responses were logged and saved continually. This format made it possible to analyze missing values, when and where respondents drop out, along with other variables, which might be related to their discontinuing participation, such as gender and age (discussed in Ross, Daneback, Månsson, Tikkanen, & Cooper, 2003). Each respondent was assigned a unique identity based on a combination of their Internet protocol number and a specific number assigned to the questionnaire.

### Instrument

The questionnaire was based on two earlier instruments. The first was used in an earlier study done in conjunction with MSNBC, one of the largest American portals (Cooper, Scherer, & Mathy, 2001); the second was used in the sex in Sweden survey (Lewin, Fugl-Meyer, Helmius, Lalos, & Månsson, 1998). The instrument in this study consisted of 93 questions, shown on 75 web pages, and broken down into seven sections (the complete questionnaire can be obtained from the first author). Section 1 had 24 demographic questions including questions on the Internet, relationships, and sexuality. Section 2 had 13 questions focusing on online love and online sexual activities. Section 3 had 7 questions on online sexual activities in the work place. In Section 4, respondents were to answer 17 questions on both online and offline sexual experiences. Section 5 consisted of 14 statements about Internet and sexuality to help make clearer their attitudes about this phenomenon. Questions asked were, for example, if cybersex is cheating, if Internet sexuality is better suited for men, if the Internet fosters equality between genders, and similar questions. Section 6 had 8 questions around issues of sexual problems and STI. Section 7 included a 10-item Kalichman scale (Kalichman et al., 1994) on sexual compulsivity. All questions were asked in the Swedish language.

### Sample

Participation was restricted to adults. Surveys by respondents who reported being less than 18 years of age were excluded from analyses. An upper age limit was set at 65 years, due to the small numbers claiming to be older and also in order to be able to facilitate comparison with earlier related research. With those limitations, 1835 respondents (931 women, 904 men) completed the questionnaire.

In the current study, 1458 respondents (658 women, 800 men) claimed to use the Internet for sexual purposes. The mean age for these users was 29.7 ( $SD = 10.3$ ) for women and 31.5 ( $SD = 9.8$ ) for men ( $t = 3.269$ ,  $df = 1456$ ,  $p < .001$ ). The gender distribution among those using the Internet for sexual

purposes were 55% men and 45% women ( $\chi^2 = 88.01$ ,  $df = 1$ ,  $p < .001$ ) which is the same percentages as found in the overall use of the Internet in Sweden, and identical to the percentages of those who visited the portal site where the questionnaire was launched (54% men and 46% women).

## Analysis

Data were analyzed by using SPSS 10.0. The dependent variable examined was whether the respondents fell into the sexually compulsive group or not, where yes = 1 and no = 0. Binary logistic regression was chosen as the analysis method, and the multivariate analysis was built around 6 (independent) variables, where 4 variables were related to socio-demographics (gender, age, relationship status, and sexual orientation), one variable was related to respondents' online sexual behavior (number of hours spent online for sexual purposes), and the last variable was if the respondents had had any STI. Changes in offline sexual behavior after beginning to use the Internet for online sexual activities were compared on  $\chi^2$  test by sexual compulsivity.

The gender variable consisted of men and women. Age was divided into four groups, 18–24, 25–34, 35–49, and 50–65. This division was based on an earlier study of sexuality in Sweden and was chosen for comparative reasons (Lewin et al., 1998). Relationship status was created from the original marital status question in the questionnaire. Those respondents who reported being married, cohabiting, living in a registered partnership, or being in a relationship but living apart, were coded as being in a relationship. Those who reported being single, divorced, or widowed were coded as not being in a relationship. Sexual orientation was self determined by the respondents.

The amount of time per week spent online for online sexual activities was divided into the following groups: less than 1 hour, 1–3 hours, 3–6 hours, 6–10 hours, 10–15 hours and more than 15 hours per week. The STI variable included those respondents who reported to have had one or more of the following infections: gonorrhea, syphilis, human papilloma virus, chlamydia, genital herpes and/or HIV/AIDS.

## RESULTS

A total of 1458 respondents filled out the 10-item sexual compulsivity scale. The sample consisted of an almost equal gender distribution with 55% men and 45% women. About one third lived in one of the three metropolitan areas in Sweden (Stockholm, Göteborg, and Malmö). Almost half of the respondents reported to be in a relationship. The majority of the respondents were well educated with 45% who reported to have a university degree. Over 60% of the respondents were working and approximately 20% were students. The sample consisted of 90% self defined heterosexuals, 8% bisexuals, and 2% homosexuals. Almost one fifth of the sample reported that they had had an

STI. The sexually compulsive group consisted of 82 respondents, which was equivalent to 5.6% of the total number of respondents. The sexually compulsive group consisted of 74% men and 26% women. Fewer than 3% of all respondents claimed to be from a country outside Sweden, almost all of these non-Swedish respondents were from adjacent Scandinavian countries (Denmark, Finland, and Norway). Those who were found to be sexually compulsive respondents engaged in the same online sexual activities as the non-sexually compulsive respondents.

Table 1 displays the results from the multivariate logistic regression analysis. Age was not found to have a significant effect on odds ratio. Rather, the regression model suggested sexual compulsivity to be found in all ages. Gender, on the other hand, was found to have a significant effect on odds ratio. Women were less likely to be sexually compulsive compared with men. Further, the regression model showed relationship status to be an important factor to consider when investigating sexually compulsives. Sexually compulsives were more likely to be in a relationship rather than single, divorced,

**TABLE 1** Effects on Odds if Sexually Compulsive.\* Multivariate Logistic Regression (n = 1458)

	Exp(B)	95% C.I. for Exp(B)		p
		Lower	Upper	
<b>Age</b>				
18–24 (ref.)	1			
25–34	1.38	.74	2.58	ns
35–49	1.35	.66	2.75	ns
50–65	1.17	.37	3.68	ns
<b>Gender</b>				
Female	.44	.25	.76	.004
Male (ref.)	1			
<b>In a committed relation</b>				
Yes	1.66	1.01	2.73	.046
No (ref.)	1			
<b>Sexual orientation</b>				
Heterosexual (ref.)	1			
Bisexual	2.05	1.00	4.20	.050
<b>Time online for OSA (hours/week)</b>				
<1 (ref.)	1			
1–3	2.25	.86	5.90	ns
3–6	2.60	1.10	6.12	.029
6–10	3.02	1.30	7.03	.010
10–15	2.86	.82	10.05	ns
15<	13.02	4.71	36.02	.001
<b>Have had an STI</b>				
Yes	2.03	1.17	3.54	.012
No (ref.)	1			

\*The Exp(B) gives the odds of a person in the left marginal variable listed for scoring as sexually compulsive, compared to the reference category (ref.), which is scored as 1, e.g., a person aged 25–34 is 1.38 times more likely to be sexually compulsive than one aged 18–24.

or widowed. This difference was significant. As mentioned earlier, no homosexuals were found in the sexually compulsive group and were thus omitted from the analysis. Bisexuals, on the other hand, were found to be two times more likely to be sexually compulsive compared with heterosexuals, and the effect on odds ratio was significant.

The sexually compulsives were found to spend relatively much time online for sexual purposes. However, there was a nonlinear relationship between time spent online and sexual compulsivity. Sexually compulsives were approximately 3 times more likely to spend 3–10 hours online per week or 13 times more likely to spend more than 15 hours online per week. The last variable in the regression model showed that the sexually compulsive respondents were 2 times more likely to have reported an STI. The effect on odds ratio was significant.

Significant differences were found between those who spent more than 15 hours online compared to those who spent less than 15 hours online considering the online sexual activities they engaged in. Those spending 15 hours or above were to a greater extent: “looking for a partner” ( $\chi^2 = 11.91$   $df = 1$ ,  $p < .001$ ), “replying to sex ads” ( $\chi^2 = 7.94$   $df = 1$ ,  $p < .01$ ), “chatting with people with same interest” ( $\chi^2 = 7.82$   $df = 1$ ,  $p < .01$ ), “buying sex products” ( $\chi^2 = 4.14$   $df = 1$ ,  $p < .05$ ), and “contacting prostitutes” ( $\chi^2 = 1.89$   $df = 1$ ,  $p < .001$ ). These activities can primarily be labeled as partner seeking activities and interactive activities.

Table 2 displays changes in sexual behavior since respondents started to use the Internet for sexual purposes. These changes were measured for

**TABLE 2** Changes in Offline Sexual Behavior after Beginning to Use the Internet for Online Sexual Activities (%)

Offline sexual behaviors	SC	Non-SC	$\chi^2$
Reading adult magazines	n = 80	n = 1290	
Never done it	16	32	
Done it but quit	21	15	
Decreased	20	18	$\chi^2 = 17.68$ , $df = 4$ , $p < .001$
Unchanged	24	27	
Increased	19	8	
Viewing adult videos	n = 79	n = 1297	
Never done it	17	28	
Done it but quit	8	9	
Decreased	22	18	$\chi^2 = 42.56$ , $df = 4$ , $p < .001$
Unchanged	20	34	
Increased	24	11	
Have casual sex partners	n = 72	n = 1269	
Never had it	33	46	
Had it but quit	10	10	
Decreased	11	5	$\chi^2 = 8.33$ , $df = 4$ , $ns$
Unchanged	29	27	
Increased	17	12	

sexually compulsives and non-sexually compulsives respectively. In both groups there were respondents who had increased, decreased, or maintained their offline sexual behavior. Some respondents even quit their offline pornography consumption after they started to use the Internet for sexual purposes. However, the sexually compulsive group showed a greater increase in offline pornography consumption compared to the non-sexually compulsive group. Approximately 19% of the sexually compulsives reported an increase in reading pornographic magazines and 24% reported an increase in viewing porn movies. In comparison, 8% of the non-sexually compulsives reported an increase in reading adult magazines and 11% reported an increase in viewing adult movies.

Further, the non-sexually compulsive group was found to be less familiar with offline pornography consumption before they started to use the Internet for sexual purposes. Approximately 32% of the non-sexually compulsive respondents reported to never have read adult magazines and 28% to never have viewed adult movies. Among sexually compulsives, 16% had never read adult magazines and 17% had never viewed adult movies. There were no significant differences found between the groups regarding having casual sex partners.

## DISCUSSION

The authors recognize that this study had a number of limitations. First, the sexually compulsive group was relatively small, only including 82 individuals, and the results and interpretations thereof should be treated with care. Also, in this study, the authors could not predict whether sexual compulsivity was caused by using the Internet for sexual purposes or if the sexual compulsivity was present for these persons before they began to use the Internet for sexual purposes. Probably the sample consisted of both types. Further, the authors cannot know whether this survey may have attracted or discouraged sexually compulsives. The last section of the questionnaire contained the Kalichman sexual compulsivity scale and nearly half of the respondents (more men than women) had dropped out by this point (Ross et al., 2003). Thus, the more compulsive were unlikely to have completed the questionnaire, biasing toward lower prevalence of sexually compulsives.

Despite numerous methodological procedures to maximize randomization, this was still not a truly randomized sample. Constructing a more traditional offline study, more able to control those factors, would greatly increase the ability to make generalizations to the larger population. Ross, Månsson, Daneback, Cooper, and Tikkanen (2005) compared a conventional "gold standard" random sample to an Internet sample with identical demographic, sexual, and relationship questions. They found the Internet sample to diverge from the random sample on age, location, education, currently in a relationship, and the number of sexual partners. However, they found both

samples to be comparable with regard to gender distribution, nationality, having been in a relationship, how respondents met their present partner, and if they had discussed separation in the past year.

As the current study was conducted in Sweden, cultural differences may have interfered with the results. However, Cooper et al. (2003) have found Swedish data to corroborate well with earlier, non-Swedish, studies that have outlined general patterns of Internet sexuality. This increases confidence in this study's results as being cross-culturally valid.

Most sexually compulsives on the Internet were found to be men. This corresponds well with earlier research (Cooper, Delmonico, & Burg, 2000; Månsson et al., 2003). This study's results did not show any significant age differences among the sexually compulsives. Earlier research has shown both gender and age to be discriminating factors regarding the preferred online sexual activities (Månsson et al., 2003). In this study, the sexually compulsive respondents were found to engage in the same kinds of OSA as the non-sexually compulsive respondents.

The regression model showed that sexually compulsives in our study were more likely to be in a relationship. This is also supported by Cooper, Delmonico, and Burg (2000) who found 80% of the sexually compulsive respondents to be either married, in a committed relationship, or dating. One of the clear factors that differentiate "high sexual interest and behaviors and sexual permissiveness versus sexual compulsivity and problems" is whether the person feels a need to keep sexual activity secret from his or her partner or other important people in the person's life. The secrecy, hiding, deceit, and the fall out from this is a major reason that partners later feel betrayed, deceived, cheated on, and their trust becomes shattered (Schneider, 2002).

It was surprising to not find any homosexuals at all among the sexually compulsives in this sample. Homosexual men are a group that has been extensively researched and who for a long time have been using the Internet as a medium for social and sexual interaction (Ross, Tikkanen & Månsson, 2000). They also are known to have (compared with heterosexuals) high rates of partners as well as to engage more often in high risk and anonymous sexual activities. The distinction between a highly charged subculture that emphasizes sexuality and being defined as sexually compulsive, or having other sexual problems, may partly be the result of different norms. One answer may be the low number of homosexual respondents in the data, which may partly be explained by the survey site being a mainstream "heterosexual" site and homosexuals would be more likely to go to more specific sites popular among their community for sexual purposes than this site. At the same time this would then lead the authors to wonder if among the general gay population sexual compulsivity might be lower than is speculated.

Another explanation could be that after "coming out," homosexual men may feel more comfortable with their sexuality where having several sex partners and spending time online for sexual purposes may be less

stigmatized than for heterosexuals. Gay men have already been breaking with some of the more traditional sexual scripts and sexuality may therefore be more of a natural and integrated part of their lives and, thus, less associated with discomfort.

Corresponding to earlier research (Cooper, Delmonico, & Burg, 2000), the authors found heterosexuals less likely to be sexually compulsive than bisexuals. As sexual orientation was self defined, it is unknown whether or not these persons openly live as bisexuals and how their bisexuality is manifested. It could be that they are in an experimental phase or in a coming out process, mixing heterosexual and homosexual contacts. The Internet is an easily accessible refuge where it is possible to anonymously experiment with both homo- and heterosexuality by viewing adult pictures and movies, chatting with people with similar interests, having cybersex, and even to meet people for sex in real life. Ross and Kauth (2002) found self defined heterosexual men to have cybersex with other men, suggesting that the Internet may serve as an arena suitable for this kind of sexual experimenting.

For bisexuals, sexuality may occupy more thoughts than for heterosexuals. Perhaps for some of those who scored high on the sexual compulsivity scale, the sexual compulsivity may be a measure of their current level of sexual curiosity, development and experimenting. This leads to questions as to whether the Kalichman sexual compulsivity scale also measures latent normativity of sexual behavior.

The authors found that the sexually compulsives fell either into a group spending 3–10 hours per week online or in a group spending more than 15 hours online per week for sexual purposes. This means that a respondent scoring high on the sexual compulsivity scale could spend an excessive amount of time on online sexual activities, while another sexually compulsive respondent may only spend 30 minutes per day online for sexual purposes. Contrary to what was found by Cooper, Delmonico, and Burg (2000), this non-linear relationship between the amount of time spent online for sexual purposes and sexual compulsivity suggests that time spent online may be an inappropriate measure of online sexual compulsivity.

Further, sexually compulsive respondents spending more than 15 hours online were found to prefer interactive and partner seeking activities to a greater extent than those spending less time online. Earlier research has showed those who engage in cybersex, which is an interactive sexual activity, to spend considerably more time online compared to others (Daneback, Cooper, & Månsson, 2005). This finding points to the direction that the amount of time spent online for sexual purposes may be an indication of the kinds of sexual activities one engages in rather than an indication of online sexual compulsivity. However, to spend more than 2 hours online per day (more than 14 hours/week) consumes time from other activities which may be even more noticeable and, thus, perceived as more problematic in a relationship or in a work place.

McFarlane, Bull, and Rietmeijer (2000) found that those meeting sex partners online reported more risk factors for STI. They also had more sex partners and were more likely to have an STI history compared with those who did not seek their partners online. In this study, the sexually compulsives were more likely to have had an STI compared to the non-sexually compulsives. Those sexually compulsive respondents who spent more than 15 hours online per week for sexual purposes reported a greater interest in partner seeking activities compared to those spending less time online and, thus, maybe at greater risk for getting and spreading STI.

In this study the authors also measured if the respondents' offline sexual behavior had changed after they started to use the Internet for sexual purposes. The offline behavior measured consisted of pornography consumption and having casual sex partners, and significantly more of the sexually compulsive respondents had read adult magazines and viewed adult movies before they started to use the Internet for sexual purposes. When interpreting the results, it appeared that using the Internet for sexual purposes may have different effects for different people. Some respondents had abandoned or decreased their offline pornography consumption, while for others this had remained unchanged or even increased. For example, about one fifth of the sexually compulsives claimed to have quit reading adult magazines, while one fifth claimed their consumption of adult magazines had increased since they started to use the Internet for sexual purposes.

There were similarities found between the sexually compulsive group and the non-sexually compulsive group considering how the use of the Internet for sexual purposes had affected their offline sexual behavior, especially considering having casual sex partners. However, the sexually compulsive respondents had increased their consumption of pornography after they started to use the Internet for sexual purposes to a significantly greater extent compared to the non-sexually compulsive respondents. Consequently, online sexual activities cannot be said to have a one sided effect in any direction considering those offline sexual behaviors measured.

Finally, it is worthwhile to emphasize that most people are neither sexually compulsives nor experience any problems related to their use of the Internet for sexual purposes. On the contrary, many people describe Internet sexuality in positive ways (Månsson et al., 2003).

## Practical Implications

The current study has several practical and important implications to consider for clinicians who encounter sexually compulsives who use the Internet for sexual purposes. This study shows that most sexually compulsives are in relationships. As the Internet facilitates easy access to various sexual activities, they may have to lie to their spouses about their online sexual engagement which could generate feelings of shame and guilt and have negative impact



on their relationships. Feelings of shame and guilt may emanate from the socially established scripts for relationships which may not approve individual quests for experimentation and exploration of one's sexuality, but also to the fact that sex is a topic sometimes difficult to discuss even in established relationships. If experimentation and exploration is not negotiated and discussed it may have negative effects on the relationship, either due to lies and deceit or when discovered by the spouse.

Most sexual compulsives in the current study defined themselves as bisexuals. However, it is unclear whether they officially live as bisexuals or not. Perhaps, sexual compulsivity is an indicator of their current level of sexual curiosity or experimentation. Not living officially as bisexual and at the same time being in a relationship could be perceived as problematic by individuals who might feel committed to the relationship and simultaneously are interested in online experimentation and exploration with their bisexual identity.

The current study suggests that the amount of time spent online for sexual purposes should not be perceived as a measure for sexual compulsivity. Rather it should be perceived as an indicator of the kind of activities engaged in as they vary in time consumption. Interactive sexual activities are the most time consuming and the sexually compulsives who spent most time online for sexual purposes also showed a greater interest in partner seeking activities. As sexually compulsives were more likely to have reported STIs, an additional interest in partner seeking activities could increase the risk for getting and spreading STIs.

Although the Internet facilitates easy access to sexual activities, the current study shows that using the Internet for sexual purposes may both increase and decrease prior offline sexual behaviors or leave them unchanged. From these results it is impossible to conclude whether the Internet constitutes an additional source or a substitute for prior offline sexual behaviors.

The findings in this study suggest that clinicians should carefully and thoroughly examine how sexually compulsives use the Internet as well as their sexual orientation and relationship status. In addition, it would be beneficial to investigate any relations between offline and online sexual activities and how these may have changed with the introduction of online sexual activities.

A truly randomized survey study as well as qualitative research interviews would greatly contribute to the knowledge of this specific group of people who use the Internet for sexual purposes.

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# Prevalence, Severity, and Correlates of Problematic Sexual Internet Use in Swedish Men and Women

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**Abstract** The content and prevalence of problematic Internet sexual use was investigated in a sample of 1,913 Internet-recruited younger Swedish men and women. Five items as part of a larger Internet sexual use study addressed problems associated with it, control, dysphoria, feeling “addicted,” and feeling the need for treatment. The resulting scale of Internet sexual problems indicated that 5% of women and 13% of men reported some problems, with 2% of women and 5% of men indicating serious problems across the five items. Of five predictors of problematic use, three were significant: religiosity, having negative experiences with Internet sexual use, and frequency of pornography viewing. The viewing and sharing of pornography was most closely associated with reported problems. Data also suggested that having some very specific pornographic content interests were associated with an increase in reported problems. While these data were limited by the non-random nature of the sample, they suggest that Internet sexual problems are measurable, are a subset of Internet addiction with sexual content, and affect a small but significant proportion of the Internet-using population.

**Keywords** Internet · Addiction · Sexual addiction · Pornography · Prevalence

## Introduction

The issue of Internet Addiction (IA) has received considerable attention from researchers, particularly in China and South Korea, where it appears to be a significant public health problem (Block, 2008). Researchers in the U.S. have observed that the phenomenon appears remarkably similar to the Asian experience, and can be characterized by excessive use (loss of sense of time and neglect of basic drives), withdrawal (negative mood states when the computer is unavailable), tolerance (need for better equipment or more hours of use), and negative repercussions (social and relationship problems, neglect of work) (Block, 2008). Block suggested that IA is a compulsive-impulsive spectrum disorder that merits inclusion in DSM-V. Subsequently, Kafka (2010) argued that it would fit better in a category of Hypersexual Disorder, which could include compulsive use of the Internet. However, Kafka argued that labelling problematic presentation of such behaviors as IA as impulse-control disorders may account for an important feature of the morbidity-associated end product of Hypersexual Disorder. Further, Kafka (2010) noted that we need to understand the “fantasies, sexual urges and behaviors that precede the accumulation of adverse consequences” (p. 392).

Reviewing the literature on IA, Young (1998) indicated that IA can be divided into five subtypes: cybersexual addiction (viewing and downloading sexual material and sexual chatting), cyber-relational addiction (where online relationships become more important than real life ones), net compulsions (gambling, shopping, stock trading), information overload (excessive time searching for and organizing information), and computer addiction (playing games at the cost of work or family obligations). Block (2008) used a somewhat similar classification with regard to content: excessive gaming, sexual preoccupation, and excessive email/text messaging, and noted high co-morbidity, with up to 86% of IA cases having some DSM-IV diagnosis present. A questionnaire-based study of over 1,000 young adults in

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Hungary (Demetrovics, Szeredi, & Rozsa, 2008) indicated that Internet addictions fell into three latent dimensions: obsession, neglect of social and work activities, and control disorder, suggesting that obsession and behavioral (impulse) control figure largely in the composition of IA. Reviewing the recent literature, Shaw and Black (2008) described IA as an “orphan disorder” best considered as a disorder of impulse control similar to pathological gambling, compulsive shopping, and compulsive sexual behavior. Yellowlees and Marks (2007) also reviewed the evidence and concluded that people form addictions to applications available on the Internet rather than to the Internet itself. They noted that Internet addiction has much in common with impulse control disorders not otherwise specified as described in DSM-IV: many other impulse control disorders and “behavioral addictions” are thought to operate dopaminergically and exhibit similar patterns of cortical arousal. This is consistent with psychometric data of Pratarelli and Browne (2002), who concluded that an addictive performance predisposition preceded excessive use in specific content areas, such as problematic Internet use for sexual purposes, and with data reviewed by Kafka (2010), who also concluded that problems associated with impulse control are a feature of hypersexual disorders, and might be better incorporated in this broader category.

The distribution and prevalence of IA has been examined using widely varying definitions, assessment methods, and sample selection. Shaw and Black (2008) cited 13 studies from 1996 to 2006 in nine different countries in Asia, Europe, and North America, with prevalence ranging from 0.3 to 38% (median prevalence, 5.4%). A U.S. random telephone survey of over 2,500 adults (Aboujaoude, Koran, Gamel, Large, & Serpe, 2006) produced prevalence rates ranging from 0.3 to 0.7%, with 4–13% endorsing one or more “markers” describing problematic Internet use. The wide variance in proportion can be accounted for by sample selection (a random selection on a non-Internet medium would produce the lowest figure, while Internet-based sampling would be expected to selectively recruit those who felt they had a “problem.” Given the higher use of “new” technologies among the young, younger age of sample might also be expected to bias toward a higher prevalence of problems. There are inconsistent suggestions that males may have a higher preponderance, perhaps because men are more likely to have an interest in games, pornography, and gambling, all activities that have been associated with problematic Internet use (Morahan-Martin & Schumacher, 2000). What is unclear, however, is whether Internet sexual addiction is a subset of Internet addiction or a technological variant of sexual addiction.

Sex addiction on the Internet, however, covers additional issues. In a comprehensive review of the concept, Griffith (2004) noted that

The Internet as a sexual outlet may in fact have many implications for how we view sex addiction and may in itself raise

questions about the nature of sex addiction itself. There are also questions as to whether Internet sex addiction exists and, if it does exist, whether it is any different from “traditional” sex addiction. (p. 190)

Traditional sex addiction is defined as any sexually related, compulsive behavior which interferes with normal living and eventually becomes unmanageable (Carnes, 1999). Internet sexual addiction thus comprises three crucial components: the medium (the Internet), the content (sexual behavior), and the addiction (the compulsive behavior). The crucial components of sexual addiction are (1) the inability to stop despite adverse consequences; (2) gradually increasing the amount of activity because of building up tolerance; and (3) severe adverse consequences (such as loss of partner, marital or relationship problems, career and work problems, possible STD/HIV exposure where behavior extends offline, and possible legal problems). Additional issues may relate to dysphoria (feeling bad) and lack of control (Griffith, 2004). Young (1999) raised the question as to what it is that people are actually addicted to—the sexual behavior or the Internet. Is the Internet just the means to the addiction or part of the addiction itself? Or are there, as Griffith argued, additional dimensions, such as excessive use of Internet pornography where the Internet facilitates and provides the material and the anonymity, thus providing further opportunities through the intersection of the medium and the content area?

Assessment of the prevalence of Internet sexual addiction is problematic. Carnes (1991, 1999) estimated that 3–6% of the population (8% of men, 3% of women) have sexual addiction, but this was not an epidemiological study, being based on a self-selected, relatively small, and non-random sample. In the absence of adequate random population samples, actual figures are difficult to estimate. Assuming Internet sexual addiction to constitute a subset of sexual addiction, the figures on IA would be expected to be lower.

In evaluating Internet sexual addiction, without actual case histories where a clinician can objectively evaluate criteria like adverse consequences, tolerance, and lack of control (and subject to a bias toward only the most severe cases presenting for clinical treatment), we are left to rely on *subjective* assessments. The literature suggests that the crucial aspects of Internet sexual addiction involve five domains: causing *problems* in everyday life; a sense of *lack of control*; feeling bad about sexual use of the Internet (*dysphoria*); a *subjective awareness* that things have reached the point of lack of control and addiction; and *seriousness*, a sense that this addiction requires professional intervention or treatment.

We added questions covering these five domains to an Internet survey on sexuality on the Internet carried out in Sweden to ascertain the frequency and distribution of Internet sexual addiction and related problems in a large sample of the Swedish population. Sweden has an Internet penetration of 89.2%, one of the three

highest in the world (Internet World Stats, 2009), allowing us to obtain a sample using an approach which accesses the great majority of the population.

## Method

### Participants

The sample participating in this study (Table 1) came from the population who visited the Passagen.se and Spray.se web portals during the time for the study, those who were members of the Playahead web community by March 18, and were enrolled in the university through the spring semester of 2009.

A total of 1,913 participants completed the questionnaire. The majority ( $n = 955$ ) were recruited from Malmö University, and 580 participants from the Playahead.se web community. The number recruited from Spray.se and Passagen.se were 273 and 105 participants, respectively.

Of the nearly 2,000 participants, nearly two-thirds were women. However, the gender distribution differed depending on site for recruitment (university, 78% women vs. 22% men; Playahead.se, 50% women vs. 50% men; Spray.se, 63% women vs. 37% men; Passagen.se, 42% women vs. 58% men). The mean age for women was 28 years and for men 29 years but differed depending on site for recruitment (university, 29 years for both sexes; Playahead.se, 20 years for women vs. 21 years for men; Spray.se, 37 years for women vs. 43 years for men; Passagen.se, 36 years for women vs. 46 years for men). About half lived in one of the three major Swedish metropolitan areas and only about 1% reported to be from a country outside Sweden. Nearly one-third were living alone, almost all were high school graduates or had some tertiary education, about half were students, and the majority had no religious identification. About 10% reported sexual experience with the same sex and the mean number of sex partners in the past year was three for males and two for females. These biases toward gender, occupation, and geographical location may be related to the fact that a significant recruitment effort was made toward students in a large metropolitan area (Malmö).

### Procedure

The web questionnaire was administered in the Swedish language on four sites (three web sites and one Swedish university). Two web sites were portal sites oriented toward adults, presenting information from diverse sources and included various applications (such as e-mail) with one leaning more towards online dating. The third web site was an explicit youth community, one of the two largest in Sweden for 16–29 year-olds. The sites were Passagen.se with approximately 500,000 unique visitors per week, Spray.se with approximately 400,000 unique visitors, and Playahead.se with approximately 100,000 unique

**Table 1** Sample characteristics

Variable	Men ( $n = 652$ )		Women ( $n = 1250$ )	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age (in years)	28.91	12.67	28.12	9.91
Number sex partners past year	2.94	4.37	2.07	2.62*
Residence (%)				
Greater Stockholm/Göteborg/Malmö	54.5		49.0	
Other city or large town	28.2		29.6	
Town <10,000 people or rural	16.3		20.1	
Born in Sweden (%)	87.8		90.1	
Current living arrangements (%)				
Alone	32.3		29.9	
Parents	34.1		21.0	
Partner	28.1		43.3	
Friend	5.5		5.8*	
Living with children in household (%)	23.0		29.8*	
Education (%)				
No high school	1.9		0.7	
Junior high school	9.4		4.7	
Senior high school	52.2		49.5	
University or college	36.6		45.1*	
Occupational status (%)				
Work	34.2		26.0	
Study	47.7		62.9	
Unemployed	11.8		6.0	
Pension	2.8		0.7	
Housework/Parental leave	0.6		1.2	
Sick leave	1.2		1.7	
Other	1.4		1.3*	
Religious identification (%)				
None	63.9		56.7	
Islam	4.3		3.8	
Catholic	2.6		1.6	
Orthodox	1.7		1.7	
Judaism	0.0		0.2	
Lutheran	22.7		33.7	
Other protestant	2.5		1.7	
Other religion	2.3		0.6*	
How religious are you? (%)				
Very	2.8		1.3	
Somewhat	12.1		10.3	
Not very	27.6		41.7	
Not at all	57.5		46.8*	
Sexual experience with (%)				
Always women	87.1		12.0	
Mostly women, sometimes men	4.2		0.6	
Both men and women	3.1		1.0	
Mostly men, sometimes women	2.0		13.1	
Always men	2.8		80.4	

**Table 1** continued

Variable	Men ( <i>n</i> = 652)		Women ( <i>n</i> = 1250)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Never had sex	3.7		3.7*	
Frequency of sex (%)				
Daily	8.2		5.0	
Weekly	34.9		42.1	
Monthly	32.7		34.1	
Rarely	24.2		18.9*	
Frequency of masturbation (%)				
Daily	24.7		3.1	
Weekly	41.0		24.7	
Monthly	18.3		31.3	
Rarely	5.1		27.9	
Do not	3.5		13.0*	

*n* may vary slightly because of some missing values

\* $\chi^2$  *df* ranging from 1 to 7, *p* < .001

visitors per week. The size of the university was nearly 21,000 students.

Between February 27 and March 8, 2009, a banner was placed on the Passagen.se and Spray.se web portal site and was visible at all times for all visitors to that site. The banner read “Participate in a study on love and sex on the internet.” On March 11, an e-mail briefly describing the study, including a hyperlink to the web questionnaire, was sent to all active student e-mail addresses registered at the university. Finally, on March 18 a message with similar content as to the university was randomly sent by the administrators to 10,000 members 18 or older of the Playahead.se community. Data collection ended on March 20, 2009.

By clicking the banner ads or the hyperlink, the participants were linked to an introduction web page located on a server owned by the web survey company Entergate. The introduction page had the Malmö University logo (visible throughout the questionnaire) and described the study, questions related to ethics and confidentiality, the number of questions, and the estimated time it would take to complete the questionnaire. The participants were also informed that participation was voluntary but limited to people 18 years of age and older. The introduction page included links to the researchers’ profile pages on the university web which, in turn, included contact details. At the bottom of the introduction page, the participants were asked to click the “continue button” if they had read through the information, were 18 or older, and consented to participate in the study (the formal consent procedure). By clicking the button, the participants were linked to the questionnaire hosted on Entergate’s server.

The web questionnaire comprised a total of 85 questions. However, by using skip patterns, we were able to personalize

the questions to some extent. This could reduce the number of questions to 51 for some participants. Each participant opened a session on the server and replies were recorded on the server, with the possibility to revise answers (i.e., the participants could go back and forth in the questionnaire before finally submitting them). Due to the format and technique used, we were able to identify those who dropped out before completion. A total of 4,637 participants commenced the questionnaire and 1,913 completed it, meaning an internal dropout rate of 58%.

When the participants had finished or quit the questionnaire, the session was shut down. Those who completed their questionnaire were linked to a web page thanking them for their participation and encouragement to contact the researchers if they had any questions. None did so. Finally, they were linked to the research program’s web site.

### Measure

The measure was based on an earlier one that we used in a similar study in 2002 (see Cooper, Månsson, Daneback, Tikkanen, & Ross, 2003) but revised and expanded. The questionnaire comprised 85 questions divided into six subsections. The first section had 24 sociodemographic questions, including items on internet access, various forms of relationship constellations, love, and sexuality. Section two had 28 questions about love and sexual activities on the internet, focusing on what activities the participants engaged in, how frequently, and why. Section three comprised 11 questions of sexual exposure and sexual exploitation. The fourth section had 6 questions about sexual activities in exchange for money or goods (attitudes and experiences). Section five had six questions about positive and negative experiences from using the internet for love and sexual purposes. The sixth section comprised 10 questions on online sexual problems (loss of control, addiction to online sex, and sexually transmitted infections and HIV). The five questions comprising the Internet sexual problems (ISP) measure appear in Table 2, and were scored on a four-point Likert scale of problems (none, some, few, big). Before submission, the participants were provided with a possibility to comment on the questionnaire in an open ended question (text box).

### Analysis

Data were analyzed using SPSS version 17. Analysis consisted of frequency distributions of demographics by gender and descriptive statistics for the ISP scale items. Cronbach’s  $\alpha$  was computed on the five items of the scale and the items formed into a scale with a distribution of 0–12 (Table 3). Logistic regression (simultaneous entry) was carried out on the binary scale score by demographic (gender, degree of religiosity) and sexual behavior (frequency of masturbation, had negative experiences using Internet for love/sexual purposes, how often one looked at pornography on the Internet) variables (Table 4). Pearson correlations were calculated between ISP scale score and number of sexual partners (and



**Table 2** Percent endorsing items on Internet sexual problems scale ( $n = 1,913$ )

	None	Few	Some	Big
Has sexually-related Internet use caused problems for you? <sup>a</sup>				
Male	79.1	15.8	3.7	1.4
Female	86.7	9.2	3.4	0.7 <sup>b</sup>
Do you have difficulties controlling your sexually-related Internet use? <sup>c</sup>				
Male	49.1	31.5	13.0	6.5
Female	74.8	17.5	5.8	1.9 <sup>d</sup>
I feel bad about my sexually-related Internet use <sup>c</sup>				
Male	51.9	34.9	8.5	4.7
Female	60.4	28.7	7.9	3.0
I feel that I have become addicted to the Internet for love- and sexual purposes <sup>c</sup>				
Male	44.0	34.9	15.6	5.5
Female	68.2	21.8	6.4	3.6 <sup>c</sup>
If there was a treatment for sexually-related Internet problems, would you seek it? <sup>c</sup>				
Male	54.8	38.7	4.8	1.6
Female	61.8	29.4	5.9	2.9

<sup>a</sup> No problems, Few problems, Some problems, Big problems

<sup>b</sup>  $\chi^2 = 14.89$ ,  $df = 3$ ,  $p < .01$

<sup>c</sup> Not at all, To a little extent, To some extent, To a great extent

<sup>d</sup>  $\chi^2 = 15.22$ ,  $df = 3$ ,  $p < .01$

<sup>e</sup>  $\chi^2 = 13.65$ ,  $df = 3$ ,  $p < .01$

**Table 3** Distribution of Internet problem scale

Score	<i>n</i>	%	Cumulative %
0	1702	89.0	89.0
1	66	3.5	92.4
2	37	1.9	94.4
3	29	1.5	95.9
4	25	1.3	97.2
5	22	1.2	98.3
6	8	0.4	98.7
7	1	0.1	98.8
8	8	0.4	99.2
9	7	0.4	99.6
10	1	0.1	99.6
11	2	0.1	99.7
12	5	0.3	100

Number of participants scoring  $\geq 1$  on each item = 25 (1.3%)

proportion of those accessed via the Internet) and age; ISP score means were calculated using ANOVA (with post hoc Scheffé tests) on who participants were living with. Subsequently, a similar logistic regression was carried out by ISP scale score on negative experiences on the 12 areas of sexual Internet use described in Table 5 (the variable with the highest B on the previous analysis), and the reasons for looking at pornography described in Table 6 (the highest OR in the preceding analysis). For all binary analyses, the cut point of  $\geq 2$  in the ISP scale score was used.

**Table 4** Logistic regression on Internet sexual problems scale

Variable	<i>B</i>	<i>p</i>
Gender	0.33	ns
Frequency of masturbation	0.01	ns
Degree of religiosity	-0.35	.006
Have had negative experiences using Internet for love/sexual purposes	-1.91	.001
How often do you look at pornography on the Internet?	-0.47	.001

Nagelkerke  $R^2 = .224$

## Results

Data are shown in Tables 1, 2, 3, 4, 5, and 6. Between 0.9 and 4.5% indicated “big” problems on the five ISP items, with a high scale internal reliability of  $\alpha = 0.87$ . Eighty-nine percent reported no problems. Scale scores ranged from 0 to 12, with 7.6% with a score of  $\geq 2$ , which was used as a cut-off point for the definition of Internet sexual problems. At this cut-off, 4.9% of women and 12.9% of men reported some Internet sexual problems,  $\chi^2(1) = 39.0$ ,  $p = .001$ ; OR for men, 2.9. When the cut-off of 5 was used, the OR stayed the same, and 1.8% of women and 4.9% of men were classified as having a serious Internet sexual problem,  $\chi^2(1) = 15.4$ ,  $p = .001$ . There were significant gender differences between males and females for three of the five items of the Internet sexual problems scale (Table 2). To assess the relationship between sexual addiction and ISP, correlation coefficients were found to be

**Table 5** Negative experiences that one has had using the Internet for love and sexually related purposes, by Internet sexual problems scale score

Area of use	OR	95% CI	<i>p</i>
Looking at pornography	13.47	8.44–21.51	.001
Sharing private sexual pictures/ films with someone I like	11.30	5.13–24.93	.001
Posting material on oneself with sexual content	9.88	4.58–21.32	.001
Meeting someone online to have sex IRL	7.56	4.41–12.96	.001
Reading erotic texts	5.71	1.96–16.65	.005
Chatting about sex with someone else	5.53	1.87–6.68	.001
Looking for sex partners	5.29	2.78–10.03	.001
Having sex online (cybersex)	5.10	2.21–11.80	.001
Flirting with someone else	4.23	2.30–7.76	.001
Buying sex products	4.11	0.82–20.53	ns
Looking for friendship and sex	3.38	0.93–12.23	ns
Looking for a love relationship	3.10	1.84–5.07	.001

Cut point 1/2, 7.6% in “problems” category

non-significant for total number of sexual partners in the past 12 months ( $M, 2.41$ , median = 1, range, 0–20,  $r = .03$ ) and number of these partners obtained from the Internet ( $M, 3.07$ , median = 1, range, 1–20,  $r = .01$ ). There was no significant association between ISP score and age ( $r = .01$ ) but ISP score was significantly higher for those living alone or with parents compared with those living with partner or friends,  $F = 4.86$ ,  $df = 3$ ,  $p < .02$ .

Logistic regression was conducted on variables which were significant on bivariate analysis using the  $\geq 2$  cut-off, with the predictor variable being Internet sexual problems. Three of the five variables entered, degree of religiosity, frequency of looking at pornography on the Internet, and having negative experiences using the Internet for love/sexual purposes were significant predictors, with this last variable having the highest

loading (Table 4). These variables accounted for over 22% of the variance. The subsequent regression on specific areas of sexual internet use (Table 5) indicated that the highest ORs were for looking at pornography, sharing explicit private pictures or films, and posting sexual material about oneself. A subsequent logistic regression looking at reasons for looking at pornography on the Internet as predicting ISP scale score (Table 6) indicated that the highest ORs were because the participant had a special interest in pornography that is only available online, for relaxation and sexual satisfaction, and sexual excitement.

## Discussion

These data provide us with some of the first indications of the content and reported frequency of Internet sexual “addictions” although we prefer to conceptualize them as Internet sexual problems because of the difficulty of providing clinical evidence of an actual addiction through self-report data. Nevertheless, 4.5% of the sample indicated that they felt that they had become “addicted” (the word used in the question) to the Internet for love and sexual purposes and that this was a “big problem”; 2.1% indicated that, if there was a treatment for this, they would strongly seek it. If we assume that a viable cut point for the scale is a score of  $\geq 2$  (at a minimum, either “some” problems on one item or “a few” problems on two items, we can estimate that 7.6% of this population reported some Internet sexual problems. A score of 5 or more (all items endorsed) would give a sample prevalence of 1.7% with serious and/or pervasive Internet sexual problems, probably rising to the level of an Internet sexual addiction (Table 4). Because this was a self-selected population which would probably be biased toward inclusion of people with problems, these sample-specific prevalence rates should be treated with caution and are likely at the high end of any population estimates.

Using the cut-off point of  $\geq 2$  ISP scale score, significant predictors of Internet sexual problems on logistic regression

**Table 6** Reasons for looking at pornography on the Internet and odds ratios for Internet sexual problems scale score

Reason	% Yes	OR	95% CI	<i>p</i>
I have a special interest in pornography that is only available online	5.9	5.59	3.59–8.81	.001
To achieve relaxation	9.9	4.32	2.90–6.43	.001
For sexual satisfaction	28.8	4.22	2.97–5.98	.001
To provide sexual excitement	30.4	3.86	2.72–5.46	.001
It gives anonymity	16.4	2.81	1.94–4.06	.001
Because it’s easy	19.7	2.48	1.73–3.56	.001
Because I’m curious	19.4	2.72	1.90–3.89	.001
To find out about sex	8.0	2.52	1.58–4.01	.001
Because I can’t buy pornography offline	8.4	2.52	1.57–4.05	.001
To provide sexual excitement when with my partner	9.5	0.93	0.52–1.68	ns
Because my partner does it	2.5	0.54	0.13–2.23	ns

Cut point 1/2, 7.6% in “problems” category

included degree of religiosity (probably tapping into guilt), frequency of watching pornography (probably indicating time wasted), with the highest predictor being the experience of having had negative experiences using the Internet for love or sexual purposes. Gender and frequency of masturbation, which were significant on bivariate analysis, were non-significant when incorporated into the multivariate analysis. Thus, while it appears that there was a strong gender difference in reporting of Internet sexual problems with men having nearly three times the probability compared with women, this was subsequently demonstrated to be based on differences in religiosity, negative Internet experiences, and frequency of looking at pornography on the Internet.

In an attempt to determine what the specific negative experiences that were most significantly related to Internet sexual problems, a further regression by area of Internet sexual use was computed. The experiences most significantly related to the ISP score were looking at pornography (OR = 13.5), sharing private sexual pictures/films (OR = 11.3), and posting material of oneself with sexual content (OR = 9.9), suggesting that it is the use of pornography and other visual erotic material that is the focus of problems in control and the addictive properties of sexual Internet use.

We conducted an additional regression to examine the reasons given for looking at pornography online in an attempt to clarify the underlying reasons that may be related to the observed relationship between pornography use and Internet sexual problems. Data indicated that the three major reasons for looking at pornography were a special interest in pornography that is only available online (OR = 5.6), suggesting a particular specialized area, such as a fetish, bondage and discipline, or child pornography. Other reasons were more generic, including sexual relaxation (OR = 4.3) and to achieve sexual satisfaction (OR = 4.2). While these data hint at an element of specialized erotic interest as being related to problems, further research will be necessary to explore this.

Is problematic sexual Internet use related to sexual addiction or to Internet addiction? While the data were not conclusive, correlation coefficients between ISP score, number of sexual partners in the last 12 months, and proportion of these partners obtained on the Internet were non-significant. The fact that there was no evidence of amount of sexual activity extending to ISP score or excessive or problematic IRL sexual behavior suggests that it is not associated with sexual addiction, at least in this sample. Masturbation frequency also dropped out of the regression equation on multivariate analysis, suggesting that total sexual outlet is not associated with ISPs. However, more specific data addressing this question are also required. We suspect from these data, however, that Internet sexual problems are related to pornography addiction or even more specifically a pornographic sexual addiction—and the data hint that some more specific pornographic interests may be associated with an increase in problems. It may be that the concept of sexual addiction is too

vague, and that what we are dealing with in regard to ISPs is an online pornography addiction, a subset of Internet addiction with a sexual content. These data were also consistent with Kafka's (2010) suggestion that there is a "prodromal" period prior to the development of Hypersexual Disorder in which adverse consequences accumulate over time from normophilic preferences. What we describe here illuminates some of the factors which may contribute to the dysphoria or morbidity associated with problematic sexual Internet use which, in extreme cases, may be considered a hypersexual disorder.

This study had some obvious limitations which constrain generalizability. First, the sample, while large, was self-selected and advertised as being on sexual use of the Internet. As such, it might be expected to preferentially attract those with sexual problems, thus leading to an over-estimate of the frequency of sexual Internet problems. Second, the data were self-report and unable to be verified with regard to a clinical assessment of the impact and degree of distress that Internet sexual problems were causing. Third, the study was carried out on a younger population, with generalizability to older adults unclear. Finally, the study was carried out in Sweden, a country with one of the highest Internet penetrations in the world, which might enhance the breadth of the sample, and one of the more liberal attitudes toward sexuality in the world, which may serve to depress the prevalence of sexual problems reported. The Internet as a source of sexual data has been demonstrated to lead to relatively few biases compared with random population studies (Ross, Månsson, Daneback, Cooper, & Tikkanen, 2005): there are small biases toward recruitment of the younger, students, city dwellers, and the single. With the exception of the last variable, which would bias toward higher prevalence, it is unclear that these would significantly bias estimates of the magnitude of Internet sexual problems.

Interpretation of the data obtained here must be constrained by these limitations. Nevertheless, they demonstrate that self-reported Internet sexual problems which cover five domains derived from the scientific literature can be scaled and used to estimate the prevalence of problems in a younger population. These data suggest that problems are three times more prevalent in men than women, and are related to having negative experiences using the Internet for viewing and exchanging pornography, the time spent in this pursuit, and possibly having specialized pornographic interests. These estimates of the frequency of IA are not based on a random sample and as such are not true epidemiological population prevalence rates: given the non-random and self-selected nature of the sample, they are probably at the high end of the distribution of frequency of sexual problems. Notably, they are lower than the figures estimated by Carnes (1991, 1999) for sexual addictions. Whether this is because of sampling issues, changes over time, measurement, the use of an Internet sexual problem as opposed to a global sexual addiction focus, or national differences is unclear. However, the sample-specific prevalence obtained in this study suggests that, for a small percentage of Internet users, problematic Internet sexual use is an

issue which may cause distress and dysfunction and for which clinical interventions may be sought.

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## ORIGINAL ARTICLE

## Reported sexually transmitted infections in Swedish Internet-using men and women

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### Abstract

Although the Internet has become a forum for making sexual contacts, and has been associated with increased sexually transmitted infection (STI) transmission, we have little information of history of STIs in Internet-based samples. The Internet behaviours that are associated with STI acquisition are poorly understood. We analysed STI histories reported by 904 Swedish men and 931 Swedish women who responded to an Internet-based survey on sexual behaviour in 2002: 16.6% of men and 22.5% of women reported a lifetime history of STIs, with Chlamydia being the most common for both genders. 3% of men and 5% of women who reported an STI, indicated that they had had more than one. Sources of the STI, where known, were Internet-acquired partners in only 3% of cases. There were no differences between men and women with or without an STI history regarding the kind of online sexual activities they engaged in, how they found sexual material online, and the reasons they engage in sexual activities. These rates are similar to those reported in a national random study of sexuality in Sweden. Contrary to prior research, these results suggest no relationship between STI and specific Internet characteristics usage patterns. These data suggest that the Internet is not yet a major source of STIs in Swedish men and women. Given these STI histories, the Internet may be a useful medium to include in STI prevention efforts.

Research conducted in a number of Western countries has consistently shown an association between seeking sexual contacts on the Internet and high-risk sexual behaviour resulting in increased sexually transmitted infection (STI) acquisition and transmission.<sup>1-5</sup> These associations, however, leave a number of questions unanswered, including the level of STIs reported in men and women who use the Internet for sexual purposes, the particular Internet use practices that distinguish men and women who have reported STIs compared with those who have not, and what proportion of STIs reported can be attributed to Internet-mediated sex partners. Several studies, however, have sought information on Internet use from attendees at STI clinics, which may be biased toward those with STI risk behaviours, whereas

investigating STIs in a sample of men who use the Internet will provide some indication of how those reporting an STI infection compare with other Internet users, and how their Internet use may be different from those who do not report infections. Furthermore, it may be possible using an Internet-derived sample to compare the rates of STI infection reported in such a sample with those of other conventionally derived samples. Additionally, using a sample from the Internet, from an Internet-based questionnaire, will ensure that the sample is not biased by selection at an STI clinic, as previous samples may have been.

Sweden, along with other Scandinavian countries, has one of the lowest rates of STIs in the world. However, there has been a remarkable increase of STIs in the last few years in Sweden, as in other western European

countries, mostly due to an increasing endemic spread.<sup>6–8</sup> Data on history of lifetime STIs in Sweden from the national random study carried out in 1996<sup>9</sup> suggested that 19% of all men and women reported – at least one STI in their lifetime, and 6% more than one. A point-prevalence study of all 22-year-old men in Umeå in 2002 found that 1.1% of all men tested positive for Chlamydia.<sup>10</sup> In a longitudinal interview study of 79 women aged 16 to 23, 25% reported a history of one or more STIs.<sup>11</sup> Based on case reports to the Swedish Institute for Infectious Disease Control (SMI) in 2002, there were 276.5 per 100 000 cases of chlamydia (mean age of men, 25; mean age of women, 23; 82% infected in Sweden), 5.6 per 100 000 cases of gonorrhoea (mean age of men, 33; mean age of women, 28; 57% infected in Sweden) and 1.4 cases per 100 000 of syphilis (mean age of men, 39; mean age of women, 33; 48% infected in Sweden).

We examined the STI-related responses of Swedish men and women responding to an Internet-based sexuality study and completed online to ascertain reported STI infections, the degree to which these were attributable to the Internet, and the characteristics of Internet use that distinguished those reporting STIs from those who did not report any STI history.

## Methods

### Procedure

The questionnaire, which was administered in the Swedish language, was launched through a Swedish portal site called Passagen ([www.passagen.se](http://www.passagen.se)), which is part of the Eniro Corporation. Passagen is ranked one of the top four domains in Sweden by the number of unique visitors. A banner was placed on the website for 2 weeks from 10 June to 23 June 2002 and appeared randomly on the portal, as well as on its subsites. There was no way to control where the banner would appear; neither was it possible to predict for whom the banner would show; thus, for all practical purposes, its appearance was random. The banner appeared 2 004 709 times in the 2-week period. During these 2 weeks, Passagen had 818 422 and 893 599 unique visitors per week, respectively, and the total number of visits was approximately 2 million with approximately 14 million pages viewed: 10 644 visitors actually were linked to the site by clicking the banner (see Ross *et al.*<sup>12</sup> for a full description of the recruitment and dropout data).

When clicking on the banner, the viewer was linked to an introduction site located on a server within the University of Gothenburg web. The introduction site also had the university logo and described the project, the nature and number of the questions, the funding source and material

relating to ethics and confidentiality, including the fact that the questionnaire was anonymous. The introduction site also informed participants that this survey was limited to those who were 18 years or older. By clicking on an 'accept' button, the viewer was linked to the questionnaire that was also placed on the university server. Below the questionnaire and visible at all times was a set of boxes numbered 1–75 and corresponding to each question (many questions contained more than one item: we measured 165 items in total in the questionnaire). Different colours indicated whether a question had been answered or not, and it was possible up to completion for respondents to return to a particular question to revise an answer. The system was running on an Intel-based 2 × 450 MHz server, placed within the University of Gothenburg website with a 10-GB connection both ways.

Each respondent opened a session with the server, and this session was active until the questionnaire was finished or quit. If the session was quit, it was automatically shut down. All responses and changes of responses were logged and saved continually. This format makes it possible to analyse missing values, when and where respondents drop out, along with other variables, which might be related to their discontinuing participation, such as gender and age.

### Instrument

The questionnaire was based on two earlier instruments. The first was used in an earlier study done in conjunction with MSNBC, one of the largest American portals.<sup>13</sup> The second was used in the Sex in Sweden Survey.<sup>9</sup> The instrument in this study consisted of 75 questions, broken down into seven sections; Section 1 had 24 demographic questions including items on Internet access and experience of relationships and sexuality. Section 2 consisted of 13 questions focusing on perceptions of online love and sexual behaviour. Section 3 had seven questions on online sexual activity in the workplace and relevant policies and regulations on such behaviour. Section 4 consisted of 17 questions dealing with both on-line and offline sexual experiences. In section 5, respondents were to answer four questions including 12 statements about Internet and sexuality to help make clearer their attitudes about this phenomenon. For example, if cybersex is cheating, if sex on the Internet is better suited for men, if the Internet fosters equality between gender and similar questions. Items were rated on a 3-point Likert scale (i.e. whether they fully agreed, agreed somewhat, did not agree, or if they could not answer the question.) Section 6 had eight questions around issues of online sexual problems and STIs. The last question contained a 10-item Kalichman *et al.*<sup>14</sup> scale on sexual compulsivity. Due to the

format and technique used in this survey, different *N*'s were obtained for items throughout the questionnaire. The first question (age) was answered by 3614 persons, and the last question was answered by 1851 persons. Half of the males had dropped out by item 23, and half of the females have dropped out by item 49. Ross *et al.*<sup>12</sup> describe the biases associated with non-completion.

## Sample

### Portal site

Of those who visit the *Passagen.se* portal site, 54% are women and 46% are men. Twelve per cent of the visitors are between 18 and 24 years old. The two largest groups are ages 25 to 34 (22%) and 35 to 49 years (27%). Eighteen per cent of the sample are 50 to 64 years, and 4% were 65 years or older. A total of 17% are under the age of 17. More than half of the portal population consists of the following groups; full-time students (17%), within service occupation (13%), educational work (10%), administrative work (8%) and technical work (7%). Ten per cent do not currently have an occupation.

### Study respondents

The population participating in this survey were those who visited the *Passagen.se* portal site during the 2 weeks from 10 June to 23 June 2002. As a result of the survey being related to sexuality and the resulting ethical and legal complications of involving minors, it was decided to restrict participation to adults (over the age of 18). If a respondent filled out the questionnaire and claimed to be under 18, that case was removed from the database. An upper age limit was set at 75 years first because of the small population claiming to be older and second, to be able to compare the results with previous research.<sup>9,13</sup> Data on the sample characteristics are presented in Table 1. For those who completed the questionnaire (*n* = 1835), the mean age for females was 29.8 (SD = 10.2) and for males was 31.9 (SD = 10.3).

The gender distribution of those who engage in online sexual activity in the study are 55% males and 45% females, which are the same percentages as found in the overall use of the Internet in Sweden<sup>15</sup> and statistically almost identical to the percentages of those who visited the portal site where the questionnaire was launched (54% males and 46% females). Less than 3% claimed to be from a country outside Sweden, and almost all of these were from adjacent Scandinavian countries (Denmark, Norway, Finland).

The STI question was, 'Have you had any of these sexually transmitted diseases?' Respondents could check

each of gonorrhoea, syphilis, human papillomavirus (HPV; no distinction was made between genital wart and HPV as diagnosed on a cervical smear), chlamydia, genital herpes, HIV/AIDS, or 'Have not had any of the sexually transmitted diseases above'. If they indicated an STI, the following question was 'Who do you believe infected you the last time you had a sexually transmitted disease?'. Options that could be checked were Steady partner, Friend or work/student colleague, Swedish contact during holiday, Foreign contact during holiday, Contact with a prostitute in Sweden, Contact with a prostitute outside Sweden, Sex partner that I met on the Internet, Other casual partner, other non-casual partner. The study was approved by the Göteborg University research ethics committee.

## Results

Demographic data on the sample appear in Table 1. The men were predominantly single (43.9%), living in cities (82.3%), living with someone else (65.8%) but without children (65.9%), educated beyond high school (46.2%), working (68.3%), and with 94.5% having Internet access at home. Among women, there was a similar pattern with 35.7% singles, 75.8% living in cities, 60.7% living with someone else, 66.8% living without children, 50.2% working, and 91.7% having Internet access at home.

Data comparing Internet use for men and women reporting or not reporting an STI are presented in Tables 2 to 4. Data indicated that 16.6% of men (139/834) compared with 22.5% of women (193/858) reported having an STI ( $\chi^2 = 9.106$ , *d.f.* = 1, *P* = 0.003). STI percentages were higher for those men who had been or were currently in a steady relationship (yes, 9.8%; yes, but not at present, 6.1%; no, have not been in a steady relationship, 0.9%:  $\chi^2 = 11.3$ , *d.f.* = 2, *P* = 0.004) and the same tendency was found among women as well (yes, 10.8%; yes, but not at present, 9.9%; no, have not been in a steady relationship, 1.2%:  $\chi^2 = 17.2$ , *d.f.* = 2, *P* = 0.001). There were differences in reported STI percentages for men in terms of their living arrangements (alone or with friends, 8.9%; with parents, 3.6%; with wife or partner, 7.2%:  $\chi^2 = 20.2$ , *d.f.* = 3, *P* = 0.001) and for living with children (no children, 8.5%; with children, 8.2%:  $\chi^2 = 15.4$ , *d.f.* = 1, *P* = 0.001). These differences were also found among women (alone or with friends, 16.1%; with parents, 1.6%; with husband or partner, 8.4%:  $\chi^2 = 17.9$ , *d.f.* = 3, *P* = 0.001; no children, 13.0%; with children, 9.5%:  $\chi^2 = 6.6$ , *d.f.* = 1, *P* = 0.010). Those men who reported an STI were more likely to be older ( $36.2 \pm 9.8$  vs.  $32 \pm 10.1$ , *t* = -5.4, *d.f.* = 832, *P* = 0.001) and to have a higher score on the Kalichman sexual compulsivity scale ( $18.3 \pm 6.8$  vs.  $16.8 \pm 5.5$ , *t* = -2.8, *d.f.* = 811,

**Table 1** Sample characteristics (%)

Variable	Males (n = 904)	Females (n = 931)
Age (mean ± SD)	31.9 ± 10.3	29.8 ± 10.2
Marital status:		
Single	43.9	35.7
Married	17.5	12.7
Co-habiting	22.0	30.0
Divorced/widowed	5.8	8.3
Live apart	9.8	12.0
Nationality:		
Swedish	96.2	94.7
Other Scandinavian	2.4	3.5
Other European	0.7	1.3
Non-European	0.7	0.4
Residence:		
Large city	39.6	31.5
City	42.7	44.3
Town or rural	16.0	21.4
Other Scandinavian place	0.8	1.6
Grew up in:		
Large city	25.0	23.0
City	40.0	35.9
Town or rural	31.3	36.7
Capital or large city outside	2.1	2.3
Town or rural area outside	1.4	1.9
Living arrangement:		
Alone	44.2	38.6
Parents	13.1	14.6
Spouse/partner	39.3	41.7
Friend(s)	3.3	4.4
Living with children:		
Yes	33.8	33.8
No	65.9	66.1
Highest education:		
Elementary school	5.3	7.6
High school	43.6	43.3
University	46.2	44.0
Occupation:		
Working	68.3	50.2
Student	15.6	24.2
Unemployed	6.3	7.8
Retired	1.2	1.0
Housewife/man,		
Parental leave	0.2	4.3
Sick leave	1.8	4.8
Other	5.2	5.7
Work with computers:		
With Internet access	77.3	69.5
Without access	22.5	29.8
Internet access:		
At home	94.5	91.7
At work	66.9	48.1
At school	18.1	27.0
At Internet cafés	7.0	4.5
At other places	5.2	7.2

Where responses total < 100%, the remainder are missing responses.

$P = 0.006$ ). The same tendency was found among women ( $31.8 \pm 9.2$  vs.  $29.2 \pm 10.1$ ,  $t = -3.2$ , d.f. = 857,  $P = 0.001$ ;  $15.2 \pm 5.6$  vs.  $13.9 \pm 4.3$ ,  $t = -1.3$ , d.f. = 836,  $P = 0.001$ ). There were no significant differences among men – as to whether an STI was reported or not, on time spent on the Internet per week, by sexual identity (homosexual/bisexual vs. heterosexual), educational level attained, size of community of residence, where they met their present steady partner if they had one, and for how

long they had had Internet access. However, significant differences were found between reported STI by marital status (single, 5.5%; married, 3.3%; cohabitating, 3.8%; divorced, 1.9%; live apart, 2.2%:  $\chi^2 = 16.2$ , d.f. = 4,  $P = 0.003$ ). For women, analysing the same variables, there were only significant differences found among those who reported an STI and level of education (elementary school, 2.3%; high school, 8.6%, university, 9.6%, other, 1.9%:  $\chi^2 = 13.8$ , d.f. = 4,  $P = 0.008$ ).



**Table 2** STIs reported and source

STI	Males (n = 904)	Females (n = 931)
Chlamydia	72	111
Human papillomavirus	35	71
Gonorrhoea	30	21
Genital herpes	28	32
Syphilis	21	27
HIV	0	0

Number of STIs reported	Males	Females
0	695	665
1	115	149
2	17	35
3–5	7	9

Source of STI	Males (n = 132)	Females (n = 186)
Steady partner	50 (37.9%)	73 (39.2%)
Friend/work/schoolmate	14 (10.6%)	6 (3.2%)
Swedish vacation partner	1 (0.8%)	4 (2.2%)
Foreign vacation partner	10 (7.6%)	5 (2.7%)
Prostitution abroad	2 (1.5%)	–
Sex partner from Internet	4 (3.0%)	6 (3.2%)
Other casual partner	48 (36.4%)	74 (39.8%)
Other non-casual partner	3 (2.3%)	18 (9.7%)

Data (Table 2) indicated that the most common STI reported among both men and women was chlamydia, followed by HPV, gonorrhoea, and genital herpes. There were significant gender differences among those who reported chlamydia (4.3% men and 6.6% women:  $\chi^2 = 8.5$ , d.f. = 1,  $P = 0.004$ ) and HPV (2.1% men and 4.2% women:  $\chi^2 = 11.9$ , d.f. = 1,  $P = 0.001$ ). The majority of those reporting any STI indicated only one; however, among men, 12.2% reported two, and 5.0% reported three or more STIs; for women, the percentages were 18.0% and 4.6%, respectively. STI source, for those who knew, was a regular partner for 37.9% of the men and 39.2% of the women. Casual partner was the other major source with about the same percentages as for regular partner for both genders. Only 3% indicated the source was an Internet partner.

Tables 3 and 4 illustrate the differences between the Internet-using men and women who reported any STI compared with those reporting none. None of the differences between the groups were found to be statistically significant.

## Discussion

These data are subject to several limitations, including the fact that the sample represents volunteers, although the sample characteristics seem to be close to those of the characteristics of *Passagen.se* users. Ross *et al.*<sup>16</sup> have

described the biases in this Internet sample compared with the national random sample and noted that the Internet sample is significantly younger, better educated, urban, gay/bisexual and single. Because of the high dropout rates in men in the early section of the questionnaire, heterosexual men in a relationship, in a smaller town, and with a slow Internet connection speed are likely to be under-represented.<sup>12</sup>

These data indicate that while men and women who use the Internet and respond to a survey about Internet sexuality are likely to have lower rates of STIs than females, there is still a relatively high reported rate of STIs. Given that there are likely to be clinically silent infections that are unrecognized and untreated, the STI reports here are probably an significant underestimate. The occurrence of nearly 17% (139 of 834) of men and 23% (193 of 858) of women reporting more than one lifetime STI (with mean sample ages of 32 and 30, respectively) suggests that this sample's STI rates are similar to the national random sample of Lewin *et al.*<sup>9</sup> in reported STIs, as these data values straddle the 19% reported in Lewin *et al.*'s study. However, the data in Table 2 also suggest that only a low proportion of STIs can be directly attributed to partners met on the Internet, although 5% of those reporting STIs did not respond to the question. More women listed HPV, and it is likely that this is a function of Pap testing and subsequently being diagnosed as having HPV. If we had asked about genital warts, the difference may have disappeared. These data suggest that Internet-mediated partner selection might be a part of a general pattern of STI risk behaviour, rather than a new STI risk environment.

The data in Tables 3 and 4 illustrate that there is nothing that significantly differentiates the men and women reporting STIs who use the Internet from those not reporting any STIs. These results mirror the findings of Ross *et al.*<sup>16</sup> that there are few differences between men and women in Swedish Internet samples. However, this lack of difference may not hold for other western environments where Internet use is still to some extent a gendered activity. These data suggest that distraction and curiosity are the two major reasons that both men and women use the Internet for sexual activity, although for men, viewing pornography and other erotic material, and to reach orgasm, are predominant reasons that were not endorsed by women. This suggests that gender differences in how the Internet is used for sexual purposes do occur between men and women.

Tables 3 and 4 suggest that none of the STI infection differences in males and females could be accounted for by patterns of Internet use because for all variables, there were no differences between those with or without an STI. This non-significant difference is important, as in the

**Table 3** Characteristics of Internet use of men who reported any STI compared with those reporting no STI

	Total, n	No STI (%), n = 691	STI (%), n = 137
<i>What respondents mostly do online that is related to love/sex:</i>			
Looking for love contacts	29	3.6	2.9
Flirting	77	10.0	5.8
Looking for sexual partner	65	7.7	8.8
Staying in contact with love/sex partner	53	6.5	5.8
Reading erotic texts	51	6.8	2.9
Viewing erotic pictures/movies	96	10.4	17.5
Viewing pornographic pictures/movies	181	21.9	21.9
Visiting sexual contact sites	53	6.5	5.8
Replying to sex advertisements	5	0.4	1.5
Chat	63	8.0	5.8
Educate self about sex/seek professional help	13	1.7	0.7
Buy sex products	3	0.4	0.0
Contact prostitutes	1	0.1	0.0
Nothing online related to sex	107	12.7	13.9
	$(\chi^2 = 18.186, \text{d.f.} = 14, P = 0.198)$		
<i>Mostly find sexual material:</i>			
By coincidence	106	12.8	12.9
Tips online	21	2.6	2.2
Tips offline	18	2.0	2.9
Surfing	447	54.3	52.5
Chat	17	1.7	3.6
Bookmarks	73	9.3	6.5
Never look	120	13.9	17.3
	$(\chi^2 = 4.922, \text{d.f.} = 7, P = 0.669)$		
<i>Reasons respondents mostly use the Internet for sexual activity:</i>			
Sex education	35	4.5	2.9
Distraction	203	23.8	27.7
Like to talk about sex	31	4.0	2.2
Curious	135	15.4	20.4
For dates	34	4.0	4.4
To meet someone offline	39	4.9	3.6
To meet people online with the same interests	11	1.4	0.7
Have sexual activities they do not have offline	4	0.6	0.0
Get support in sexual issues	8	0.9	1.5
Buy sex products	7	0.7	1.5
Contact prostitutes	2	0.3	0.0
To reach orgasm	144	17.9	14.6
Other reasons	15	1.7	2.2
Don't use for sexual reasons	163	19.9	18.2
	$(\chi^2 = 8.399, \text{d.f.} = 13, P = 0.817)$		

USA, outbreaks of syphilis have been linked to HIV seropositive MSM meeting sexual partners on the Internet and serosorting for HIV, but not any other disease.<sup>17</sup> However, the small *n* for STI infection did mitigate against finding significant differences.

Reports of STIs seem to be similar to other available national figures from men and women who use the Internet and responded to a survey on Internet sexuality. However, the STIs for whom the source could be estimated were mostly regular or casual partners and only a small number of infections could be attributed to Internet-mediated

sexual contacts. Although this is not surprising given that STIs were reported based on lifetime incidence, and Internet use at home was reported for an average of 7 years, there is little evidence in this sample that the Internet is fueling an upsurge in STI incidence. Nevertheless, the Internet and its use to access sexual partners and erotic materials may be part of a constellation of partner-seeking activities that are associated with heightened STI risk. More research is needed in this regard. These data have, nonetheless, implications for the use of the Internet as one approach to STI prevention strategies.

	Total, n	No STI (%), n = 658	STI (%), n = 191
<i>What respondents mostly do online that is related to love/sex:</i>			
Looking for love contacts	14	2.0	0.5
Flirting	67	7.6	8.9
Looking for sexual partner	45	4.9	6.8
Staying in contact with love/sex partner	122	14.1	15.2
Reading erotic texts	56	6.8	5.8
Viewing erotic pictures/movies	23	2.6	3.1
Viewing pornographic pictures/movies	19	2.1	2.1
Visiting sexual contact sites	54	5.6	8.9
Replying to sex advertisements	0	0.0	0.0
Chat	95	10.6	13.1
Educate self about sex/seek professional help	6.4	4.7	
Buy sex products	17	1.8	2.6
Contact prostitutes	0	0.0	0.0
Nothing online related to sex	253	31.8	23.0
	( $\chi^2 = 12.632$ , d.f. = 12, $P = 0.396$ )		
<i>Mostly find sexual material:</i>			
By coincidence	179	21.8	19.0
Tips online	17	1.7	3.2
Tips offline	17	2.1	1.6
Surfing	234	26.8	30.7
Chat	20	2.4	2.1
Bookmarks	24	2.3	4.8
Never look	335	40.7	36.0
	( $\chi^2 = 7.393$ , d.f. = 7, $P = 0.389$ )		
<i>Reasons respondents mostly use the Internet for sexual activity:</i>			
Sex education	47	6.2	3.1
Distraction	127	14.1	17.7
Like to talk about sex	31	3.0	5.7
Curious	113	14.1	10.4
For dates	18	1.5	4.2
To meet someone offline	14	1.8	1.0
To meet people online with the same interests	10	0.9	2.1
Have sexual activities they do not have offline	5	0.8	0.0
Get support in sexual issues	34	4.2	3.1
Buy sex products	16	1.8	2.1
Contact prostitutes	0	0.0	0.0
To reach orgasm	27	3.3	2.6
Other reasons	17	1.7	3.1
Don't use for sexual reasons	394	46.6	44.8
	( $\chi^2 = 19.549$ , d.f. = 12, $P = 0.076$ )		

**Table 4** Characteristics of Internet use of women who reported any STI compared with those reporting no STI

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## Learning about sex on the internet

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## The Internet as a source of information about sexuality

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To use the Internet for sex educational purposes and for sex information has been recognised by prior research as benefits of the technological development and important areas to investigate, but few empirical studies have so far been conducted. The purpose of this study was to identify those who use the Internet to seek information about sexual issues and to examine the reasons for using the Internet for this purpose. A total of 1913 respondents completed an online Swedish questionnaire about Internet sexuality and the 1614 who reported using the Internet for sexual purposes were selected for analysis in the current study. More than one-half of these respondents claimed to use the Internet to seek information about sexual issues. The results showed that men and women of all ages used the Internet for this purpose, suggesting that the need for sexual education persists even in the adult years. The reasons for seeking information were primarily to get knowledge about the body, about how to have sex, and out of curiosity. Knowing who seeks information about sexuality on the Internet and the reasons why may be helpful in identifying the needs of different groups of individuals as well as tailoring the information provided, both online and offline.

**Keywords:** Internet; sexuality; sex education; survey; Sweden

### Introduction

It is now well known that the Internet is used for a number of sexual activities (Ross 2005; Daneback 2006; Döring 2009). Prior research has emphasised various online sexual activities such as viewing pornographic pictures and movies (Daneback, Ross, and Månsson 2006; Træen, Nielsen, and Stigum 2006), cybersex (Daneback, Cooper, and Månsson 2005), sex dating (Daneback, Månsson, and Ross 2007; Sevcikova and Daneback 2010), and seeking knowledge about sexual issues (Daneback and Löfberg 2011). In addition, efforts have been made to identify characteristics and behaviours of those using the Internet for sexual purposes (e.g. Cooper et al. 2002). In this vein, much focus has been placed on specific subgroups such as adolescents and students (e.g. Boies, Knudson, and Young 2004; Peter and Valkenburg 2008; Löfgren-Mårtenson and Månsson 2010; Shaughnessy, Byers, and Walsh 2010), men who have sex with men (e.g. Davis et al. 2006; Ross et al. 2007), bisexual men and women (Daneback, Ross, and Månsson 2008) and sexual compulsives (Daneback, Ross, and Månsson 2006). A substantial part of the prior research deals with the possible effects or outcomes of using the Internet in terms of sexually transmitted infection/HIV transmission (McFarlane, Bull, and Rietmeijer 2002), sexual compulsivity (Delmonico and Miller 2003), sexual solicitation and harassment (Mitchell, Finkelhor, and Wolak 2007), and infidelity (Whitty 2005).

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In the mid-1990s, when the field of Internet sexuality was established, researchers pointed to the possible benefits of the newly emerged technology as well as the potential hazards (Cooper and Sportolari 1997; Cooper 1998). However, much of the research available in the field so far has focused on the negative and problematic aspects of using the Internet for sexual purposes (Döring 2009) and less on sexual lust, sexual health, sexual joy, and sexual knowledge. To use the Internet for sex educational purposes and to use the Internet for sex information were two emphasised areas, but both have remained under-researched (Cooper, McLoughlin, and Campbell 2000). Of the available studies, some of them focus on the Internet as an effective means of disseminating information about sexual issues in comparison with more traditional methods; for example, regarding sexually transmitted infection/HIV and birth control. Other studies focus on how the Internet could be used for changing attitudes and increasing knowledge through online interventions as well as through online therapy (e.g., Rietmeijer and Shamos 2007). A few studies have examined the quality of the information available on the Web (Li et al. 2006). Many studies on sex education online have revolved around a professional perspective and less focus has been on individual use of the Internet for this purpose. Thus, we have limited knowledge not only regarding the number of people using the Internet to gain knowledge about sexual issues, but also how, where, and why they have gone online to learn about sex and sexuality. Furthermore, we know little about what information and knowledge they look for.

Although population-based figures are lacking, we know that the Internet serves as a source of sexual information for people. The results from one of the first large-scale studies on Internet sexuality showed that 55% of women and 31% of men used the Internet for sex educational purposes (Cooper et al. 2002). In a Canadian college sample comprising 760 students it was found that 45% of women and 68% of men had searched for sex information during the past year (Boies 2002). In a Swedish study the corresponding figures were 24% versus 15%, respectively. However, this was for ages 18–75; for respondents aged 18–24 the percentages increased to 33% versus 20% for women and men respectively (Cooper et al. 2003). The results from the Swedish study suggest that using the Internet to look for information about sex is more common at younger ages than at older ages. However, this may be related to the fact that younger people use the Internet to a greater extent than older people. It has been suggested that sexual orientation influences the sexual activities engaged in on the Internet. For example, bisexual men and women have been found to use the Internet to look for information about sexuality to a greater extent than heterosexual men and women (Daneback, Ross, and Månsson 2008).

Daneback and Löfberg (2011) have shown that young people use the Internet to gain knowledge about their bodies and sexual identity. For example, they want to know about their bodily functions, if they are normal compared with peers, how to shave their genitals, and what it is like to be homosexual. Ross and Kauth (2002) suggested that the Internet may serve as a practice ground for gay men in their coming-out processes. Young people are also interested in more technically-oriented questions about sexuality; how to engage in various sexual acts such as having oral sex, vaginal sex, and anal sex, as well as how to use sex toys (Daneback and Löfberg 2011).

Information about sexuality can be found on dedicated professional websites, but can also be part of discussions in online fora where the users create the content themselves. Moreover, a recent study showed that 21% of women and 23% of men aged 18–24 viewed pornography to gain knowledge about sexuality (Daneback and Månsson 2009). In their qualitative study of adolescents' perceptions and experience with pornography on the Internet, Löfgren-Mårtenson and Månsson (2010) also found that even though the content



of the pornography was usually described as rather violent and rough, some of its substance also functioned as a source of information for the young people. This suggests that seeking information on the Internet may be interactive as well as non-interactive, provided through text and images. On the other hand, prior research has shown that pornography is not a primary source of information about sexuality in a sample of college students. However, the students reported media as their second source of information, following peers. The knowledge they got from pornography primarily revolved around sexual practices (Trostle 2003).

As mentioned above, Daneback and Löfberg (2011) suggested that the Internet makes it possible to express thoughts, experiences and questions about sex and sexuality that are not culturally or socially acceptable offline. Furthermore, it is possible to extend knowledge beyond what is locally available in terms of how and with whom it is possible and/or permissible to discuss sexual issues. This interpretation relates to the theoretical idea of sexual scripts as proposed by Gagnon and Simon (2005). The sexual scripts can be seen as manuscripts guiding individual, interpersonal, and cultural sexual behaviour; what is acceptable and unacceptable conduct.

The aim of this study was to expand upon the current knowledge about using the Internet to gain knowledge in sexual issues. More specifically, we aimed to identify those who use the Internet to seek information about sexuality based on socio-demographic variables (age, gender, relationship status), sexual behaviour offline (intercourse frequency and masturbation frequency) and online sexual behaviour (reading erotic novels, viewing pornography, chatting about sex with others, shopping for sex products, flirting, looking for romantic partners, looking for sex partners, as well as experience of cybersex and experience meeting sex partners from the Internet). In addition, we aimed to examine the reasons for using the Internet to seek information about sexual issues.

## Methods

### *Procedure*

The web questionnaire was administered in the Swedish language on four sites: three public-domain websites and a Swedish university. Two websites were portal sites oriented toward adults, presenting information from diverse sources and including various applications (such as email) with one leaning more towards online dating. The third website was an explicit youth community website, one of the two largest in Sweden for 16–29-year-olds. The sites were *passagen.se* with approximately 500,000 unique visitors per week, *spray.se* with approximately 400,000 unique visitors, and *playahead.se* with approximately 100,000 unique visitors per week. The size of the university was over 20,000 students.

Between 27 February and 8 March 2009 a banner was placed on the *passagen.se* and *spray.se* web portal sites, which was visible at all times for all visitors to that site. The banner stated: 'Participate in a study on love and sex on the Internet'. On 11 March, an email was sent to all active student email addresses registered at the university, briefly describing the study including a hyperlink to the web questionnaire. Finally, on 18 March, a similar email message was randomly sent to 10,000 members 18 years or older of the *playahead.se* community by the website administrators. Data collection ended on 20 March 2009.

By clicking the banner adverts or the hyperlink, the respondents were linked to an introduction webpage located on a server owned by the web survey company, Entergate. The introduction page had the university logo (visible throughout the questionnaire) and

described the study, questions related to ethics and confidentiality, the number of questions and the estimated time it would take to complete the questionnaire. The respondents were also informed that participation was voluntary but limited to people aged 18 and older. The introduction page included links to the researchers' profile pages on the university website, which in turn included contact details. At the bottom of the introduction page the respondents were asked to click the 'continue button' if they had read through the information, were aged 18 or older, and agreed to participate in the study. By clicking the button the respondents were linked to the questionnaire hosted on Entergate's server.

The web questionnaire comprised a total of 85 questions. However, by using skip patterns we were able to personalise the questions to some extent. This reduced the number of questions to 51 for some respondents. Each respondent opened a session on the server and responses were recorded on the server subsequently with the possibility of revising answers (i.e., the respondents could go back and forth in the questionnaire before finally submitting it). Due to the format and technique used, we were able to identify those who dropped out from the questionnaire before completion. A total of 4637 respondents began to fill out the questionnaire and 1913 completed it, meaning an internal drop-out rate of 58%. The drop-out rate is consistent with the findings of an earlier Swedish Internet sexuality study using a web questionnaire (Ross et al. 2003). These participants will be the subject of further analyses but they were dropped for the purposes of the current study, which comprised only completed questionnaires. Ross et al. (2003) have described the biases associated with non-completion in web surveys.

When the respondents had finished or quit the questionnaire, the session was shut down. Those who completed their questionnaire were linked to a webpage thanking them for their participation and giving encouragement to contact the researchers if they would have any questions. Finally, they were linked to the research programme's website.

### ***Instrument***

The instrument was based on an earlier instrument that was used in a similar study in 2002 (see Cooper et al. 2003) but revised and expanded. The questionnaire comprised 85 questions divided into six subsections. The first section had 24 socio-demographic questions including items on Internet access, various forms of relationship constellations, love, and sexuality. Section Two had 28 questions about love and sexual activities on the Internet, focusing on what sexual activities the respondents engage in on the Internet, how frequently (daily, weekly, monthly, annually or never), and reasons for engaging in these activities. Section Three comprised 11 questions of sexual exposure and sexual exploitation. The fourth section had six questions about sexual activities in exchange for money or goods (attitudes and experiences). Section Five had six questions about positive and negative experiences from using the Internet for love and sexual purposes. The sixth section comprised 10 questions on online sexual problems (i.e. loss of control, addiction to online sex, sexually transmitted infections and HIV). Before submission, the respondents were provided with the possibility of commenting on the questionnaire in an open-ended question (text box).

### ***Sample***

The sample participating in this study came from the population who visited the *passagen.se* and *spray.se* web portals during the time of the study, those who were

members of the *playahead* web community by 18 March 2009, and those who were enrolled in the university in the spring semester of the 2009 Swedish academic year.

A total of 1913 respondents completed the questionnaire. The majority of the respondents were recruited from the university ( $n = 955$ ), and from the *playahead.se* web community ( $n = 580$ ). The numbers recruited from *spray.se* and *passagen.se* were 273 and 105 respondents, respectively.

The sample comprised 66% women and 34% men. However, the distribution differed depending on site of recruitment (university, 78% women vs. 22% men; *playahead.se*, 50% women vs. 50% men; *spray.se*, 63% women vs. 37% men; *passagen.se*, 42% women vs. 58% men). The mean age for women was 28 years and for men 29 years and also differed depending on site of recruitment (university, 29 years for both sexes; *playahead.se*, 20 years for women vs. 21 years for men; *spray.se*, 37 years for women vs. 43 years for men; *passagen.se*, 36 years for women vs. 46 years for men). Approximately 1% of respondents claimed to be from a country outside Sweden.

In this study, only those who reported using the Internet for sexual purposes were included ( $n = 1614$ ), 62% women and 38% men. Using the Internet for sexual purposes was defined as reporting experience of, regardless of frequency, one or more of the following online sexual activities: reading erotic novels; viewing pornography; chatting about sex; seeking information about sexual issues; buying sex products; flirting; seeking romantic partners; seeking sex partners; having met partners online for offline sex; having had cybersex.

### **Data analysis**

All data were analysed with SPSS version 17. We aimed to identify those who used the Internet to seek information about sexual issues. In the questionnaire, the respondents were able to report how frequently they used the Internet for this purpose, but due to the highly right-skewed distribution, the variable was re-coded into a dichotomous variable where zero = have not used the Internet to seek information about sexual issues and one = have used the Internet to seek information about sexual issues. This was the dependent variable. To identify groups (dependent variable) we used two multivariate binary logistic regression models, one for women and one for men, in which we had included a set of pre-determined predictors (independent variables). The independent variables were entered into the model and covered three areas: *socio-demographic variables* – age (age groups: 18–24; 25–34; 35–49; 50–65), place of birth (Sweden or abroad), relationship status (in a relationship or not in a relationship), and sexual orientation (based on sexual experience: heterosexual; homosexual; bisexual); *offline sexual behaviour* – frequency of having sex in the last 12 months (daily, weekly, monthly, rarely, not in last 12 months) and frequency of masturbation (daily, weekly, monthly, rarely, never masturbate); and *online sexual behaviour* – reading erotic novels, viewing pornography, chatting about sex, buying sex products, flirting, seeking romantic partners, seeking sex partners, having met partners online for offline sex, having had cybersex.

In the current study, we also aimed to examine the reasons as to why the Internet was used to seek information about sexual issues. Factor analysis (principal components analysis with varimax rotation) was performed on the reasons for using the Internet to find any underlying dimensions. Each factor was scored where one = checked that category. Three potential factors were identified: the first factor included four categories and the remaining two factors had three categories each, with a possible score range of zero to four and zero to three, respectively. In addition, we aimed to examine variables that were

associated with each of the factors. However, due to their right-skewed distribution, both linear and ordinal regression were inappropriate and thus the factors were re-coded into binary variables where zero = no category checked and one = one to four (one to three) categories checked. One multivariate logistic regression model was built for each of the three groups (dependent variables) and included a set of predetermined predictor variables (independent variables). These were organised around: *socio-demographic variables* – age (age groups: 18–24; 25–34; 35–49; 50–65), place of birth (Sweden or abroad), relationship status (in a relationship or not in a relationship), and sexual orientation (based on sexual experience: heterosexual; homosexual; bisexual); and *offline sexual behaviour* – frequency of having sex (daily, weekly, monthly, rarely, not in last 12 months) and frequency of masturbation (daily, weekly, monthly, rarely, never masturbate).

The effects for the multivariate logistic regression analyses are expressed in odds ratios (OR) where values above one indicate increased effects and values below one indicate decreased effects.

## Results

A total of 1598 respondents answered the question about whether they used the Internet to seek information about sexual issues. Overall, more than one-half reported having used the Internet for this purpose (Table 1). Among women this varied slightly across the age groups, with the highest percentage among women aged 25–34 years (68%) and the lowest among women aged 35–49 years (45%). For men, the percentages were more stable at around 50% for all age groups.

Table 2 displays the results of the multivariate logistic regression analysis. The Hosmer and Lemeshow goodness of fit was non-significant for both models (women  $p = 0.547$ ; men  $p = 0.609$ ), indicating that the models adequately fitted the data. The results indicated for women that age, place of birth and online sexual activity were significantly associated with seeking information about sexuality online, while for men online sexual activities was the only significant association. Women aged 25–34 were significantly more likely to seek information about sexuality on the Internet (OR = 1.42) while women aged 35–49 were less likely to do so (OR = 0.54) compared with women aged 18–24. Compared with those women born in Sweden, foreign-born women were less likely to seek information about sexuality online (OR = 0.56). In addition, women who used the Internet to seek sex partners (OR = 1.85) and who had had sex with partners they had met on the Internet (OR = 1.49) were more likely to seek information about sexuality online. Among the men, those who read erotic novels (OR = 2.45) and who chatted about sex online (OR = 2.18) were more likely to seek information about sexuality online than men who had not engaged in these activities.

The three most commonly endorsed reasons to use the Internet to seek for information about sexuality were ‘to get knowledge of my body’, ‘to get knowledge about how to have sex’, and ‘because of curiosity about sex’ (Table 3). Interestingly, among women aged 35–49 and 50–65 the greatest proportion reported curiosity as their reason to seek information about sexuality online, followed by knowledge about how to have sex and knowledge about their body. In comparison, knowledge about their body was the reason reported by the largest proportion of women aged 18–24 and 25–34. There was clearly a generational aspect involved as a larger proportion of the younger respondents aged 18–24 and 25–34 reported all three reasons compared with those aged 35–49 and 50–65. For men, regardless of age, curiosity was the number one reason followed by knowledge about how to have sex. For the youngest and the oldest age groups, knowledge about their body

Table 1. Percentage of participants who sought information about sexuality online by sex and age ( $n = 1598$ ).

	Women				Men			
	18–24 ( $n = 533$ )	25–34 ( $n = 280$ )	35–49 ( $n = 156$ )	50–65 ( $n = 32$ )	18–24 ( $n = 320$ )	25–34 ( $n = 156$ )	35–49 ( $n = 79$ )	50–65 ( $n = 42$ )
Yes	57	68	45	53	51	55	49	55
No	43	32	55	47	49	45	51	45

Table 2. Factors associated with seeking information about sexuality online: multivariate logistic regression ( $n = 1499$ ).

	Women				Men			
	OR	95% CI		<i>p</i>	OR	95% CI		<i>p</i>
		Lower	Upper			Lower	Upper	
Age								
18–24 (ref.)	1				1			
25–34	1.42	1.01	1.99	0.039	1.42	0.91	2.24	ns
35–49	0.54	0.36	0.81	0.003	1.03	0.57	1.87	ns
50–65	0.87	0.40	1.91	ns	1.41	0.69	2.98	ns
Place of birth								
Sweden (ref.)	1				1			
Abroad	0.56	0.34	0.94	0.027	1.41	0.80	2.49	ns
Relationship status								
In a relationship (ref.)	1				1			
No relationship	1.03	0.88	1.85	ns	1.38	0.86	2.20	ns
Sexual orientation								
Heterosexual (ref.)	1				1			
Homosexual	0.88	0.27	2.84	ns	0.95	0.32	2.85	ns
Bisexual	1.03	0.71	1.49	ns	0.76	0.37	1.60	ns
Frequency of having sex (last 12 months)								
Daily (ref.)	1				1			
Weekly	1.56	0.85	2.88	ns	1.04	0.51	2.14	ns
Monthly	1.30	0.69	2.44	ns	0.78	0.38	1.60	ns
Rarely	1.35	0.68	2.68	ns	1.18	0.54	2.58	ns
No sex	0.82	0.35	1.93	ns	1.28	0.52	3.19	ns
Frequency of masturbation								
Daily (ref.)	1				1			
Weekly	0.97	0.46	2.03	ns	1.13	0.71	1.80	ns
Monthly	0.91	0.43	1.92	ns	1.39	0.77	2.51	ns
Rarely	0.74	0.35	1.59	ns	1.24	0.61	2.52	ns
Never masturbate	0.71	0.30	1.59	ns	0.85	0.24	2.96	ns
Online sexual activities								
Read erotic novels	1.89	0.89	1.59	ns	2.45	1.69	3.56	0.001
View pornography	0.99	0.73	1.34	ns	1.20	0.67	2.15	ns
Chat about sex	0.74	0.51	1.06	ns	2.18	1.36	3.50	0.001
Buy sex products	0.92	0.68	1.25	ns	1.33	0.87	2.02	ns
Flirt	0.71	0.49	1.02	ns	1.01	0.61	1.66	ns
Seek romantic partner	1.16	0.76	1.76	ns	1.11	0.70	1.77	ns
Seek sex partner	1.85	1.06	3.25	0.031	1.27	0.76	1.98	ns
Have offline sex	1.49	1.10	2.02	0.011	0.98	0.63	1.50	ns
Have cybersex	0.72	0.51	1.03	ns	1.15	0.71	1.86	ns

Notes: CI, confidence interval; ns, not significant.

was the third most reported reason, while for the two middle-aged groups it was anonymity. The age differences for men were more subtle and inconsistent compared with the age differences for women. There was a slight tendency that seeking information about sexuality to become sexually aroused increased with age for both men and women. It is also noteworthy that 10% of the men aged 50–65 reported that they did not have anyone to talk to about sex, but the sample size was small for this age group. In addition, 14% of young males (aged 18–24) claimed to seek information about sexuality to compare themselves with others.

Table 3. Reasons to seek information about sexuality online (%) by sex and age ( $n = 1600$ ).

	Women				Men			
	18–24 ( $n = 534$ )	25–34 ( $n = 281$ )	35–49 ( $n = 156$ )	50–65 ( $n = 32$ )	18–24 ( $n = 320$ )	25–34 ( $n = 156$ )	35–49 ( $n = 79$ )	50–65 ( $n = 42$ )
Not wanting to talk about sex with others offline	3	1	2	0	8	6	4	2
Not having others to talk about sex with offline	2	2	2	3	5	6	4	10
May be anonymous online	15	13	11	13	17	22	17	7
To get knowledge about body	35	38	15	13	25	21	8	17
To find out if functioning normally	17	15	8	6	18	8	8	12
To get knowledge about how to have sex	29	29	18	16	30	26	25	27
To become sexually aroused	2	5	5	6	7	8	9	10
Because curious about sex	28	34	19	22	30	35	33	36
Not daring to talk about certain sexual things offline	3	3	2	0	6	6	5	2
To compare myself with others	8	8	6	0	14	6	9	0

Table 4. Reasons to seek information about sexuality online: factor analysis.

Variable	Loading
Factor 1 – embarrassment	
Not wanting to talk about sex with others offline	0.74
Not having others to talk about sex with offline	0.73
Not daring to talk about certain sexual things offline	0.70
May be anonymous online	0.55
(Cronbach's $\alpha = 0.61$ ; 30.72% of variance)	
Factor 2 – knowledge	
To find out if functioning normally	0.83
To get knowledge about body	0.71
To compare myself with others	0.65
(Cronbach's $\alpha = 0.64$ ; 14.37% of variance)	
Factor 3 – curiosity	
Because curious about sex	0.77
To become sexually aroused	0.69
To get knowledge about how to have sex	0.63
(Cronbach's $\alpha = 0.58$ ; 10.93% of variance)	

To find possible underlying dimensions, the 10 reasons to use the Internet to seek information about sexuality were subjected to factor analysis (Table 4). Based on a Scree test, three factors were extracted explaining 56% of the variance. Factor 1 was labelled *Embarrassment* (Cronbach's  $\alpha = 0.61$ ), Factor 2 was labelled *Knowledge* (Cronbach's  $\alpha = 0.64$ ), and Factor 3 was labelled *Curiosity* (Cronbach's  $\alpha = 0.58$ ).

Table 5 shows the results of the multivariate logistic regression models for each dimension found in the factor analysis. The Hosmer and Lemeshow goodness of fit was non-significant for all three reasons (*Embarrassment*,  $p = 0.913$ ; *Knowledge*,  $p = 0.470$ ; *Curiosity*,  $p = 0.999$ ), indicating that the models were adequately fitted to the data. The analysis showed that each reason was associated with different socio-demographic characteristics and offline sexual behaviours. *Embarrassment* was associated with gender and sexual behaviour, *Knowledge* was associated with gender, age, place of birth and sexual orientation, and *Curiosity* was associated with sexual orientation and sexual behaviour.

Men were more likely than women (OR = 1.55) to use the Internet to seek information about sexuality due to embarrassment. Those who had not had sex in the last 12 months (OR = 5.48) and those who had rarely had sex (OR = 3.60) were more likely to have sought information online due to embarrassment compared with those who had sex on a daily basis. Men were less likely than women (OR = 0.67) to use the Internet for reasons relating to knowledge. Similarly, those who were in the age groups 35–49 (OR = 0.29) and 50–65 (OR = 0.30) were less likely to use the Internet for reasons relating to knowledge compared with those aged 18–24, as were those who were foreign-born versus Swedish-born (OR = 0.42) and those who were bisexual (OR = 0.60) compared with heterosexual. Homosexuals were less likely than heterosexuals to report curiosity-related reasons. In addition, those who reported never masturbating or who rarely masturbated were less likely to use the Internet to seek information about sexuality for reasons related to curiosity compared to those who masturbated daily.



Table 5. Effect on odds depending on reason to seek information about sexuality online: multivariate logistic regression ( $n = 841$ ).

	Embarrassment				Knowledge				Curiosity			
	OR	95% CI		<i>p</i>	OR	95% CI		<i>p</i>	OR	95% CI		<i>p</i>
		Lower	Upper			Lower	Upper			Lower	Upper	
Sex	1				1				1			
Woman (ref.)	1.55	1.09	2.21	0.015	0.67	0.48	0.94	0.022	1.42	0.97	2.07	ns
Man	1				1				1			
Age	1				1				1			
18–24 (ref.)	0.91	0.64	1.29	ns	0.77	0.55	1.07	ns	0.89	0.63	1.26	ns
25–34	0.91	0.56	1.49	ns	0.29	0.18	0.46	0.001	1.08	0.65	1.78	ns
35–49	0.88	0.42	1.85	ns	0.30	0.15	0.60	0.001	0.76	0.37	1.57	ns
50–65	1				1				1			
Place of birth	1				1				1			
Sweden (ref.)	1.52	0.89	2.59	ns	0.42	0.25	0.70	0.001	1.09	0.67	1.78	ns
Abroad	1				1				1			
Relationship status	1				1				1			
In a relationship (ref.)	0.99	0.69	1.42	ns	0.83	0.59	1.16	ns	0.80	0.55	1.15	ns
No relationship	1				1				1			
Sexual orientation	1				1				1			
Heterosexual (ref.)	1.09	0.40	2.98	ns	0.62	0.23	1.67	ns	0.19	0.07	0.54	0.002
Homosexual	0.87	0.55	1.37	ns	0.60	0.40	0.91	0.015	0.71	0.71	0.46	ns
Bisexual	1				1				1			
Frequency of having sex (last 12 months)	1				1				1			
Daily (ref.)	2.03	0.94	4.41	ns	1.48	0.80	2.73	ns	0.72	0.34	1.52	ns
Weekly	1.93	0.88	4.22	ns	1.15	0.61	2.15	ns	0.68	0.32	1.46	ns
Monthly	3.60	1.59	8.18	0.002	1.64	0.82	3.27	ns	0.48	0.21	1.09	ns
Rarely	5.48	2.12	14.16	0.001	1.91	0.80	4.54	ns	0.40	0.15	1.07	ns
No sex	1				1				1			
Frequency of masturbation	1				1				1			
Daily (ref.)	0.86	0.51	1.42	ns	1.03	0.63	1.69	ns	0.62	0.33	1.15	ns
Weekly	0.91	0.52	1.59	ns	1.40	0.82	2.41	ns	0.58	0.30	1.11	ns
Monthly	0.77	0.42	1.41	ns	1.43	0.80	2.59	ns	0.37	0.19	0.74	0.005
Rarely	0.57	0.24	1.38	ns	1.12	0.51	2.43	ns	0.30	0.13	0.68	0.004
Never masturbate	1				1				1			

Notes: CI, confidence interval; ns, not significant.

## Discussion

The aim of this study was to expand upon our understanding of the use of the Internet to seek information about sexuality in a sample of respondents who use the Internet for sexual purposes. More specifically our aim was to identify users in terms of socio-demographic characteristics, sexual behaviour offline and sexual behaviour online. In addition, we aimed to examine the reasons as to why the Internet is used to seek information about sexuality.

In our sample, more than one-half of the respondents reported using the Internet to seek information about sexuality. This is in line with prior research on college students (Boies 2002) but the percentages were significantly higher compared with a US study comprising a more diverse sample (Cooper et al. 2003). Most probably, these figures have increased as Internet penetration has continued to increase. Nevertheless, it is worth noting that this study was conducted in Sweden, which has one of the longest traditions of mandated sex education in schools (since 1956). The results of this study suggest that the Internet constitutes a source of sexual knowledge for the majority of individuals in a sample of respondents who use the Internet for sexual purposes. However, randomised population-based data would be needed to generalise this finding to the public.

Our results showed that it is possible to discriminate between people who use the Internet to seek information about sexuality and those who engage in other kinds of online sexual activities. Interestingly, women aged 25–34 were more likely, and women aged 35–49 less likely, than women aged 18–24 to use the Internet for this purpose. Perhaps this indicates that the need for sex education persists even in the adult years. In their study on sexuality education opportunities at in-home sex-toy parties, Fisher et al. (2010) claim that little attention has been given to adult sexuality education outside educational settings and suggest that besides in-home sex-toy parties, which was the focus for their study, there may be other potential venues for adult sexuality education both offline and online.

Women who use the Internet to seek information about sexuality were also less likely to be foreign-born than Swedish-born. This could be related to cultural aspects where other sources are available, where the need is not persistent, or where women are not supposed (due to cultural proscriptions regarding sexuality in women) to seek information about sexuality. To date, ethnicity has not been extensively examined in studies on Internet sexuality and cross-cultural studies are scarce and should be considered in future research.

Engagement in online sexual activities was also associated with seeking information about sexuality online. Women who had sought sex partners online and who had had sex with someone they had met online were more likely to seek online information about sexuality than women who had not engaged in these behaviours. This is an interesting observation. A deeper understanding as to why women who are sexually active both online and offline are more likely to seek information about sexuality than other women most certainly requires a more qualitative approach. It is not unlikely that being sexually active promotes further curiosity and an urge to know more about sex. On the other hand, it is also possible that having had sex with someone that one has met online – especially if it was a single encounter – may lead to a concern, even anxiety, about the consequences of the eventual sexual risk-taking involved. Seeking online information could very well function as a way of coping with that anxiety.

Men who had read erotic novels online and who had chatted about sex online were more likely to have sought online sexuality information than men who had not engaged in these behaviours. At this point we are unable to explain these results, but they suggest that, of those who use the Internet to seek information about sexuality, women's other online

sexual activities revolve around sexual encounters while men's other online sexual activities are more related to online communication (reading and writing).

This study showed that the reasons for using the Internet to seek information about sexuality were primarily to get knowledge about the body, about how to have sex, and out of curiosity. These results coincide with prior research (Daneback and Löfberg 2011). For women aged 18–34 knowledge about the body was the primary reason, while for women aged 35–65 curiosity was the primary reason. In comparison, all men reported curiosity to be their primary reason.

Only a small proportion of the respondents reported anonymity as the reason to seek sex information online (ranging from 7% to 22% across age groups). This is an interesting observation since anonymity has been suggested as one of the driving forces behind the use of the Internet for sexual purposes (Cooper 1998). Perhaps this mirrors a more liberal attitude towards sex and sexuality in Sweden, but also that anonymity may be of less importance than previously thought. A previous study indicated that for young Internet users it was more important to not have to talk about sex with someone face to face compared with being anonymous (Daneback 2006).

In this study, we showed that the various reasons to use the Internet to seek information clustered around three dimensions. These dimensions comprised reasons related to embarrassment, knowledge, and curiosity. Moreover, we showed that these dimensions were associated with the respondents' socio-demographic characteristics and sexual behaviour and that respondents had different reasons for seeking information about sexuality online. For example, men with low sexual activity in terms of frequency of sex were more likely to report embarrassment-related reasons. Respondents who reported knowledge-related reasons were more likely to be Swedish-born heterosexual women aged 18–24. And lastly, those who reported curiosity-related reasons were likely to be heterosexuals with high sexual activity in terms of frequency of masturbation.

Recognising differences in the reasons for seeking information about sexuality online may be helpful in identifying the needs of different groups of individuals and tailoring the information provided as well as the means utilised to provide the information; for example, through websites and web (discussion) fora. Web-based tailored interventions have been shown to positively impact a wide range of health behaviours, including sexual health (Bennett and Glasgow 2009; Noar, Black, and Pierce 2009; Ybarra and Bull 2007). Key characteristics of effective programmes include the ability to tailor activities by gender and by readiness to change (Lustria et al. 2009; Noar, Black, and Pierce 2009), reiterating the need to better understand gender and other differences in Internet usage regarding sexual health as demonstrated in the current study.

### *Limitations*

This study was not without limitations. First, it was a convenience sample; thus, we are not able to make generalisations to a larger population. Furthermore, without a population-based sample there is no way to estimate the number of people who may use the Internet for sexual purposes in general, and to seek information about sexual issues in particular. However, a prior study examined a national random population-based sample with an Internet sample and found them to be partly comparable, although the respondents in the Internet sample were younger, better educated, living in a major city, in committed relationships, and had had more sex partners in the past year (Ross et al. 2005). Second, the current study was conducted in Sweden and the results may differ from those in other countries on several parameters. Nevertheless, Cooper et al. (2003) found their results to

be cross-culturally comparable. Third, more than one-half of those who started to fill out the questionnaire quit before completion, which may have introduced a dropout bias. In a prior study, Ross et al. (2003) found drop-out to vary by, for example, gender, sexual orientation, and relationship status. Fourth, this was a self-reported questionnaire, which means that participants may have over-reported or under-reported their actual behaviour due to social desirability pressures.

## Conclusions

This is one of the first studies to focus on the use of the Internet to seek information about sexuality. We found that those who used the Internet for seeking information about sexual issues differed from those who engaged in other sexual activities online. Furthermore, there were different reasons for seeking sex information on the Internet, indicating a non-homogeneous group.

The Internet seems to be a source of information about sexuality for those who use the Internet for sexual purposes, even in a country that has a tradition of age-appropriate and accurate sex education in schools. Either the school sex education programmes do not provide the information that the students want or they do not cover issues sufficiently, or, more likely, there are subsequent questions regarding sexuality that arise in adulthood. Overall, our results suggest that the need for information and knowledge about different aspects of sexuality makes itself felt during different periods of the life-course. Furthermore, it may also be the case that an increasing occurrence of sexually-related activities on the Internet itself, of which quite a few lead to sexual encounters offline, creates a need for more information about sexuality and sexual behaviour. This we need to know more about. Tailored, web-based sexual health interventions have the potential to reach individuals via established media, which they are already accessing for credible, confidential, and non-judgemental information.

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# Chapter 11

## Youth, Sexuality and the Internet:

### Young People's Use of the Internet to Learn about Sexuality

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#### **ABSTRACT**

*Prior research on the use of the internet for sexual purposes has primarily focused on its negative and problematic aspects, such as compulsivity and addiction. Thus, little is known about any possible benefits. The purpose of the current chapter is to focus on how young people aged 12-24 use the internet as a source of knowledge about sexuality. The results rely on qualitative and quantitative data collected in Sweden at various points in time between 2002 and 2009. Young people seek information about various things in relation to sexuality. The primary reason is to gain knowledge about bodily functions and sexual performance. The qualitative data also indicated gender differences in how sexual issues were communicated online. Some young people sought sex information to become sexually aroused while others viewed online pornography to gain knowledge about sexuality, suggesting a possible link between knowledge and sexual arousal. The internet encompasses specific characteristics making it easier to communicate about sexuality in ways sometimes impossible offline. The fact that one can type while being physically distant to others appears to be a particular advantage with using the internet as a source for knowledge about sexuality compared to other ways of communication.*

*This chapter contains explicit content*

#### **INTRODUCTION**

The purpose of this chapter is to discuss how the internet can constitute an arena of knowledge and learning about sexuality for young people

in today's society. In many western cultures and societies sexuality is surrounded by shame and guilt and often consigned to the private areas of life. Nevertheless, sexuality is one part of the reflexive self which is being negotiated in a never-ending project (Giddens, 1992). Gagnon

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and Simon (1973) claim that the sexual learning process from early age is often non-verbal or negative in the sense that sexual behaviours are either ignored or deemed inappropriate. Sexuality or knowledge about sexual intercourse, for example, is not included in the cultural norms embedded in modern discourses of childhood and therefore neglected (Renold, 2005). According to Gagnon and Simon (1973), most of our sexual knowledge is gained from peers when we are young. As we grow older, we make the association between sexuality and guilt which makes us keeping sexual matters secret from, for example, parents and friends.

The consequence is that sexual arousal and practices are restricted to the individual and kept as secrets, away from others sometimes including one's partner(s). At the same time, and as Foucault (1976) observed some decades ago, sexuality is discussed more openly today than ever before; it is constantly present in public settings in various media and defined as the individual's responsibility. This reveals two parallel tendencies: privatization by individualization on the one hand and collectivization by increasing public exposure on the other. One can assume that this becomes a complex area to handle for the individual in general and for young people in particular since sexuality is a topic in progress for this group. Young people and the complexity of the topic combined with the restrictions for social performances in offline environments and the alternative conditions for interaction that the internet provides make an interesting point of departure for further investigation about how this topic is handled by young people in online environments. This point of departure becomes even more interesting when considering the technological shift from the early days when the World Wide Web was a means to communicate contents to an almost endless number of users to Web 2.0 platforms where the users create the content themselves in a more interactive version of the web.

Relatively few studies focus on how young people seek information or talk about love and sexuality online and when this is the case they primarily focus on the negative or problematic aspects associated with this usage. Concerns arise in adult society when young people spend time interacting or gathering information about sexuality. One example of this is a study of youth magazines in the UK (Tincknell et al., 2003). This study shows that there is a "societal concern" arising about some magazines that provide too much sexual information to young girls. One can easily come to the conclusion that young people's use of the internet for developing sexual skills is a burning issue and therefore strongly related to negative aspects. So far users have been seen as passive victims of problematic online content (Döring, 2009). This may be particularly true when referring to the younger segment of users. However, research suggests that most young people manage to navigate in the sexual landscape while being both reflective and critical (Månsson & Löfgren-Mårtenson, 2007). Thus, young users should be perceived as active internet users who decide what content they want to find and what content they want to avoid online. Furthermore, young users may be perceived to encompass a competence which allows them to evaluate and reflect over the sexually related content they find or avoid on the internet.

Although the number of published articles about love and sexuality on the internet has grown exponentially since 1993, a closer look reveals a fragmented field of research. A comprehensive literature review of the scientific journal papers published between 1993 and 2010 concludes that a lions share of the studies have focused on the negative – or problematic – consequences of the use of the internet for sexually related activities (Döring, 2009). Another literature review suggests that it is possible to discern three problematic areas that have caught the researchers' attention since the mid 1990s. One is the medical, or epidemiological, area where the major focus has been on the internet in



relation to HIV and sexually transmitted infections (primarily in the subgroup of men who have sex with men). Another area is more psychologically oriented and focuses primarily on internet addiction and compulsivity raising questions whether or not the use of the internet for sexual purposes will lead to addiction or compulsive behaviour? The third area concerns moral aspects such as infidelity and pornography use and the effect on partners and children (Daneback, 2006). Perhaps a legal area could be added including online sexual solicitation, prostitution, and child pornography.

Among the studies conducted so far, only a few focus on how the internet is used to find information and increase knowledge of sexual matters (Döring, 2009). Tentative results from a recent Norwegian study suggest that 9 out of 10 women and practically all men (99%) aged 18-30 to use the internet for sexual purposes. Compared to earlier studies, using the internet to find information about sexual matters, to view pornography and to buy sexual products seem to have increased among young people. A recent Swedish study showed that seeking information about sexual matters on the internet was the most common online activity for young women (18-24 years). For men in the same age group, viewing pornography and flirting with others ranked higher than information seeking, but at the same time they sought information to almost the same extent as women did (Daneback & Månsson, 2009).

Some studies have focused on evaluating the quality of the information about sexuality found on various web sites while others have focused on educational interventions, for example how the internet could be used in sex education and sex therapy. The common denominator is the fact that they are created by experts. Less focus has been put on how internet users create the content themselves on so called Web 2.0 platforms (Döring, 2009). This could perhaps explain the persistent view on the users as passive receivers rather than active users creating the content through interaction.

In this chapter we will discuss how the use of the internet to talk about and seek information about sexual matters can be understood as a source of knowledge for different kinds of sexual questions that young people may have.

## **BACKGROUND**

### **Young People and Sexuality**

Young people start acting out sexual identities in the way they socialize with each other around the age of ten (Renold, 2005). Of course this also includes thoughts about the sexual body and what this body can/should look like and how it can be used. Earlier, these thoughts were often kept to oneself because of the difficulties one had as a child or adolescent to enter the “world of sexuality” controlled by the adult world. Barriers that used to separate childhood from adulthood and reproduce the cultural representation of childhood and children as innocent, pure and natural are now being overcome through media (Buckingham, 2000; Prout, 2008). Today, talking about the sexual body online and the knowledge that comes out of it is a source for information about the sexual body available to most young people in western societies. Discussion fora on the internet on the topic sexuality are used by children and youths to gain knowledge of sex and relationships (Löfberg, 2008). Heterosexuality as a norm and as an everyday practice is a “key theme” when children are making sense of themselves as girls or boys (Renold, 2005). Renold’s (2005) ethnographic study of children’s (age 10-11) gender and sexual relations in primary school clarifies the importance of the heterosexual institution for becoming a “proper” girl or boy. Being able to attract a person of the opposite sex becomes a signifier on how well one is succeeding with the task of being a proper girl or boy. When it comes to sex and sexuality these are phenomena that are not included in the concept of childhood. Renold

states that “sexual innocence then is something that adults wish upon children, not a natural feature of childhood itself” (Renold, 2005, p. 22). Media and societal notions about sexuality influence the cultural notions that develop in young people’s creations of meaning on a day-to-day basis. In adolescence the interest in sexuality and the sexual drive increases (Subrahmanyam et al., 2004). Earlier research shows that the primary source for information about sex is peer-communication followed by the media (Gagnon & Simon, 1973; Subrahmanyam et al., 2004). At the same time, for many adolescents sexuality is a controversial topic; a topic where confidentiality is of particular concern (Suzuki & Calzo, 2004).

Young people, the internet, and sexuality brought together in one constitute a topic of highest interest for media and have become a major concern in the adult world. From being “a forbidden area of the adult world” sexuality is now accessible to children and young people through digital media (Buckingham, 2000). How these changed conditions are being used by young people is a question that is crucial in this chapter.

### **Young People, the Internet and Sexuality**

Researchers in the field of virtual communication argue that conditions for communication online offer possibilities for people to explore their identities and to express ideas that are not easily expressed in offline contexts (see for example boyd, 2008; Hine, 2000; Holloway & Valentine, 2003; Jaquemot, 2002; Jones, 1998; Livingstone & Bober, 2005; Stern, 2008). On the internet, young people can create a sphere of intimacy where the things that are being expressed will not reach the local peer group and be a cause for slander (Holloway & Valentine, 2003). Susannah Stern (2008) means that the possibility to present oneself, in the shape of an identity or a self-image, that cannot be presented elsewhere, is embedded in online activity.

Social interaction online implies acts without physical bodies. This can be experienced as a feeling of safety that encourages an intimacy that would not be expressed in face-to-face interaction (Holloway & Valentine, 2003; Mann & Stewart, 2000; Sharf, 1999). Researchers like Holloway and Valentine (2003) mean that social relationships sometimes benefit from the absence of the body and state that:

*Bodies can get in the way of social relationships because of the meaning that are read off from them, or the judgments which are made about particular physical characteristics such as age attractiveness and gender (Holloway & Valentine, 2003, p. 133)*

Young people use the internet as part of their everyday lives; they do not log on to the internet for a specific reason or to engage in a specific activity, but this is a part of their everyday usage. Daneback (2006) suggests that young people easily and willingly adopt new techniques and arenas whereas older users prefer to stick with techniques and arenas they are used to and that satisfy their needs. Another distinction between the groups concerns with whom they interact online. While young people often interact with people they also know offline, older users interact with people they have first got to know on the internet (however, this may change with the increasing popularity of social networks among adults). Furthermore, young people spend many hours online engaging in several activities simultaneously, for example, using the internet to do their homework while surfing the web and interacting with their peers. The older users, on the other hand, use the internet in their spare time and log on for specific reasons to, for example, visit dating sites (Daneback, 2006). Because the internet generation often knows with whom they interact, they make up identities less often (although slight modifications and “white lies” occur) while older users more often engage in role playing games where they create their

identities (Ibid.). How the internet is integrated in the users' everyday lives, thus, influences how they use the internet for love and sexual purposes. This has to be taken into consideration when researching love and sexuality on the internet.

The internet recreates the social context and redefines with whom it is possible to share sexual matters. The sexual material accessible online; information, erotic texts, or images, is found within a secure distance from one's parents, friends, or children and, therefore, the internet constitutes a legitimate source of sexual material. Reinforced by anonymity, sexual matters are experienced as even further away from the peer group education described by Gagnon and Simon (1973). The consequence is that we do not have to keep our sexual secrets to ourselves but at the same time let them remain secrets for the offline surroundings. We can keep the secrets and reveal them simultaneously without experiencing any negative sanctions or consequences. This means that it is possible to engage in sexual activities that would otherwise be restricted by norms and instead change them through exploration and practice as we, according to Gagnon and Simon (Ibid.), did as adolescents before the internet.

### Summing up

We began this chapter with discussing sexuality as something private, often kept from parents, friends, and sometimes also from partners. We also discussed how this becomes especially clear in relation to young people. Sexuality in relation to children and young people is a burning issue because of the strong discursive connection to adulthood that the topic has. Even so, young people in today's society gain knowledge about sexuality through digital media. Earlier studies show that it is principally the problematic consequences of internet use in relation to sexual behaviour that, so far, has caught the researchers' interest.

In this chapter we will take another turn and discuss *how the use of the internet to talk about*

*and seek information in these matters could be understood a source of knowledge.* We will explore this by providing empirical examples from four studies conducted in the 2000s. They comprise both qualitative and quantitative data collected in Sweden at various points in time (2002, 2003-2004, and 2009). In the following section focus will be on 12-15 year-olds before we move on to young adults, 18-24 years old.

### LOOKING FOR SEXUAL INFORMATION AND ADVICE ONLINE

The data material for this section is collected from a discussion group on a website for young people in 2004<sup>1</sup>. The reason for choosing these particular discussion groups was that they included longer and more elaborative conversations. This allowed for an analysis of the social interaction, and the topics could also be seen as "difficult to talk about" in the everyday life offline. The methodological approach was inspired by ethnographic methodology. To understand the social and cultural norms that were embedded in the communication on the discussion board the discussions were followed on a daily basis for seven months. The stated age of each participant is the age reported upon registration on the website. For a more detailed discussion about the method see Löfberg (2008).

What do young people ask questions about? Below are some examples of the questions that were stated on a discussion forum with the topic sexuality on a social network site designed for young people.

*Girl 13 years: I know I will get a lot of answers like for example "you're too young for this and so on...." But who says that I'm going to use the information now. It's just good to know. Is it harmful with anal sex or not?*

**Boy 13 years:** *My dick is so small... is that abnormal? It's only 14 centimeters and I'm 13 years....*

**Girl 13 years:** *How should you do it so it turns out the right way when you shave down there... so it won't bleed??? It always does ☹*

**Boy 12 years:** *Does anyone have a good way to wank??????*

Questions are postulated out of curiosity; they want to gain knowledge about sex. These questions show that online contexts are used by young people to seek knowledge about the sexual body. The questions concern both expected sexual performance (e.g., how to have anal sex, how to masturbate) and the sexual look (e.g., how to shave genitals, size of the sexual organ). The way young people use this forum to gain information and knowledge varies. Below we will discuss this and illustrate it with two empirical examples of how young people use social network sites to gain information and knowledge about sexual matters. The examples have been chosen due to their high representativity regarding the topics chosen for discussion among the younger age groups.

Discussion groups are concurrently a space for trying out personal thoughts and ideas about one's own sexual activity as well as a space for gaining information and knowledge from other participants. Online it is possible to ask questions and to get information without anyone knowing who you are or how you will use the information. This can be specifically important when the topic is sexual information and advice. Let us look at the first example:

**Girl 14 years:** *The first time one has sex... that is maybe the first time one sees each other's bodies in the nude. Can the guy get "turned off" by seeing the body of the girl?*

**Young woman 24 years:** *I think that it should be more to it to make that happen. You want to have sex partly because your partner turns you on, and less clothes doesn't change that in the first place*

**Girl 14 years:** *Okay, because I'm a little bit worried about that because me and my boyfriend has talked about having sex and I'm afraid that this will happen when he sees me, sort of.*

**Young woman 24 years:** *I wouldn't worry if I were you. (Hopefully) he's with you because he likes you and wants to have sex with you because you turn him on. But wait with sex as long as you feel unsure. You don't need to have sex the first time you see each other naked. Take it slow so you feel safe and comfortable in the situation. You will benefit from that in the long run. Having sex at the same time as you're worrying about your body isn't fun for either of you.*

**Girl 14 years:** *Nope, you're right... But I feel ready for it and we've been together for six months now... and talked very much about it. And we were actually close to having it once but he backed out because two of our friends were there, not in the same room, but he didn't want to do it because they were there. And that one could understand, sort of, but I don't know what to do..*

**Young woman 24 years:** *If you don't know what to do it's a clear sign that you should wait. If it's right you will feel it, and then it will just happen. Be sure that you have condoms at home when it happens so you can protect yourselves.*

**Girl 14 years:** *Mm but it's so strange cause I want to!! Every time I'm with him I hope for it to happen!!! But then I get that feeling that he will*

*think of my body as ugly or something so he won't like to do it or something...*

**Young woman 24 years:** *I know it's easy to say, but try to let go of those thoughts. Your boyfriend is with you, thus you ought to be attractive in his eyes. As I said try to be naked with each other without having sex, soon you will notice if your thoughts are confirmed or not. My personal guess is that you will have nothing to worry about.*

**Girl 14 years:** *Okay, I get it..Mm feels good talking to you...you understand ...!:P hehe*

*I will try that because I want to do it with him!*

**Young man 24 years:** *I just have to say that I agree with (Young woman, 24 years) completely in everything she says. If your boyfriend is with you it's cause he likes you. And if you have your clothes on or not hardly makes any difference. And most of it he knows already, I mean you can see rather much of what a body looks like by watching it with clothes on? Breasts for example, you can see rather precisely what size they are without taking the clothes off, right? So I guess he likes them already? And if you're worried about how you look down there I can assure you, as a guy, that most guys find all pussies nice and lovely, regardless of size and shape of the lips and so on. The same goes for the breasts. Try to be proud of what you look like and try to enjoy instead of having thoughts about what he will think of your body. If you're satisfied with your body you will relax more easily and it will be much easier for you to get real wet and besides, a girl who you clearly can see enjoys her body is MUCH more sexy to look at than one who's trying to hide it.*

As we can see in the example above the young girl looks for knowledge about her sexual debut, her first sexual intercourse. In seeking this information she reveals her anxiety about the grade of attractiveness of her body. This can be understood as feelings and thoughts that are not so easy to reveal in other settings. Due to the anonymity provided by the internet, the girl can elaborate her private thoughts about sex in a collective context designed for questions about sexual matters without including her partner or other members of her local environment. The uncertainty mirrored in the girl's questions also shows how different aspects of sexuality, such as shame, guilt and desire, co-exist in the individual. Ambivalent feelings can be a hard task to handle, online this ambivalence can be (and is) expressed in an outspoken way.

On this discussion board, girls who initiate communication about sexuality are answered by older participants most of the time. Moreover, the older participants also put the girls in specific positions (Löfberg, 2008). This means that the information they get introduce them to positions created by adults about adult sexual activity. This can be understood as empowering where a girl's curiosity about her sexual acts and how to perform sexually can be expressed and answered to respectfully by adults in a way that probably could not take place in settings where participants confront each other face-to-face. On the other hand the boys' questions were answered more equally by both peers and adults. Interestingly, the mediation of information can be done beyond the regular limits of social norms and structures that, in offline settings, make sexuality a secret.

In the next example a 14-year-old boy postulates a question about sexual practice. Like the girl in the example above he expresses some kind of uncertainty when he talks about the sexual activity he is interested in. But compared to the girl's question this question is formulated from a different angle and the questions are also answered differently. While the notion the girl expresses and

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is confronted with can be seen as a mix between insecurity and curiosity, the boy below states a more concrete and upfront question.

**Boy A 14 years:** *Can anyone tell me how to lick my girlfriend in a good way because my girlfriend doesn't seem to get turned on so I feel as a failure ...anyone who can help me with this? /Please*

**Boy B 14 years:** *Use your tongue over clitoris! that usually helps*

**Girl 16 years:** *Not right away!! I don't like that anyway...it is nicer if he goes softly and get more aggressive after a while...If you expose clitoris and start licking frenetically right away it could turn out as a very unpleasant feeling due to my experince....*

**Boy B 14 years:** *Okay due to my experience it usually works fine*

**Girl 16 years:** *Yeah it is nice...but not at once... you have to be really turned on first...due to my experiance...*

**Boy B 14 years:** *Yeahyeah...*

**Boy 15 years:** *It depends on what she likes...but I mean... if you want to succeed at once... see to it that she is positioned like you should go doggy style and then you lick her that way...from behind that is... I mean then you can even fuck her with your tongue much easier than in the regular position... anyway it is a good position to succeed... and see to it that you're taking it easy with the tongue... be real careful and tease her ;0) It almost always works...*

The 14-year-old boy who initiates the discussion asks a question about a specific sexual technique and the participants in the group engaged in this conversation are mostly his own age. Here it is peer-communication going on where rather detailed advice is given. In this way, discussion fora can be seen as contexts where children and young people have access to social knowledge and spaces where to reflect upon ideas, norms and values about sexuality and gender identity created both in their own peer culture and in adult society. In this example the knowledge produced revolves around concrete techniques that can be used.

As we can see in these examples different ways of expressing and discussing sexual matters appear. For example, for the girl asking about the first time a couple is to undress in front of each other the internet can be seen a space where doubts and anxieties in relation to sexual activity can be expressed and reflected upon. Support and care can be mediated from other participants. Most of the support is provided by participants from an older age group. Recalling the example where the boy asks the question about oral sex, we can see how the internet gives space for more practical, technically oriented advice, where participants of similar age elaborate together upon sexual practices and their benefits and losses. These different knowledge pools are in some extent gendered where girls are more disposed to discuss their anxieties and search for support and boys to a greater extent turn to communication for practical matters (Löfberg, 2008).

The girl in the example above clearly states her ambiguity to a sexual situation and asks for help. The boy wants to know how he should act sexually with his girlfriend to please her. The question is: could this be done in a public offline setting? Probably not. Online it is possible to express feelings and notions in public settings to a greater extent than in public settings offline. This means that the knowledge one gains – by support, advice or alternative actions - is based on the possibility to ask questions that are rarely

asked in other public settings. Moreover, what is learned emanates from participants of different age and of both genders who have a mutual interest in discussing sexual issues. It is also possible for all participants to contact each other at any time.

Young people consider sexual activity with partners as an option to create meaning, a possibility to develop towards adulthood and to continue their constructions of gender (Löfberg, 2008; Renold, 2005; Tincknell et al., 2003). The meaning they identify in sexual activity must be weighed against other, already established, notions about sexuality in relation to gender construction. Their ways of trying to incorporate sexuality in their lives come across difficulties due to the cultural tension sexuality as a topic in itself holds, but also in the relation it carries in intersectionality with the social group “young people”. For young people the internet is an arena for creating and exploring cultural meanings that society holds about sexuality and to express them on an arena where privacy can be obtained in a public room. Young people communicate ideas, norms and values about sexuality and how to perform and handle this phenomenon that exists in society. What is suggested, too, is that the ways of seeking information and knowledge about sexual activity differs to some extent between girls and boys in younger age groups (12-15 years in this case). Girls are sometimes more prone to discuss their personal shortcomings or anxieties while boys are more interested in practical matters.

## FROM ADOLESCENCE TO ADULTHOOD

Using the internet to look for information about sexual matters is a significant activity for young people who are leaving their adolescent years and are about to enter adulthood as young adults. The following section is primarily based on three data materials, collected in 2002, 2003-2004, and 2009 respectively and comprises interview data and

survey data (For more detailed descriptions of the methodological procedures and characteristics of data see Cooper, Månsson, Daneback, Tikkanen, & Ross, 2003; Daneback, 2006; Daneback & Månsson, 2009).

In a survey study conducted in 2002, 22 percent men and 35 percent women aged 18-24 claimed to use the internet to look for information about sexuality and to seek support in sexual issues. When asked if the internet had influenced their knowledge about sexuality, 6 out of 10 reported an increase in knowledge while 4 out of 10 reported no change (Månsson, Daneback, Tikkanen, & Löfgren Mårtenson, 2003). Notably, almost no one reported the internet to have had a negative impact on their knowledge about sexuality, their sexuality, or their sexual relationship (those who indicated that they had partners). However, this and other studies of the same scale conducted around the millennium provided little qualitative insight in what kind of sexual information and sexual knowledge was sought and its consequences for the users.

A qualitative interview study, conducted in 2003 and 2004, showed that seeking information and knowledge on the internet could refer to a variety of topics relating to sexuality. The following is an excerpt from an interview with an 18 year old male informant:

*Young man 18 years: Regarding sex information I don't remember the name of the site...I was introduced to this site and from there I clicked on links to find what I was looking for...*

*Interviewer: Ok, do you remember what kind of information you were looking for?*

*Young man 18 years: Guys' development into manhood and sexual orientation.*

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**Interviewer:** *Did you get better information on the web compared to from school, friends, or parents?*

**Young man 18 years:** *I got better info about guys' development at the youth clinic and concerning sexual orientation I got better info through homosexual friends.*

**Interviewer:** *What's your opinion about the [sex] information on the web in general?*

**Young man 18 years:** *It's mostly about the general thing... everyone is developing differently and so on... you can't find the precise answers you are looking for... and concerning sexual orientation they said that it wasn't abnormal and that there are many organizations that support this issue... I also found many "coming out of the closet"-stories... generally I think the info was good for those who want to know some things, but most things you can't find... so it's probably best to search IRL.*

As is shown, this informant was looking for developmental information relating to biological questions, but also about sexual orientation, questions about sexual identity. However, it is quite clear from the example that the internet is not the sole way of searching for information. This informant combined searching the internet with visits to the youth clinic to find information about homosexuality. He stresses that there are many "coming out stories" and information that homosexuality is not abnormal; that is information that may help and empower those who have not come out yet. This is supported by prior research claiming that the internet may help homo- and bisexuals in their "coming out" process, either by talking to other homosexuals or by creating open homo- or bisexual identities online (Ross & Kauth, 2002). Interestingly, in the excerpt above, the informant says that he obtained the

best information offline; that there is adequate information about certain things to be found online, but a lot of information one looks for is lacking. The question is if this could be related to the time the interview was conducted or to this informant in particular. As we stated in the beginning of this chapter, research about online sexual information is largely absent and maybe this in turn is because information about sexual matters has been lacking too. It is also known that many young people, especially in rural communities, neither have access to non-heterosexual networks nor the means to access them (Ibid.).

Besides looking for information about sexual development and sexual orientation, young people are also interested in sexual techniques and sexual performance. As we suggested above for the young people 12-15 years, how these questions are postulated on the internet can vary in relation to the gender position of the one who asks the question. Below is an excerpt from an interview with an 18 year old female informant who says that it is easier for her to talk about sexuality when she is online:

**Interviewer:** *Can you give an example of what you talk about regarding sex and sexuality?*

**Young woman 18 years:** *You talk about what you like sexually and what kind of experiences you have and so on.*

**Interviewer:** *Do you talk about this with guys or girls on the web chat?*

**Young woman 18 years:** *Only guys.*

**Interviewer:** *And you talk about it with girls in real life?*



**Young woman 18 years:** Yes, exactly.

**Interviewer:** Is it different talking about it with a guy rather than a girl?

**Young woman 18 years:** Yes, guys are more curious...and when on the internet you don't really know who the other one is and that makes it less hard to tell or ask.

**Interviewer:** Which is an advantage?

**Young woman 18 years:** Yes it can be.

**Interviewer:** Are there differences regarding what you talk about too?

**Young woman 18 years:** I don't talk about details with my IRL friends, but that's what guys on the internet want to hear all about.

**Interviewer:** And you're happy to tell them about details?

**Young woman 18 years:** Not really. I usually say that it's private.

**Interviewer:** Ok, can you still feel that it's fun/relieving talking to guys about sexuality?

**Young woman 18 years:** Yes, you get tips about what guys like...and get advice and so on.

**Interviewer:** So you may learn things? Can you give me an example of what you've learned?

**Young woman 18 years:** How guys prefer to have oral sex.

**Interviewer:** How to do it so to speak?

**Young woman 18 years:** I guess you can say that.

This example shows that it is easier to talk about specific sexual issues on the internet, that it is possible to be more detailed, perhaps even more sexually explicit, in questions and answers than in offline contexts. But it also shows that it is easier to cross gender boundaries. Gagnon and Simon (1973) mean that the sexual education is gendered, that young females' sexual education is separated from young males' and that it differs in content. Here this young woman can ask questions to "guys" about sexual techniques, in this case how to perform oral sex. And this without getting stigmatized due to the breaking of the traditional sexual scripts that regulate female sexuality, branding a "too" sexually interested young woman a "slut" or a "whore" available to any man. In fact, for this young woman, these discussions can be labelled learning experiences that may enhance present or future relationships. Especially if we believe in Gagnon and Simon's notion that heterosexual sexuality is surrounded by silence.

In general, but not always, it seems like sex information and education on professional web sites on the internet primarily consist of socio-biological, formal, explanations of sexuality while the sexual performance, the action so to speak, is taught by peers. In a way, this division mirrors our contemporary sexuality education, where biology is taught by schools and the sexual performance is taught by non-professionals. Gagnon and Si-

mon (1973) mean that sex education occurs until people reach into their 20s. After that, sexuality is discussed to a significantly lesser degree and sometimes even silenced. In addition, Gagnon and Simon mean that sex education differs greatly between genders, where female sexuality—compared to male sexuality—is repressed, related to love and romance, or not talked about at all. Even though female sexuality is discussed in schools nowadays, a recent Swedish study confirms the gender differences observed by Gagnon and Simon; gender differences in today's sex education remain despite the opposite intentions (Bäckman, 2003). However, non-professional knowledge of sexuality is shared in same-sex groups between peers and through practical experience. The findings in this and other studies on internet sexuality show that this may have changed now. With the internet, people of all ages, both men and women, search for information on sexuality and talk about sex with other interested people. Further, the internet has made it possible to talk about sexuality with others in ways that have been impossible before. For young men (18-24), learning how to have sex was the primary reason why they used the internet to seek information and support in sexual issues. In addition, this was also among the top reasons for young females in the same study (Daneback & Månsson, 2009).

Some informants incorporate pornography as a source of knowledge in their relationships, either to become aroused or to find inspiration for expanding their sex life. In the example below, a young man (18 years old) says that by viewing pornography he has become more curious and interested in sex:

**Interviewer:** *You said you view porn on the internet, why?*

**Young man 18 years:** *I like sex and it's nice to explore new things.*

**Interviewer:** *I see, did you learn something from it or have you become interested in something that you haven't known or liked before?*

**Young man 18 years:** *I guess I have learned something and maybe become more interested in the opposite sex...I've become curious as you say...*

**Interviewer:** *Of what possibilities sex has to offer you?*

**Young man 18 years:** *Yes, exactly.*

**Interviewer:** *Is there something you have "liked" on the internet that you have tried in real life? Something you had never tried before?*

**Young man 18 years:** *I can't really remember... maybe trying bondage.*

In a study conducted in 2002 it was found that 74 percent men and 24 percent women aged 18-24 used the internet to view pornography. In comparison, among those aged 50-65, 72 percent men and 4 percent women claimed to view pornography (Månsson, Daneback, Tikkanen, & Löfgren Mårtenson, 2003). In 2009, 88 percent men and 35 percent women aged 18-24 reported to use the internet to view pornography indicating an increase for this online sexual activity for both females and males (Daneback & Månsson, 2009). Perhaps we should not consider sexual knowledge to revolve only around biology and identity, but also around sexual practices, sexual excitement and arousal. And perhaps, for some, the latter could mirror the interest for viewing pornography on the internet along with the perceived anonymity online.

Some of the young people (18-24) who use the internet to seek information and advice or support claimed to do it to become sexually aroused; in comparison more young men than young women (Daneback & Månsson, 2009). It is unclear if they become aroused in the process of looking for information or when interacting with others or if their intent is to become sexually aroused and seeking information about sex is a legitimate way of becoming aroused. It could perhaps be erotic chatting with the purposes of arousal, masturbation and orgasm, the activity that has sometimes been referred to as cybersex (e.g., Daneback, Cooper & Månsson, 2003). As Foucault (1976) noted, detailed sexual talk was commonplace 400 years ago. In history, fantasies, desires and impure thoughts were told behind the screens in confession booths. By talking in this way, the details were filled with arousing and exiting qualities. Besides the internet constituting a place making it easier to talk about sexuality in detailed ways, the above example also shows how this makes it possible to make it a learning experience, how to increase one's knowledge in a specific area of sexuality. It is clear that for the girl in the example above, approaching a boy and ask how to have oral sex would be impossible offline.

What we have focused on so far has been a few activities and some reasons to engage in these. However, many young people also turn to the internet to seek information and advice because they are curious. Others claim that they do not have anyone they can talk with about these issues. Daneback and Månsson (2009) found that more than one out of ten among young men (18-24) claimed this. This means that not only does the internet create a context where it is possible to talk in ways not possible offline, but it also provides some young people with someone they can talk about sexuality with.

## **Summary and discussion**

By making the spoken word silent (typed; textualized) and changing physical proximity for virtual proximity two of the main obstacles for talking about sexual matters are removed. By extending the possible group of people to talk to, from family and peer groups to virtually anyone on the internet, even more obstacles are removed. The spoken word and familiar people are usually what makes it sexuality difficult to talk about, at least when it comes to one's private thoughts and experiences. Perhaps we can compare the internet to the confession booths of yore but without having to pronounce those words we may have terrible difficulties pronouncing in the presence of others.

Reinforced by anonymity children and young people, on for example discussion boards, raise their questions in a mix of curiosity and insecurity. Instead of guessing, young people can ask (diverse) questions about what it is like being gay, how to use a dildo and where to buy it, how to have oral or anal sex, about their bodily functions, and how to shave their genitals. They can try their thoughts and experiences on others and they can reflect upon them together. As the society is getting more sexualized and the places to discuss this are obscure, non-existent, or restricted (i.e. do not leave room for these, sometimes new, questions), the internet provides arenas where questions can be asked, answered, and reflected upon. And this without risking personal negative sanctions; without being called a whore if one expresses a highly sexual interest, without being beaten up due to one's sexual orientation.

## **GAINING INFORMATION AND KNOWLEDGE ABOUT SEXUALITY ON THE INTERNET**

As has been shown in this chapter, young people seek information about their sexual bodies online. Through media in general and digital media

specifically children and young people of late modern society are getting access to sexuality in a way that differs from that of earlier generations. Due to this change older discourses of childhood and youth are blurred (Buckingham, 2000; Prout, 2008). Sexuality becomes a topic which can be explored at a greater extent through the internet. In the same time, as has been mentioned before, young people's search for knowledge about sexuality awakens concerns in the adult society (Tincknell et al., 2003). This clash between the current agency of young people and institutionalised discourses about sexuality - telling who can perform sexual activity, who can construct a sexual body and what preferences of sexuality should be expressed - manifests itself in general ideas about sexuality online as entirely a problem.

As we have discussed, sexual education for young people turns out to be gendered in offline settings (Gagnon & Simon, 1973; Bäckman, 2003). Tolman and Diamond (2001) also mean that there is an invisible cultural pressure on girls to act in line with the limited sexuality that cultural norms of society offer them. Sexuality has not been a field where girls have been culturally prioritized (Ibid.). For example young girls do not want to discuss lust and sexuality in educational situations in school settings (Epstein & Johnson, 1998). Girls in this context experience that they have to protect their reputation to avoid slander (Ibid). This is also manifested online. Cultural norms are not absent. The results from the discussion board study mentioned above suggest that girls, to a greater extent than boys, discuss their personal shortcomings or anxieties whereas boys ask questions about practical matters. This can be understood as a signifier for gendered cultural norms in society. However, the internet blurs these gendered borders and makes way for alternative expressions about sexuality and sexual behaviour beyond cultural norms for what to say and to whom. People of all ages, both men and women, search for information on sexuality and talk about sex with other interested people. In their

study, Daneback and Månsson (2009) found that young females who sought sexual information on the internet primarily wanted to gain knowledge about their bodies. However, for almost half of the young men in the sample this was the reason they used the internet too. Both Löfberg (2008) and Daneback and Månsson (2009) show that young people in different age groups use internet to get information and learn about their bodies, how they work sexually or how one can sexually construct the body. This is a source of knowledge for young people, which also ought to be acknowledged for the positive aspects it can have.

Besides discussing bodily functions and sexual identities online, it is also possible to share detailed descriptions of sexual techniques. The willingness, regardless of gender and age, to learn how to have sex and the way it is expressed online makes us believe that these are questions that are ignored or silenced, for various reasons, in offline settings such as in schools, at home, and among peers. But it can also be perceived in the light of sexual lust, sexual excitement and arousal – ways to enhance sexual encounters and relationships. This is a connection that seems to have been little researched so far. And perhaps the increasing interest for both young men and women to view pornography on the internet can be interpreted in line with this – as a way to become excited and inspired to explore one's sexuality, alone and with partners.

The way to express oneself online changes because of changed conditions for communication (boyd, 2008; Hine, 2000; Holloway & Valentine, 2003; Jaquemot, 2002; Jones, 1998; Livingstone & Bober, 2005; Stern, 2008). When young people seek information and knowledge about sexuality online we can see two overall aspects that influence the learning conditions.

*The possibility to express.* The terms for what to express change online, in comparison to offline settings. Young people claim that they can talk about things in a different, often more authentic, way online (Holloway & Valentine, 2003; Stern, 2008; boyd, 2008). In relation to sexuality this

condition becomes central for the internet as a source for learning experiences. Social norms that restrict young people's agency offline are not structured in the same way online. This means that they can express sexual matters that they have on their minds. By expressing their thoughts and questions in public online settings they create an arena for learning that earlier was limited to peers and thoughts of one's own.

*The possibility to extend knowledge.* What is learned online comes from participants with a variation in geographical location, age and gender. This means that gaining information and knowledge about sexuality online is a process performed in a cultural environment separated from the local environment, local norms and local structures about how to understand sexuality. Turning to the internet means that one can contact other individuals with a mutual interest in discussing these questions and who are possible to get in contact with at any time.

What is specific for the internet, but not touched upon in this chapter, is that the interactions between participants in, for example, discussion fora are available to non-participants or lurkers. However, we know little about why some users choose to participate and others do not. We also do not know what non-participants make of the discussions they follow and the consequences they might have for them. This should be considered in future research.

## CONCLUDING REMARKS

As shown in this chapter the internet is a place where young people can get support in understanding their own sexual bodies. Sexuality is a concern even for younger age groups in society (Castells, 1997; Daneback & Månsson, 2009; Giddens, 1991; Löfberg, 2008; Renold, 2005). The internet contributes with a space where this sexual body can be reflected upon and where thoughts and feelings of insecurity about sexual matters can be revealed in a way that in many aspects differs from offline settings. This possibility needs to be considered

in our understanding of young people in media society of today.

As we can see there are many aspects of how to use the internet for seeking sexual information and knowledge, but also the content of the information and knowledge searched for. Young people are interested in how their bodies work, but also in sexual techniques. Sexuality and surrounding discourses are changing with the landscape. Research has shown that the abundance of sexual sites on the internet can be handled and reflected upon by young people, that they have ways and strategies to navigate in the sexual landscape online. They are active users, not passive victims of the new technology. And maybe the internet is a way for young people to succeed in learning to express and reflect upon their sexuality in ways older generations have failed. And maybe this can influence the way sexual matters are discussed offline, promoting sexual experiences and sexual health. Social arenas online are used by young people for these purposes. This needs to be acknowledged in a reflexive way where the children's and young people's perspectives are taken into consideration. This activity challenges well established discourses about children's and young people's agency in the "adult world". And maybe it will make room for alternative understandings of how to construct gender and how to be young. For this to happen, we believe that more research focusing on the positive aspects of internet sexuality is needed.

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## ENDNOTE

- <sup>1</sup> The examples comprise questions frequently asked on a public discussion board for questions about sex in the Swedish web community Lunarstorm.se. The community's ambition is to develop an affinity between young people (12-20) but it is open for everybody. During the period for data collection, February to September 2004, Lunarstorm.se had 320.000 visitors daily and around 1.1 million members. 171 .567 young people, aged 12-17, visited the site on a daily basis. On average every visit was approximately 20 minutes and every member spent more or less 40 minutes there on a daily basis. The questions illuminate areas that are of interest for children between 12-15 years. From these empirical data examples will be discussed of what and how young people approach sexuality online. In exemplifying from data the discussions are translated from Swedish to English. The discussions are not shown in its entirety. We have chosen to show the contributions that are of specific interest in relation to the purpose of this chapter.





## Technology and sexual commerce

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## **Technology and Pornography – The Sex Industry on the Internet**

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### **Background and objective**

The relationship between the development of technology and pornography is interesting and complex. If we consider the pornographer's predicament in most societies as a balancing act between the admissible and the inadmissible, we understand that there has always existed a readiness to try and use new techniques to present and distribute pornographic texts and illustrations. The driving force behind the exploitation of the technical advances has been the restrictive view on sexuality that has characterized and still characterizes most Western societies. The characteristic feature for such a view is an intractable ambivalence to sexuality (Lewin, 1998:16). Sex is allowed, but only under certain conditions and in certain forms. Historically, pornography is one of the areas permeated by this ambivalence. It has been both a projection screen for anxiety-ridden prohibitionism and sexual revolutionary romanticism. Regardless of whether it has been about underground activities in private parties or open and "barefaced" challenges to public morality, the interest in new forms of production, distribution and consumption has been considerable. The break-through during the second half of the 20<sup>th</sup> century allowing a "freer" view on sexuality gradually permitted a break-through also for an industrial exploitation of pornographic photos.

Pornography became in a brief period of time a media genre that competed in scale with other genres in the entertainment industry. The commercial success of the printed pornographic photo (Playboy, Hustler, Penthouse etc.) created resources and incentives in the search for and the use of new techniques with the purpose of further expanding the business. On the production side there was a demand for lighter, cheaper and less bulky equipment. First came the 16 mms camera, then the 8 mms camera, thereafter the video camera and finally the digital video camera. Over time the production and distribution of pornographic movies has simplified and become cheaper. Society's moral ambivalence towards pornography has, however, for a long time challenged the sex industry, not least when it comes to the

distribution of the goods. Technicians who have guaranteed user and buyer anonymity, have all along constituted an essential prerequisite for successful entrepreneurship in this field.

Privacy is the word. The demand for technicians to make pornography consumable in seclusion has always existed. The pornographic movie did not have its real break-through until the invention of “the peep show booth”. In the 1970s and 1980s the open space of pornographic movie theaters was transformed into rows of lockable booths allowing for the possibility of secluded porn consumption. During the 1970s these peep shows made an estimated two billion dollars in the USA alone (Lane, 2001:48).

When the video filming technique was introduced in the mid-1970s the pornographic business changed in the sense that it now became possible to view films at home. Production costs declined dramatically and simultaneously the consumption of pornographic movies was simplified and made anonymous. The great break-through occurred when the company JVC introduced the VHS format. “Video” as a concept came into general use in the beginning of the 1980s, with the rapid development of the home video. With this development it became possible to rent pornographic movies in so-called video shops. The postal services delivered both video cassettes and invoices pretending that they contained anything but pornography. Frederick S. Lane who has studied *Pornography in the Cyber Age* (2001) claims, however, that it was not until the development of the internet that all previous obstacles for private porn consumption were erased. Previously, the “shameful vices” of consumers was made more or less public by their visits to porn- and video shops. The increased possibility to download pornography on one’s personal computer in the relative seclusion of one’s home has, according to Lane, removed the last barrier for private porn consumption (ibid:33).

In our own survey *Love and sex on the internet* (Månsson et al. 2003) we have found data that support Lane’s thesis.<sup>1</sup> In this survey we compare the Swedish people’s consumption of pornography in the mid-1990s (prior to the internet break-through) with pornography consumption among those who used the internet for sexual purposes during the first years of the 21<sup>st</sup> century. An interesting difference emerges when we observe the age variable, in particular among the men. At the first measurement occasion (1996) the consumption of pornographic movies was considerably lower in the oldest age group (ages 50-65) compared

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<sup>1</sup> The survey was carried out via one of the biggest Swedish internet sites, “Passagen.se”, and includes more than 3,000 interviewees, approximately as many women as men. For more details about design, realization and results of the survey see Månsson, Daneback, Tikkanen & Löfgren-Mårtenson (2003) and Cooper, Månsson, Daneback, Tikkanen & Ross (2003).

to the youngest (ages 18-24); 33 % as opposed to 76 %. Also at the second measurement occasion (2002) the consumption dropped with age, *but not nearly as dramatically*. In this case the difference was roughly 10 % only between the youngest and the oldest (74 % as opposed to 63 %). That the consumption of pornography is much high among the older age group today has in all probability to do with the increased availability of pornography due to internet.

The survey also shows that in terms of love and sex on the internet, the most frequent activity among surveyed men is to view pornography; close to 60 % stated they do this compared to roughly 10 % of women surveyed. The company Nielsen Netratings, which continually analyzes and measures the internet habits of the Swedish people, notes that the interest for so-called “sex sites” on the internet keeps growing. According to Nielsen Netratings’s measurements, the number of Swedes who surfed for pornography on the internet during the period from January 2002 to October 2003, doubled from 395,000 to 820,000 persons, of which a vast majority were men (the newspaper Göteborgs-Posten, 2003-12-07).

Against this background it is not hard to understand the interest in the commercial potentials of this business. Generally speaking, women, however, do not seem to be as interested in internet pornography as men. Our survey questionnaire results, however, indicate a significant and interesting usage difference between women of different ages. While only 4 % of women in the older generation (ages 50-65) view pornography on the internet, approximately 25 % of women in the age span 18-34 do the same (Månsson et al., 2003:34). When it comes to sexual activities on the internet, including the interest for pornography, we detect a weak yet distinct tendency of men and women in the younger age groups to have approaching habits. However, content-wise, this data of converging interests has as of yet not had a real impact on the types of images available on the internet. It is easy to observe that there still exists predominantly “men only” pornography on display. More about this further ahead.

The question of whether and for whom pornography and other sex products on the internet is a good business venture is controversial. The financial figures and market shares published in different media are, to say the least, spectacular. A couple of years ago the institute of industrial analysis Datamonitor had already published data indicating that almost 70 % of all online internet sales are constituted of different sex products and services (Månsson 2000). Later data claim that approximately 50% of all internet traffic that occurred during 2001 was

related to sex sites (McNair 2002). The credibility of these calculation is of course disputable and it is often unclear what is being referred to when people talk about products in the sex industry; what is included versus what is excluded is uncertain. One of the purposes of this article is to throw light on these questions. More specifically, the objective is to analyze how this activity is organized, content-wise and technically, and to answer the following questions: Who are the actors and what are the interests behind the services and products marketed and sold via the internet? To conclude, we will discuss the implications of the analyzed results from a wider social perspective.<sup>2</sup>

### **Method – “Pornography in Swedish”**

A fundamental analysis of pornography on the internet requires an interdisciplinary approach combining media technology and sociological knowledge. Research of this subject must be adapted to the activities being studied. In our case, the first step was to surmount the immediate feeling of unfathomable limitlessness that often strikes the external observer of the internet. We wanted to establish that it is possible to distinguish between the actors behind the internet and to analyze the relations between and the flow of photos, goods and money. This task is complicated but not impossible as long as we accept that the traditional picture of pornography is outdated. Pornography is no longer simply a matter of someone taking photographs, publishing them in a magazine, and then distributing it to the consumer. With the advent of the internet, this former reality of pornography has changed significantly. Compared to before, entirely new groups of actors influencing and controlling the content and expansion of current pornography have emerged. By competing for users’ attention and willingness to pay, these individuals act as the driving force behind technical development in this field. Early in our research we came to understand that one of the most lucrative activities in this business consists of generating and controlling internet traffic. Traffic is money. Traffic fees to telecom and internet companies are generated according to the length of time a user spends on the internet. The more efficiently a user can be persuaded to switch between different internet sites, the more efficiently marketed products are promoted.

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<sup>2</sup>The results from this study which are presented here are included in a wider on-going research project about sex on the internet that started in 2002 at the Department of Social Work at Göteborg University and at the Faculty of Social Work at Malmö University. The title is *Sex on the Net: Meanings and Consequences from Using the Internet for Sexual Purposes*. The project is financed with research grants from FAS, the Swedish Council for Working Life and Social Research. The collaborators in the project are: Professor Sven-Axel Månsson (scientifically responsible), assistant professors Ronny Tikkanen and Lotta Löfgren-Mårtenson, doctoral candidate Kristian Daneback and Peder Söderlind, journalist and media technician. Foreign collaborators are: Professor Michel W. Ross at the School of Public Health, University of Texas and the late Dr. Al Cooper, San Jose Marital and Sexuality Centre.

The common method for finding information via the internet is for a user to type in a word or series of words in a search engine. A list of hits is presented and the user chooses the hit that seems the most pertinent to her search query. In our research we have simulated this well used course of action. By choosing a word that is associated with and well-used in pornography, viz. the word “porn”, we have made a search of this word in the most commonly used search engines. We used the “hit indicator” as a starting-point.

The next step was to continue from one pornographic website to another via links made available on each site that connect to additional pornographic sites. In this way we observed the niches on the internet, i.e. the websites which are directed at a Swedish-speaking audience and which contain pornographic material. Paradoxically enough, we have found it extremely useful to work with the limited worldwide propagation of the Swedish language, not least on the internet. You may even say that without this limitation the project would have been very difficult to realize. The word “porn” in Swedish, “porr”, has a specific meaning. When spelled correctly it will primarily direct the user to Swedish websites. Searches using the word “sex” would have produced enormous quantities of hits and thus would have made this research endeavor significantly more difficult. Moreover, the word “sex” has several different meanings and is used in many different languages. On the whole, we would have encountered the same problem with the word “prostitution”.

To get a fair “hit indicator” we have used the six most commonly used search engines by Swedes (2004): Altavista.se, Google.com, Yahoo.se, Evreka.com, Spray.se/Lycos and Microsoft MSN. Even if we delimit our search to the Swedish language, the word “porr” still shows thousands of hits. For example: Altavista.se approx. 50.000, Google.com approx. 236.000, etc. The first 100 hits we obtained through each search engine have been examined systematically. The internet page addresses (URL) of websites that contain pornographic material have been registered in a database.<sup>3</sup> The database has been constructed in such a way that an internet page address is admitted only once.

The next step in the survey has been to systematically examine the links that we found on these websites, i.e. the links to other pornographic sites. These links have been saved on the

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<sup>3</sup> *Web address* or *URL* – Uniform Resource Locator, a system for address codes on the internet. An example is the address <http://www.gu.se> which takes you to the website of Göteborg University.

database. The same link has occasionally been found on several websites. In case we missed this and fed the webpage address into our database the latter webpage was rejected as the database does not allow the same information input twice. When the database refused nearly all data input attempts we had reached a state of saturation. In this way we captured a niche or sphere on the internet we may call “pornography in Swedish”. This is our population.

## Results

In total, we have collected 216 unique web addresses in our database. These are *representative* of what a person who “surfs” on the word “porr” finds. The table below shows the classification of our material.

Group name	Number	Criteria
Link site	32	Website lacking own material which links to other pornographic sites; often an automatic, technical construction
Pay site	43	Website where one or more services are offered. Users need to log in, register and pay directly to gain access to the material
Shop	50	Website which sells physical material such as DVDs, videos, sex toys, underwear, etc, a so-called web shop
Forum/Community	4	Website for strictly social internet contact groups
Presentation site	23	Website which only markets products, companies or organizations, e.g. porn clubs, swinger clubs, software and sex web hotels
Portal site	3	Website for different services and kinds of information. The editing is on a continual basis. The sex portal consists of a number of different elements/modules
Youth site, so-called “4teens” (“fjortis”)	3	Website oriented towards adolescents
Private site	28	Website where one or more private persons describe and show themselves
Contact site	9	Website with ads for sex contacts
Novel site	8	Website for erotic novels with the possibility to publish your own or read other people’s novels
Prostitution site	13	Website where mainly women but also men offer sex for money.

We would like to emphasize that this classification is not without objections. It is one among several possible classifications and has been made for practical reasons. The purpose has been to describe and analyze the functions and contents of these websites. In the next step the



analysis gets more complex. Here the focus is on the illustration of relations and financial flows between actors in the sex industry. The shaded rectangular field in the model below illustrates the actual computer screen and the actors who, so to speak, exist on the internet, i.e., the activities the internet pornography directly and evidently consists of. From here, in certain cases arrows indicate actors “outside” the screen who control, influence or make money on what is going on “inside”. In our opinion all these actors are a part of the internet sex industry.

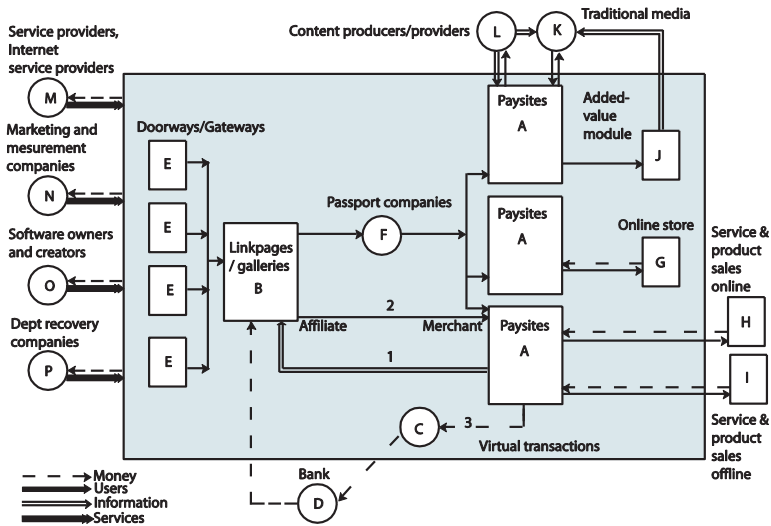


Table 1. Model of the relations and financial flows between actors in the sex industry

Models are simplified representations of the reality of a given situation, as is also the case here. Our model shows a series of important “elements” in the internet sex industry. Behind these we find the actors. Between the actors there are relations and an exchange of money, services and information. However, in reality it is not that simple that a website consists only of one element or that an actor is only involved in one activity. But, on the assumption that a model and reality resemble one another sufficiently, you may by studying the model to learn about the real phenomenon. To create an abstract model of a phenomenon is in general equivalent to advancing a theory on the phenomenon. In our case the theory has a practical purpose. When we move about in the pornographic web-scape it is – with the use of the

model – possible to understand what kind of website we are at and what role it plays in a wider context. The model can also be used as support when we visit a website, we have learnt to see how websites consist of different elements or parts and how these fulfill different functions.

For the sake of brevity, we will not enter into details of the model, but we will focus on some interesting examples.<sup>4</sup> Earlier we mentioned that traffic on the internet equates to money. The more efficiently users can be persuaded to switch between different internet sites, the more efficient marketing can be and the more substantial the financial profit to the owners. A clear example of this are the so-called link sites (32 of them in our database, see the box *Link page B* on the left in the model).

### **Traffic, traffic, traffic**

The interesting thing with a link site is that it does not contain any pornographic material of its own. Its function is to act as an intermediary and to procure contacts to other sites via links and *banners*, i.e., advertising signs.<sup>5</sup> The purpose is to earn money on surfers; this may be done in various ways. A low-traffic website may have a couple of visitors a day while a high-traffic website may have 10,000 visitors per day. The main incentives used to attract high traffic are promises of “free porn”. A sure indicator that this is the case is the large quantities of links connecting to other websites containing pornography. How is traffic transformed into income?

A person or company is paid when a home page is used to link internet users to other websites, thus, income is generated from traffic control. The person who wishes to earn money on his websites applies for this either to a person who wants traffic directed to his sites or to a company that administers so-called *affiliate programs*. There exist a number of technical solutions to measure and track down where the traffic originates and who has to pay who for this traffic. The business concept is as follows: A website owner pays other website owners for linking to his website. A company of this kind is in this context called a *merchant* and a website that links to a merchant is called an *affiliate*. Affiliates can be private persons, organizations or companies. The relationship may be illustrated in this simple way:

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<sup>4</sup> For a more detailed presentation of the model, its construction, actors and functions see Månsson, S-A & Söderlind, P (2004): *Sex Industry on the Net: Actors, Content, Relations and Financial Flows*. Stockholm: Egalité.

<sup>5</sup> *Banner*, internet advertisement often in form of a strip on a web page. Banners are important from a business perspective since they bring in advertising revenue to the owner of the site.

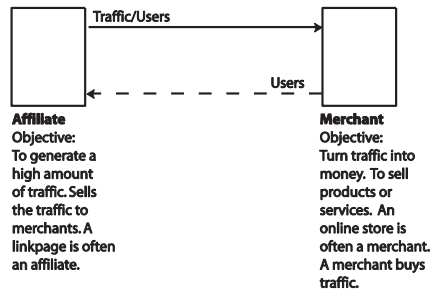


Table 2. The relation between affiliate and merchant.

There exist a number of different models of payment from the advertiser to the owner of the link site. In the model called CPM (*cost per mille*), a certain amount is paid every thousand visitors the ad has been shown to. In another model called CPC (*cost per click*) the advertiser pays for every visitor that clicks on the ad sign. In the CPA (*cost per acquisition*) model the owner of the website receives a stipulated share of the amount the visitor finally spends on the advertiser's website, which is selling on a so-called commission basis (note the relation between link site and pay site in the model).

The traffic controller can choose to work with "voluntary" traffic control, i.e., the user *chooses* to click on a link and is transferred to another site; or the controller can use "coercive" traffic control to force the user to another site. The involuntary traffic control is made possible through a small JavaScript in the HTML code on the site, i.e., a brief programming sequence which when the visitor chooses to leave the website directs him to another website instead.<sup>6</sup> In the trade this is called "selling exit traffic", a phenomenon that, among other things, explains the so-called pop-ups, which are characteristic features of pornographic sites. This small script is the reason why the user sometimes perceives internet pornography as elusive, unfathomable and inflicted on him. In other words, a link site generates value for its owner, regardless of whether or not the user makes any active choices on the site.

When the owner of a link site succeeds in augmenting the traffic to about 10,000 visitors every twenty-four hours, we begin to grasp the commercial importance. 10,000 visitors

<sup>6</sup> *JavaScript*, a script language developed by Netscape. A script is a programming sequence that is imbedded directly in the HTML code on a home page. It may be used to create more interactive home pages.

generates between 5,000 and 20,000 SEK (2,200 Euros)/24 hrs for the owner. The prerequisite to obtaining traffic of this size is that a market of a certain volume must exist – and this is evidently the case.

In the year 2000 tax authorities discovered in a special tax revision in Göteborg a company that in one year had increased its annual turnover from 0 to 22,9 million SEK (2,5 million Euros).<sup>7</sup> The company declared a profit of 7,6 million SEK (830,000 Euros). The owner, a 22-year old man, explained that the profit had been produced through traffic control. When tax authorities investigated the checks sent to the company the owner's claims turned out to be true. Controlling traffic to primarily two other websites had generated this amount of money. Apart from that they found a considerable number of small amounts of disbursements to a series of other companies. On the debit side they found invoices for programming services, rental fees for a server (located in Canada), software, traffic control to the site, marketing and commercials.

The experts from the tax authorities found it interesting that a young man in a two-room flat situated in the suburbs of Göteborg was running a company of such a business volume. They asked themselves how far this phenomenon had spread. Among the checks they found sender information to other Swedish companies and the tax authorities chose to make a pilot audit of five companies in another city. In these cases tax authorities again discovered large revenue. As of late, the amount of money generated by traffic control has been decreasing, due, probably in part, to a “watered down” market, i.e., an increasing number of actors are forced to share the same cake. On the other hand, the ability of tax authorities to audit traffic control has recently been reduced, as a consequence of new technological advances concerning financial transactions on the internet. These so-called virtual transactions are now an established fact which means that the possibility for global money transactions has increased while, simultaneously, the possibilities for controlling these activities have disappeared.

To consider visitors/users as road-users who criss-cross the web-scape, has certain consequences for our understanding of this phenomenon. We imagine a primary product, i.e., traffic, which like any other raw material may be bought, sold, altered, measured and

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<sup>7</sup> This section's task is to examine new phenomena which are interesting from a taxation perspective. Since 1998 business via internet has been one of the inspected areas. The data in the present case is based on an interview with the experts from this section in March 2003.

“processed”. This image gives us a way of understanding how money can be generated on the internet. The objects, road-users, pass by and the challenge is to convert the traffic into business and profit: high-traffic, huge profits. If you use the CPA (cost per acquisition) model the profit from the traffic control is connected to a real cash flow in a concrete way. This means that it is only profitable if you address groups with a proper spending power, i.e., mainly adults with their own incomes. If you use CPM (cost per mille) or the CPC (cost per click) models it is of no importance to the traffic controller who the road-user is, it might as well be a kid without any spending power. The costs for the service are accumulated on a bill which is debited to a telephone subscriber’s account. We know that children and adolescents very rapidly have adopted the internet and are frequent users. They constitute a considerable part of the entire internet population and when the CPM or the CPC models are used, their presence is of as much value as anyone else’s.

### **Youth sites**

Our analysis shows that the so-called youth sites (see table) are included in the pornographic network on the internet. “Fjortis” (from 14, in Swedish “fjorton”)/ “4teens” is a term “teen” users employ for sites that mainly are directed towards youth in the early teens. It is often simply designed websites where the visitor’s attention is attracted by the photos that the adolescents display of themselves. One of the most popular websites attracting the most attention in Sweden is “Snyggast.com” (“Goodlooking.com”). This site is also one of the most long-lived in a genre which, otherwise, is characterized by sites that rapidly come and go.

The home page of “Snyggast.com” is a page displaying photos of young girls and boys that a visitor can view, judge and vote for. The photo that greets a visitor is determined by a random number generator, but the visitor can also choose from a current top list which is updated every 10 minutes. Furthermore, the visitor is offered the option of commenting on the photos. Voting is on a scale of 1-10. We entered this site in February 2004 and found, for instance, that 610 visitors had rated a photo of 17-year-old “BusHanna”/“Naughty Hanna”, who lies stretched out on an unmade bed dressed in string panties and tank top, an average score of 7,8. The following is a small selection of comments made by male visitors/graders:

...Have to say one has missed a lot when one has failed to spot you in town... kissykissy babe! smiley

...ugly as hell...

...nice! Both beautiful and nice body => gimme your msn, will ya??

...you're so fine it make me cry...

... hot damn, you're sexy, I give you a huge 10, no problem...

That this is a well-established site among Swedish adolescents is clear from the extensive information-flow. During 2003 it had approximately 300,000 unique visitors every month, which makes it one of Sweden's most popular sites. Every day the multiphoto presentation is renewed. "Fresh" and "innocent" holiday snapshots are sandwiched with "sexy" and outright pornographic photos. Under the heading of "close-ups" faces, seductive eyes, moist, pouting lips, half-open mouths, pierced navels, naked butts, shaved genitals, tattooed breasts, etc., are exposed. It gives both an advanced and innocent impression at the same time. That the visitor may switch between close-ups on naked body parts on the one hand and text and photos under the headings of "children", "funny photos", "pets" and "poems" on the other hand, emphasizes this ambivalence. In addition, these sites allow visitors the option of communicating with other visitors through a chat system.

The youth sites generate money through ads, such as computer games and cellular phones, which are oriented directly towards the adolescents. From this point of view, these sites are web products that, commercially speaking, stand on their own feet. In our model, we have called these sites *value adding modules* (box J in the upper right hand corner of the model). The business concept is that the owner of the site puts an arena at the users' disposal where they can communicate with each other. When interactions reach a certain number of participants a *community* is created. In order to increase the site's attractiveness and value to visitors, the owner may choose to create different functions such as voting, of the kind that exists on "Snyggast.com", or by offering other purely commercial activities such as advantageous cell phone subscriptions. The aim, of course, – as is the case here – is to direct an increasing number of adolescents to the site and for them to find it interesting. Evidently the sex industry uses and profits from this phenomenon. Pornography is a unique media genre in that amateurs are highly valued. Private, non-professional material has a value; and youthful innocence is an established theme in pornographic fantasy and illustrated stories. The difference between these adult porn sites and the youth sites is that the actors on the latter are not fantasy figures but authentic adolescents who show themselves to one another with the

purpose of making an impression not primarily on adults but on other adolescents. The stories are “personal” both with text and illustrations and they invite the user into their personal world. To simplify, you could say that the main purpose is to entice, bait and probe the limits, but not to sell. When a youth, as in “Naughty Hanna’s” case, gets the comment “... hot damn you’re sexy, I give you a huge 10, no problem...” it is probably not perceived as an insult, but as a compliment, a proof that you have succeeded in your more or less conscious endeavor to be considered sexy by other people.

One way for the sex industry to take direct advantage of the “teen theme” is to pick up (steal) authentic photos from the youth sites and then to display them on a website with explicit pornographic content. Through this contextual displacement a relatively “innocent” photo from a youth site may be given a completely different meaning. “Lena’s” case is an example illustrating this transplantation activity. The photo below was first displayed on “Snyggast.com”, probably by Lena herself. After a short while it was also found on the porn site “Pinup.se”, which at the time, was owned by “Flashback Media Group”. The latter was also in charge of the website “Malmskillnadsgatan.st” (a nationally famous street prostitution area in central Stockholm) that peddled addresses to prostituted individuals.

**Snyggast.com** POKER 9-9-9 MAKAO SOLITAIRE TYSIAC BRIDGE NYHET! Onlinespell!

**SHRIK** SKICKA ETT SMS TILL 72329 30-  
SÖRJÄ MEDDELANDET MED SHRIK 700 ALLA TJEJER KOLLA 719380

Huvudsida Mail Chat Spel Köp & Sälj Ny bild! Sök bild Uppsatser Info

**SLUMPGENERATOR**

- Killar & Tjejer
- Tjejer
- Killar
- Barn
- Närbilder
- Kul bilder
- Djur
- Bakgrundsbilder
- Skiss
- Dikt
- Berättelse

från / ålder  
Sverige

inlagda  
när som helst

Länk till denna bild: [www.snyggast.com/7489246](http://www.snyggast.com/7489246)

**Tjejer Top-20**

Sök id eller nick

Logga in

Lösen

Hjälp Ok

Ursk... **Rösta för att se nästa bild!** Wow!

C1 C2 C3 C4 C5 C6 C7 C8 C9 C10

**Kommentera bilden!**

Image 3. Screen dump from the website "Snyggast.com". The photo has been manipulated to protect the woman's identity.





Image 4. Screen dump from “Pinup.se”. The photo from “snyggast.com” reappears in the bottom right-hand corner.

Even if the activities on a website such as “Snyggast.com” are, in large part, considered an expression of adolescent need for recognition without ulterior commercial motives, there are also indications to the contrary. Lately, we have observed the emergence of a new phenomenon on this site: Young women revealing that their “favorite occupation” is to “exhibit themselves”.

They share that they have just started a personal website with “heaps of photos”. The visitor clicks on the web address and finds himself on a site with photos of a girl who claims to be 17 years old. She is naked with her face and genitals blurred. The visitor is offered to order the uncovered photos directly to his cell phone. “If you want heaps of photos of me send an sms to 72666 (assumed) with the text: “yo Eva17 B1” (assumed), “It will cost you 5 SEK for one but buy more, if you think I’m worth it, that is”. Further investigation takes you to the website “YO.se”, that describes its services in the following way:

What is “Yo.se”?

“Yo.se” is a meeting place, a forum and a technical platform where you who want to make money on sms services can express yourself and meet like-minded people. “Yo.se” is first of all for you who are above 16 years and is, contrary to other communities, not only about having fun. This is a place where you have the possibility to create your own advanced sms services and be the one who decides how they should be designed. As to the content of these sms services and how they will work is entirely up to you as a member.

How much will I earn?

On “Yo.se” we believe in sharing equally. This is why we always make a minimum 50/50 split on all our sms service incomes. If “Yo.se” (which is responsible for the boring parts such as hardware, agreements, administration etc) makes 5 SEK on an sms the member (who have created and launched the service) will also make a minimum 5 SEK.

Have fun and good luck!

This website started its activities in late fall 2003 and had in the beginning of 2004 over 6,000 members. It is impossible to say how many of those who use the service are actually selling pornographic photos of themselves. However, the phenomenon does show how quickly adolescents are embracing the new technology. During a simple control in February 2004 we found 8 girls/young women who undressed in front of a web camera for sms payment. By studying the top lists on this website we note that pornographic services are the most successful lucrative-wise for the company.

As mentioned, pornography is a unique media genre in the sense that amateurs are valued higher than professionals at times. The great commercial success of the Playboy magazine in the middle of the last century was partly based on the theme “the girl next door”. The idea behind this concept was to appeal to the “familiar”, to the “reader’s” feeling of intimacy not exoticism. The message was that this is a completely ordinary, if yet extraordinarily beautiful girl or woman. She could be your neighbor, and fantasizing about her is permitted. It also had an outspoken voyeuristic dimension. The reader should feel he was watching without the “object’s” awareness.

“Fjortis” (4teen) is a further developed internet version of this pornographic theme. The difference is that we today are in a situation where we de facto *can* take a peek on the girl next door. We are offered to “peep into” a real girl’s room to find out what is happening there, what it looks like; we can even read the “object’s” most private thoughts. At the same time

she does not know we are watching; she does not perceive our presence. The difference between the “4teen” theme and the girl next door is that the former directly appeals to the fact that it is a child rather than a young woman who is the object of the viewer’s interest.

### **Technical influence**

Another aspect of the new internet development of pornography is what might be called the pornographic DIY (Do It Yourself). This is a particularly frequent phenomenon on the so-called contact sites (see table), which have become a sort of meeting place for people who display nudes and/or sexual intercourse photos of themselves and their partners. Also this is the amateurs’ market-place. Technique is cheap and simple.

The fact that technique has become cheap and simple has entailed an increasingly rougher competition, which has put pressure on commercial actors to create new sensations and to influence the demand. Our analysis shows that an increasing differentiation is taking place in pornography. New genres with more and more specific orientations surface continuously. At the same time commercial success is based on the fact that “my site” offers “everything you ever could imagine”, in particular, things “you” were unaware even existed. It is not unusual to find at the same pornographic website subdivisions for fisting, animal sex, fat persons, dwarfs, pregnant women, spanking, hairy people, foot fetishism, transvestism, urine and faeces, etc. More and more genres are now included in the all-embracing concept “mainstream pornography”; the technical influence on current pornography is evident in the entire process from production to distribution and consumption.

### *Production*

The technical equipment used to produce media is becoming cheaper and simpler to handle both on the professional and amateur level. A digital video camera of the required technical quality needed to produce TV-information costs today approximately 30,000 SEK (3,200 Euros). If to this is added computer hard- and software, it is possible to get all the necessary equipment to work professionally with media productions for less than 100,000 SEK (10,900 Euros). However, it is also possible to achieve a passable product for considerably less. If you have the technical knowledge, you can reach a potentially “global” market for a couple of 1000 SEK.

### *Distribution*

It has also become simpler and cheaper to publish information on the internet. Our study shows that there exist a number of services and program software directly aimed at people who wish to publish pornography on the internet. It no longer requires any greater technical skills to get a commercial activity started. The internet is the gateway to a potentially global market. Distribution is independent of time and space. In principle it entails no extra costs to distribute globally. A product can be sold 24 hrs/day over the whole world. Compared to traditional pornography that depends on physical transport, this is an important change. An unlimited number of exhibitions can be executed without extra costs.

Moreover, in connection with the growing network, the mere exchange and storage of pornography is a phenomenon that has escalated to a large scale, first through the so-called electronic bulletin boards (BBS), then through the newsgroups (Usenets) and now lately through so-called file sharing P2P networks. It is true that it has always cost to distribute information. Today is no exception. The main profits from these activities are made by telephone and internet companies.

Distribution is anonymous. Certainly, our user habits are measured (it is a part of the commerce). Technical possibilities exist also to control our activities on the internet. It is a relatively simple operation for someone who is authorized and wishes to trace a certain activity to do so. However, in most cases internet must still in substance be considered an “anonymous” medium that provides people the ability to access information without others finding out.

### *Consumption*

At the pace that the price for technique continues to decline, transmission speed and performance increase. And as technique and transmission speed improves, services change. Pornography is primarily directed to eyes and ears and this is why the computer is particularly interesting as a consumer interface. Computer screens have in general better resolution quality than TV screens and a computer reproduces sound with the same quality as any other sound equipment.

It is evident that the internet, the digitalization technique and the computer, at all three stages of production, distribution and consumption, are extremely “suitable” for pornography. At the

same time, along with recently developed technical features the rules of the game can undoubtedly change. This in turn will have an impact on how money will be made on internet pornography and who will be making this money. The example with the file sharing programs in the so-called P2P networks is striking. The P2P debate, so far, has mainly concerned copyright in connection with the distribution of music. In principle, the pornographic business is facing the same problems, i.e., goods are copied and distributed without financial compensation to neither producer nor author. Users simply prefer free porn to pay porn. This may become a critical turning-point to future actors in the pornographic trade. What will happen in the next phase? How will pornography manifest in the 3G network and in the cellular phone business – to pick an example of a growing technique – and what will be the consequences to the already established actors in the trade? In the same way, as internet is the origin of new pornographic collaborations, actors and genres, the telephone trade will give rise to new phenomena that will converge with phenomena that traditionally have been outside the pornographic sphere, e.g., youth cultures or the contact market. The difference between what is and what is not pornography may thereby become even more indistinct in the near future.

### **Concluding remarks**

From an historical perspective, technique and pornography have always related to one another in a very interesting and complex manner. Current actors in the field of pornography use the new technological prerequisites to market and sell their services and products on an unprecedented scale. In addition, they are the driving forces behind the technical development in this field, competing for the users' attention and willingness to pay. The results in our study emphasize that the most lucrative activity consists of generating and controlling porn surfing traffic on the internet. This is what Sproull and Kiesler (1991) would call *first-level effects* of the new technology, i.e. effects regarding cost benefits and efficiency. But they also talk about *second-level effects*, i.e. unintended social consequences of the new technology, meaning that the new technology not only allows old things to be done in a new and perhaps more effective way, but also that completely new things are done. For example, in the case of sexuality, the internet has facilitated interactive sex in cyberspace, so-called cybersex. The term includes all types of text messages and pictures with a sexual content (including pornography), between two or more persons (Månsson et al. 2003). Furthermore, one could perhaps also talk about a *third-level effect*. Ross (2005) discusses this possibility, referring to the socio-cultural

consequences of the new technology and what it represents on an all-embracing structural level.

The question is: How to interpret and understand the results from our study on such a level? What are the socio-cultural consequences of the increased availability of pornography and prostitution on the internet? To the sex industry it means access to a new and almost unlimited market, but what does it signify for the users and for society as a whole? When we ask these questions it is important to bear in mind that the internet is much more than a commercial window and marketplace for services and products from the sex industry. It also offers a number of possibilities to seek, match and find new ways to develop sexual relationships. More or less anonymously, it is possible to experiment with different sexual styles and forms of expression. Not only such styles and expressions that are commonly accepted, but also behaviors that differ from the more established sexual scripts. Sproull and Kiesler (1991, s. 2) talk about such results of technological change in terms of *deviance amplification*.

We prefer to use the term *normalization*. In other words, one could regard these changes as part of a greater acceptance of aspects of sexuality that previously took place in secret, were condemned or completely prohibited. Of course, the omnipresence of pornography does not automatically make it normal in the eyes of the beholder. However, the virtual proximity of it, “just a mouse click away”, makes it more visible and accessible, and the more people who watch it and use it, the more normal it becomes in the sense that it’s probably not considered deviant. Maybe one could talk about a habituation process, from deviance to normality. From having been all about a shady business in the backyard of society, pornography has taken a big leap forward into the open, due to the internet (Sörensen 2003). All of these aspects of normalization are connected to the ways in which the boundaries between the public and the private are changing in our culture. We seem to be in the process of developing what Brian McNair (2002) calls a “striptease culture”, which is preoccupied with the consumption and exposure of sex and which eventually leads to a “pornographication” of sex

An interesting question, to both researchers and other members of society, is how one should respond to this development? A problematic outcome that has been identified concerns how gender and gender relations are portrayed in pornography (Sörensen 2003). The distribution of gender roles in heterosexual porn is the traditional one: the man as the sexual subject and the woman as the sexual object. And even if pornographic illustrations to a large extent

concentrate attention on the naked female body, the actual focus is on male sexuality. With few exceptions pornography on the internet expresses the sexual meanings and myths of traditional gender roles; pornography on the internet can be said to represent the microcosm of traditional gender roles.

Thus, different scenarios exist side-by-side, driving matters of freedom and integrity on the internet to their extreme. The internet has often served as a symbol of the ability of individuals' and groups' to act freely in a globalized world. The example of the sex industry on the internet raises questions about how different freedoms should be balanced against each other. How does one, for instance, gauge and weigh the freedom to make money against the individual freedom to use the internet without being invaded by unpleasant and offensive experiences? And how does one gauge and weigh the individual freedom to experience sexual excitement against the individual freedom to be spared exploitation and degradation? These issues have so far hardly been touched upon neither in research nor in the public debate on internet, not least due to the lack of basic knowledge of this field. We hope that our analysis of the sex industry on the internet will provide a basis both for continued research and a broad discussion on the consequences and meanings of commercialized sexuality on the internet.

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## ONLINE SEX SHOPS: PURCHASING SEXUAL MERCHANDISE ON THE INTERNET

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**ABSTRACT.** The purpose of this study was to examine the characteristics of those who purchase sexual merchandise on the Internet, what merchandise they purchase, and the reason they use the Internet for this purpose. Data were collected through a Web questionnaire. Approximately 30% of the 1,614 respondents who reported to use the Internet for sexual purposes had purchased sexual merchandise online. The results suggested those who purchased sexual merchandise were older adults and in relationships. In addition, they had a relatively high level of sexual activity. Vibrators/dildos were the most popular items, and the primary reason given for making the purchase online was convenience.

**KEYWORDS.** Cybersexuality, Internet-based studies, quantitative studies

### INTRODUCTION

Sex shops can be described as shops that sell sexual merchandise such as sex toys and aids, condoms and lubricants, lingerie, and erotica. Traditionally, those interested in shopping for sexual merchandise had to visit real-life sex shops, which were often located in specific districts of larger cities. The first of these shops, which were established in the 1960s and 1970s in a number of countries, occasionally also had booths showing adult movies and live striptease acts, and they were primarily male oriented (Berkowitz, 2006). More recently, so-called “in-home sex-toy parties” have appeared as an alternative to sex shops and cater primarily to adult women (C. Fisher et al., 2010; Herbenick, Reece, & Hollub, 2009).

With the advent of the Internet, shops selling sexual merchandise were established online too (Cooper, 1998; Cooper, McLoughlin, & Campbell, 2000). Some are extensions of physical shops while others exist online only (W. A. Fisher & Barak, 2000). In 2000, when searching

the Web by using the combination “sex shop,” the search engine *Excite* returned 2,600 hits (W. A. Fisher & Barak). In comparison, a similar search in September 2010 using the more narrow combination “online sex shop” on *Google* returns 117,000 hits. This increase in the number of hits over the last decade mirrors the exponential growth of sexual merchandise available on the Internet. Media report that the sex-toy industry is flourishing despite the recent economic recession. Even household e-companies, such as Amazon.com, are increasing their selection of sexual merchandise on offer (Jackson, 2010).

However, since the first studies of Internet sexuality were published in the mid-1990s, online sex shops have been little researched (Döring, 2009). W. A. Fisher and Barak (2000) have described the variety of sex shops found on the Internet and what sexual merchandise they offered. They found that the majority of shops offered a wide range of products for all sexual tastes and interests, while only a few were specifically tailored to women or

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sexual minorities. However, a transformation, or repackaging, of sexual merchandise and online sex shops to appeal to women has been observed in a British study (Attwood, 2005).

Not only has research been sparse about online sex shops as such, but even more so about their visitors. In an American study, it was found that 12% of male and 16% of female Internet users had bought sexual merchandise via the Internet (Cooper, Morahan-Martin, Mathy, & Maheu, 2002). In a Swedish study, almost identical results were found showing that 13% of the men and 15% of the women used the Internet for this purpose. It was most common among women aged 25 to 34 years old, among which 21% reported they had bought sexual merchandise. Corresponding figures for men and women aged 50 to 75 years old were 3% (Cooper, Månsson, Daneback, Tikkanen, & Ross, 2003). It also turned out that a larger proportion of self-identified bisexuals and homosexuals were found to use the Internet to buy sexual merchandise compared with heterosexuals (Daneback, Ross, & Månsson, 2008). Besides these figures, little is known about the demographic characteristics of those who make purchases from online sex shops.

Sexual merchandise—for example, condoms and lubricants, vibrators, anal plugs, pornographic pictures and movies, clothing and other sex-related products—may be used for sexual pleasure and for solitary as well as for partnered sexual behavior (W. A. Fisher & Barak, 2000; Herbenick et al., 2009). It has also been suggested that just browsing the selection may be a sexually arousing activity in its own right (W. A. Fisher & Barak, 2000). Moreover, by browsing the selection, the visitor may become aware of sexual practices not previously known to him or her, practices that may be perceived as attractive or repulsive, adopted or rejected (W. A. Fisher & Barak, 2000). However, the result from searching the MEDLINE and PsycINFO databases indicates that no studies to date have examined what kind of sexual merchandise the customers buy and the reason why they buy it through online sex shops.

The attraction of using the Internet for sexual purposes in general and for using online sex shops in particular has been theoretically explained by the *Triple-A Engine*—Access, Affordability, and Anonymity (Cooper, 1998; Cooper et al., 2000). The *Sexual Behavior Sequence Model* has also been used to explain and understand the use of online sex shops from a psychological perspective based on learned and unlearned sexual cues (C. Fisher & Barak, 2000). An additional perspective that may be used to explain and understand the use of online sex shops is the interactionist *theory of sexual scripts* (Gagnon & Simon, 2005). Sexual scripts can be thought of as roles in a performance, with manuscripts guiding sexual behavior, and the scripts can be found on three levels: intrapsychic, interpersonal, and cultural. Sexual scripts are individual but also regulate what is acceptable (and not acceptable) sexual behavior, which varies culturally and historically. In short, these manuscripts comprise guidelines for when, where, what type of, and with whom a given sexual behavior is considered appropriate or not.

The purpose of this study was to expand upon the current knowledge about online sex shops, users, and shopping patterns. More precisely, we aimed to predict those who use the Internet to purchase sexual merchandise based on sociodemographic factors (sex, age, relationship status, sexual orientation, ethnicity) and sexual behavioral factors (frequency of having sex and frequency of masturbation). In addition, our purpose was to examine what merchandise the users purchased and the reasons why they used the Internet to purchase sexual merchandise.

## METHODS

### Procedure

The Web questionnaire was administered in the Swedish language on four sites—three Web sites and one Swedish university. Two Web sites were portal sites oriented toward

adults. Portal sites in general provide information and news from diverse sources and include various applications (such as e-mail services). None of the sites were explicitly sexual or erotic in content, but one was oriented toward online dating. The third Web site was an explicit youth community, one of the two largest in Sweden for 16 to 29 year olds. A Web community is a social network where members communicate through specific media. The sites were Passagen.se with approximately 500,000 unique visitors per week, Spray.se with approximately 400,000 unique visitors, and Playahead.se with approximately 100,000 unique visitors per week. The size of the university was more than 20,000 students.

Between February 27 and March 8, 2009, a banner was placed on the Passagen.se and Spray.se (part of the Eniro Corporation) Web portal sites and was visible at all times for all visitors to those sites. The banner read, "Participate in a study on love and sex on the Internet." On the March 11, an e-mail briefly describing the study, including a hyperlink to the Web questionnaire, was sent to all active student e-mail addresses registered at the university. Finally, on the March 18, a message with content similar to that of the university was randomly sent by the administrators to 10,000 members aged 18 or older of the Playahead.se community. Data collection ended on March 20, 2009.

By clicking the banner ads or the hyperlink, the respondents were linked to an introduction Web page located on a server owned by the Web survey company Entergate. The introduction page had the university logo (visible throughout the questionnaire) and described the study, questions related to ethics and confidentiality, the number of questions, and the estimated time it would take to complete the questionnaire. The respondents were also informed that participation was voluntary but limited to people aged 18 years and older. The introduction page included links to the researchers' profile pages on the university Web site, which also included contact details. At the bottom of the introduction page, the respondents were asked to click the "continue but-

ton" if they had read through the information, were aged 18 years or older, and agreed to participate in the study. By clicking the button, the respondents were linked to the questionnaire hosted on Entergate's server. No incentives were offered to the respondents for completing the questionnaire.

The Web questionnaire was composed of a total of 85 questions and was based on an earlier instrument (see Cooper et al., 2003). However, by using skip patterns, we were able to personalize the question to some extent. This could reduce the number of questions to 51 for some respondents. Each respondent opened a session on the server, and replies were recorded on the server subsequently with the possibility to revise answers (i.e., the respondents could go back and forth in the questionnaire before finally submitting answers). Due to the format and technique used, we were able to identify those who dropped out from the questionnaire before completion. A total of 4,637 respondents began to fill out the questionnaire, and 1,913 completed it, meaning an internal dropout rate of 58%—a finding consistent with prior research (Ross, Daneback, Månsson, Tikkanen, & Cooper, 2003). This will be subject for further analyses but dropped for the purposes of the current study, which includes data from completed questionnaires only.

When the respondents had finished or quit the questionnaire, the session was shut down. Those who completed their questionnaires were linked to a Web page thanking them for their participation and encouraging them to contact the researchers if they should have any questions. Finally, they were linked to the research program's Web site.

### **Instrument**

Three items in the questionnaire pertaining to sex products were included. The first asked if the respondent had bought sexual merchandise via the Internet (response alternatives: daily, weekly, monthly, rarely, never); the second asked what type of sexual merchandise was bought (condoms, lubricants, massage oil,

vibrator/dildo, vagina, adult magazines, adult movies, outfits, accessories, anal toys, kegel balls); and the third question asked why one had bought the products (anonymity, convenience, to avoid visiting offline sex shops, lower prices, larger selection of products online, cannot find the products offline).

### Sample

The sample participating in this study came from the population who visited the Passagen.se and Spray.se Web portals during the time for the study, those who were members of the Playahead Web community by the March 18, and those who were enrolled in the university in the spring semester of the Swedish academic year 2009.

A total of 1,913 respondents completed the questionnaire. The majority of the respondents were recruited from the university (955 respondents) and from the Playahead.se Web community (580 respondents). The numbers of participants recruited from Spray.se and Passagen.se were 273 and 105 respondents, respectively.

The sample was composed of 66% women and 34% men. However, the distribution differed depending on site for recruitment (university, 78% women vs. 22% men; Playahead.se, 50% women vs. 50% men; Spray.se, 63% women vs. 37% men; Passagen.se, 42% women vs. 58% men). The mean age for women was 28 years and for men 29 years; mean age differed also depending on site for recruitment (university, 29 years for both sexes; Playahead.se, 20 years for women vs. 21 years for men; Spray.se, 37 years for women vs. 43 years for men; Passagen, 36 years for women vs. 46 years for men). Approximately 1% claimed to be from a country outside Sweden.

In this study, only those who reported they used the Internet for sexual purposes were included ( $n = 1,614$ )—62% women and 38% men. Using the Internet for sexual purposes was defined as having engaged in one or more of the following activities online: read erotic novels, viewed pornographic pictures/movies, purchased sexual merchandise, chatted about sex,

sought information about sex, flirted, sought romantic partners, and/or sought sexual partners.

### Data Analysis

The Statistical Program for the Social Sciences, version 17 (Chicago, IL), was used for all data analyses. Descriptive statistics were used for variables related to demographic and sexual behavior questions and for variables related to buying sexual merchandise on the Internet (have/have not purchased merchandise, type of merchandise purchased, and reasons for why the Internet was used for purchasing sexual merchandise).

Because the dependent variable was a binary, multivariate logistic regression analysis was chosen to predict group membership of those who had used the Internet to purchase sexual merchandise. The regression model was built around five independent variables related to sociodemographics (sex, age, relationship status, sexual orientation, and ethnicity) and two variables related to sexual behavior offline (frequency of having sex and frequency of masturbation). All these items were chosen a priori, and all but ethnicity has been identified by previous research to have an effect on the sexual activities engaged in online. Ethnicity was included to expand upon the previously known variables and because Sweden is generally thought of as one of the more liberal countries in the world in sexual issues. The effects of the multivariate logistic regression analyses are expressed in odds ratios (ORs), where values above 1 indicate increased effects and values below 1 indicate decreased effects.

Factor analyses (principal components) with Varimax rotation were used to find underlying dimensions for the variables related to the types of sexual merchandise purchased on the Internet. The number of factors to be extracted was based on a Scree test.

### RESULTS

Of those 1,614 who reported to use the Internet for sexual purposes, 30% reported they

had bought sexual merchandise online (31% women and 28% men).

In this study, we tried to expand on the previous knowledge focusing on relative percentages and identify the characteristics of those who had purchased sexual merchandise by using a set of predefined independent variables. A multivariate logistic regression analysis was chosen and the outcome is displayed in Table 1. Hosmer and Lemeshow's Goodness of Fit was nonsignificant ( $p = .28$ ), indicating that the model adequately fit data. The model showed all sociodemographic variables but gender to be significant predictors of group membership (i.e., having purchased sexual merchandise online). Those aged 25 to 34 years old (OR = 2.07) and those aged 35 to 65 years old (OR = 3.17) were both more likely than those aged 18 to 24 years old to have purchased sex-

ual merchandise on the Internet. Also, gay, lesbian, and bisexuals (OR = 1.25) were more likely than heterosexuals to have purchased such merchandise. Group membership was also predicted by being Swedish born (OR = 1.97) compared with being foreign born, and by being in a relationship (OR = 1.40) compared with not being in a relationship.

Both offline sexual behavior variables were found to be significant predictors of having purchased sexual merchandise on the Internet. Those having sex on a weekly (OR = 1.98) or monthly (OR = 1.92) basis were more likely than those not having had sex in the last 12 months to have made purchases. This was the case also for those who masturbated on a daily (OR = 2.68) or weekly (OR = 2.13) basis compared with those who reported they never masturbate.

Besides examining the characteristics of those having purchased sexual merchandise online, we also aimed to examine the various types of sexual merchandise purchased on the Internet (Table 2). The results showed that it was most common for both women and men to have purchased vibrators or dildos on the Internet, but a larger proportion of women compared with men reported such a purchase (68% vs. 46%). Table 2 also shows the relative percentage of how each item ranked for both sexes. For women, lubricants (34%) and massage oil (26%) followed after vibrator/dildo purchase, and for men, adult movies (43%) and lubricants (42%) followed after vibrator/dildo purchase.

**TABLE 1.** Multivariate Logistic Regression; Odds Ratio Estimates (N = 1,614)

Factors	Have purchased sexual merchandise online OR (95% CI)
Sex	
Woman (ref.)	1
Man	0.78 (0.60–1.02)
Age groups	
18–24 (ref.)	1
25–34	2.07 (1.58–2.71)***
35–65	3.17 (2.36–4.27)***
Sexual orientation	
Heterosexual (ref.)	1
Gay/Lesbian/Bisexual	1.25 (1.07–1.47)**
Ethnicity	
Swedish born	1.97 (1.28–3.03)**
Foreign born (ref.)	1
Relationship status	
In a relationship	1.40 (1.08–1.82)*
Not in a relationship (ref.)	1
Frequency of having sex	
Daily	1.72 (0.85–3.49)
Weekly	1.98 (1.12–3.52)*
Monthly	1.92 (1.08–3.38)*
Rarely	1.28 (0.70–2.33)
Not in last 12 months (ref.)	1
Frequency of masturbation	
Daily	2.68 (1.40–5.14)**
Weekly	2.13 (1.20–3.77)**
Monthly	1.65 (0.93–2.94)
Rarely	1.53 (0.84–2.76)
Never (ref.)	1

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

**TABLE 2.** Sexual Merchandise Purchased on the Internet by Sex in Percent (N = 485)

	Women (n = 314)	Men (n = 171)
Condoms	21	36
Lubricants	34	42
Massage oil	26	28
Vibrator/Dildo	68	46
Vagina	1	15
Adult magazines	0	7
Adult movies	20	43
Outfits (clothes/shoes)	22	16
Accessories (handcuffs/whips)	21	20
Anal toys (dildo/plug/beads)	10	16
Kegel balls/Ben-Wa balls	17	9

To expand even more on the knowledge about the sexual merchandise purchased on the Internet, we subjected all items to a factor analysis to examine possible underlying structures. Our purpose was to examine if some of the items would cluster together and show groups of items rather than single items not related to each other. In the analysis, four factors were extracted and explained 57% of the variance indicating item interrelatedness. Based on content, these factors were subsequently labeled *masturbation stimuli*, *facilitators*, *penetration*, and *role-play*. Items, factor loadings, and percent of variance explained are shown in Table 3.

Our final aim for this study was to examine the reasons why the respondents used the Internet to purchase sexual merchandise (Table 4). The analysis showed that the reasons were almost identical for both women and men, with the largest proportion reporting convenience as the primary reason to make purchases on the Internet (78% women and men). Other reasons were the large selection of products offered online (47% women, 50% men), the possibility to shop anonymously (35% women, 41% men), the low prices in online Web shops (33% women, 34% men), to avoid visiting offline sex shops (28% women and men), and not being

**TABLE 4.** Reasons to Purchase Sexual Merchandise on the Internet by Sex in Percent (N = 485)

	Women (n = 314)	Men (N = 171)
Because of anonymity	35	41
Because it is convenient	78	78
To avoid visiting sex shops offline	28	28
Because of lower prices	33	34
Large selection of products	47	50
Cannot find the products offline	6	11

able to find the merchandise elsewhere (6% women, 11% men).

## DISCUSSION

To the best of our knowledge, this is the first empirical study to delineate the characteristics of individuals who have purchased sexual merchandise on the Internet, what merchandise they purchase, and the reasons why they make their purchases on the Internet. However, a few prior studies have reported on the relative percentages of people having made online purchases and made gender comparisons.

The results show that women and men had purchased sexual merchandise from online sex shops to an almost identical extent. In our sample, 31% of the women and 28% of the men reported they had made purchases online. Compared with prior research, the figures have doubled during the past decade (Cooper et al., 2002, 2003).

Our results show that it is possible to differentiate those who have from those who have not purchased sexual merchandise in relation to a set of predetermined factors. The gender similarities were confirmed in the multivariate regression model, and this was the only nonsignificant factor. Those who have made purchases were more likely to be aged 25 to 65 years old, rather than 18 to 24 years old. Perhaps the older individuals have a greater willingness, urge, or maybe need to explore and broaden their sexual repertoire, both when it comes to solitary or partnered activities. Of course, it could also be related to one's current financial situation and

**TABLE 3.** Sexual Merchandise Purchased on the Internet; Factor Analysis

Variable	Loading
<i>Factor 1: Masturbation stimuli</i>	
Adult magazines	.76
Vagina	.74
Adult movies	.65
(21.53% of variance)	
<i>Factor 2: Facilitators</i>	
Condoms	.74
Lubricants	.73
Massage oil	.58
(13.66% of variance)	
<i>Factor 3: Penetration</i>	
Vibrator/Dildo	.78
Kegel balls/Ben-Wa balls	.67
Anal toys (dildo/plug/beads)	.54
(11.40% of variance)	
<i>Factor 4: Role-play</i>	
Outfits (clothes/shoes)	.85
Accessories (handcuffs/whips)	.72
(10.56% of variance)	



living conditions allowing one to spend money on sexual products and having them delivered to one's home. Being older rather than younger, in relative terms, is probably related to the result suggesting that individuals in a relationship are more likely than those not in a relationship to have purchased sexual merchandise on the Internet.

In line with prior research, gay men, lesbians, and bisexuals were more likely than heterosexuals to have made purchases online (Daneback et al., 2008). However, it needs to be pointed out that because of our heterosexually dominant sample, we had to collapse the sexual orientation variable and thus lost analytic precision.

Swedish-born respondents were more likely than foreign-born respondents to have purchased sexual merchandise. Could this result point to differences in terms of how sexuality is perceived in various cultures and to class differences in terms of financial means and living conditions? This finding may suggest that ethnicity and cultural origin in relation to Internet sexuality should be considered to a greater extent in future research.

Those who had purchased sexual merchandise appeared to be relatively sexually active. They were more likely to have had sex on a weekly or monthly basis compared with not having had sex during the last 12 months. In addition, they were more likely to masturbate on a daily or weekly basis than never to masturbate. However, we are not able to draw any causal conclusions based on these results. Purchasing sexual merchandise could perhaps indicate an increased sexual interest and an interest in exploring sexuality, which could contribute to high intercourse and masturbation rates. However, the opposite may just as well be the case, namely that frequent engagement in sexual behavior could contribute to an increasing curiosity for sexual exploration, including the use of sexual merchandise. Both explanations fit in with the Sexual Behavior Sequence Model (W. A. Fisher & Barak, 2000).

Through this study, we were able to get a first look at the sexual merchandise people purchase on the Internet. The results showed that

people buy a variety of sexual products, the most popular being the vibrator or dildo. We found similarities and differences in men's and women's shopping patterns. Interestingly, despite being taboo earlier, primarily among heterosexuals, there seems to be a significant interest for anal toys such as anal dildos, anal plugs, and anal beads among both men and women. Online sex shops also seem to be a source for accessories used in bondage, discipline, sadism, and masochism practices, such as handcuffs and whips. Not surprisingly, adult magazines were purchased only to a small extent. Nonetheless, despite all the free pornographic content to be viewed and downloaded from the Internet, 43% of the men reported that they had used the Internet to buy adult movies. Of course, it would be interesting to explore what kind of movies men buy. A look at the taxonomy of pornographic movies available on the Internet shows an ever-growing diversity of sexual genres and specialties. So the question is: What kind of pornography are men buying and why? Furthermore, are they buying it for autoerotic purposes, or are they buying it to be used in the company of someone else—for example, one's partner? These, of course, are questions for further research.

Prior research has suggested that the Triple-A-Engine explains the reasons to use the Internet for sexual purposes (Cooper, 1998). The results from this study suggest convenience is the most important reason, by far, to use the Internet to purchase sexual merchandise followed by the presence and visibility of a large selection of merchandise available online. These reasons seem to be related to the Access factor of the Triple-A-Engine. This is interesting because of the belief that anonymity is the primary drive to go online for sexual purposes. The question is if this still holds true. Instead, our results seem to suggest that the easy accessibility contributes to an increasing normalcy when it comes to purchasing and using sexual merchandise. It has been noted that the trend has gone from a male only, rather seedy, and shady business to a repackaged version in at-home sex-toy parties and online shops with a fashionized and sometimes more romantic content,

especially catering to women. Both in at-home parties and online, it is possible to carefully browse the selection and to take one's time to make an informed purchase, instantly or on a later occasion. As respondents in relationships were more likely to make purchases, this could perhaps also be related to a more permissive erotic climate in the relationship. A similar explanation was suggested in a prior study on couples' use of pornography (Daneback et al., 2009).

This study had several limitations. First, it was a convenience sample; thus, we are not able to make generalizations to a larger population. Second, it was conducted in Sweden and the results may differ from those in other countries on several parameters, the most important being relative sexual liberalism and wide availability of online and offline sex shops. Third, this was a self-report questionnaire, which means that participants may have overreported or underreported their actual behavior due to social desirability. A fourth limitation of this study was that sex drugs (Viagra and other types of sex drugs) were not included among the merchandise that we refer to in this study. It is our contention that the selling and buying of these demand a study of their own, not least because they exist in a grey zone between the legal and illegal on the Internet, which presents specific problems of interpretation that go beyond the aim and scope of this study.

## CONCLUSION

Although there are numerous sex shops on the Internet that sell sexual products online, there are currently no empirical studies concerned with investigating the purchasing of such merchandise (Döring, 2009). This study is the first to start filling the gap by focusing on who purchases sexual merchandise online, what types of products, and they reasons why sexual merchandise is purchased online. Moreover, being the first study of its kind, we have identified a number of questions to be examined in future studies, both through our findings and the study limitations.

From a theoretical point of view, it is interesting to view the results in relation to the continuously changing scripts of sexual behavior. It is our contention that the results shown here support the view that the visibility and easy accessibility of sex products on the Internet contribute to an increasing normalcy with the use of such products and thereby to a change of the cultural scripts, affecting the level of public acceptance of openly buying and using sex-related products. An important factor adding to the attractiveness of shopping for sex products on the Internet is the time aspect. In other words, the visitor can rest assured that one can take the time needed to browse the merchandise, study the products in detail, reflect upon how they feel, maybe leave and come back, or make the purchase on a later occasion. In accordance with the Sexual Behavior Sequence Model (W. A. Fisher & Barak, 2000), visiting, browsing, and buying sex products online can also be sexually arousing in its own right, eventually priming the visitor for sexual activities and maybe contributing to exploring new sexual scripts and scenarios. What we are suggesting here is viewing this as an interactive process between the shops and the visitors, stimulating the development of new sexual scripts. However, this suggestion needs to be further explored in research, demanding a different type of methodology than the one used here. Qualitative research interviews with both visitors and shop owners in combination with cyber-ethnographic observations of visitors' actions and behaviors in online shops might contribute to a more in-depth picture of the dynamics of this interactive process.

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## Technological Advancements and Internet Sexuality: Does Private Access to the Internet Influence Online Sexual Behavior?

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### Abstract

The aim of this study was to investigate whether demographic characteristics and sexual behavior online and offline were associated with private, respectively, nonprivate access to the Internet in a Web sample of people who use the Internet for sexual purposes. A total of 1,913 respondents completed an online questionnaire about Internet sexuality, and 1,614 reported using the Internet for sexual purposes. The majority of these respondents reported having access to an Internet-connected computer no one else had access to (62 percent women and 70 percent men). The results showed that it is possible to differentiate between those who have access to an Internet-connected computer no one else has access to and those who have shared access to an Internet-connected computer. Not only did they differ in demographic characteristics, but also in the sexual activities they engaged in on the Internet. Different patterns were found for women and men. For example, men who had private access to Internet-connected computers were more likely than those who had shared access to seek information about sexual issues. Thus, having access to Internet computers no one else has access to may promote sexual knowledge and health for men. The results of this study along with the technological development implies that in future research, attention should be paid to where and how people access the Internet in relation to online behavior in general and online sexual behavior in particular.

### Introduction

IT IS WITHOUT DOUBT that the advent of the Internet has had a profound impact on human sexuality. In the mid 1990s, it was reported that sexuality was a part of the role of playing games in Multi User Domains where the participants' characters occasionally became sex partners in fictive milieus.<sup>1</sup> Later, engagement in this behavior was categorized as cybersex, referring to two or more individuals engaging in sexual interaction on the Internet with the purpose of sexual pleasure, sometimes involving masturbation by one or all participants. In the early days when Internet access became available to the public, sex was one of the most frequently used search terms on the search engines.<sup>2</sup>

Over the last 15 years, a significant number of empirical studies have shown that people use the Internet for a variety of sexual activities, and some have shown how this may influence sexual behavior offline.<sup>3-5</sup> For example, people use the Internet to seek information about sexual issues,<sup>6,7</sup> to view pornography,<sup>8,9</sup> to have cybersex,<sup>10</sup> to meet sex partners,<sup>11,12</sup> and to purchase sexual merchandise.<sup>13,14</sup>

Similar to all technical advancements throughout history, the Internet too was met by concerns of its meanings and influences on humans and society. Initially, scholars speculated about the man-machine hybrid—the cyborg—and its possible consequences.<sup>15</sup> Others focused on the how the world we used to know now is transformed into a network society.<sup>16</sup> In the field of Internet sexuality, researchers found the new technology as bringing both potential benefits and possible hazards.<sup>2</sup> Nevertheless, much of the existing research has focused on the negative aspects of using the Internet for sexual purposes.<sup>17</sup> However, some of the largest studies available have found the use of the Internet for sexual purposes to be unproblematic for more than 90 percent of the users.<sup>4,18</sup> On the contrary, the results from previous studies suggest that using the Internet for sexual purposes may have a positive impact on individuals.<sup>18,19</sup>

The technological development has led to increased computer performance at decreased costs. This has made it possible for an increased number of people to have Internet access at home. A recent Swedish estimate suggested that 89 percent of people aged 16–74 have Internet access at home.<sup>20</sup>

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In addition, in a Swedish study, it was found that 30 percent of the households owned two or more computers.<sup>21</sup> Along with WiFi and high-capacity battery packs, some users have even abandoned their stationary computers at home and, thus, have become mobile by switching to smart phones and netbooks.<sup>22</sup> In addition, without the need of mains outlets and Ethernet outlets, users have been able to connect to the Internet virtually anywhere. Consequently, accessing the Internet has become more of a personal and private affair. The question is whether this shift toward individuality and increased privacy will bring changes in terms of how people use the Internet, in general, and for sexual purposes, in particular.

Theoretically, the Triple-A-Engine (Access, Affordability, and Anonymity) has been used to explain the power and attraction of using the Internet for sexual purposes.<sup>2</sup> Access refers to the immediate access to the Internet and to the sexual material of interest, while affordability refers to the low prices online due to competition and, in some aspects, the abundance of free material. The anonymous setting provided by the Internet has made it possible to overcome or break away with individual, interpersonal, and societal norms regulating sexual behavior in more traditional settings offline.<sup>23,24</sup> It has also been suggested that the level of anonymity influences what sexual activities people engage in on the Internet; the more anonymous an online setting is, the more sexually explicit (or stigmatized) activity can take place.<sup>23</sup> Thus, it is possible that not only the anonymity in online settings influences online sexual behavior, but also the level of privacy in the offline setting from where the Internet is accessed.

The aim of this study was to investigate whether demographic characteristics and sexual behavior online and offline were associated with private, respectively, nonprivate access to the Internet in a Web sample of people who use the Internet for sexual purposes.

## Methods

### Procedure

The Web questionnaire was administered in the Swedish language on four sites, three Web sites and one Swedish university. Two Web sites were portal sites oriented toward adults, presenting information from diverse sources and including various applications (such as e-mail) with one leaning more toward online dating. The third Web site was an explicit youth community, one of the two largest in Sweden for 16–29 year olds. The sites were Passagen.se with approximately 500,000 unique visitors per week, Spray.se with approximately 400,000 unique visitors, and Playahead.se with approximately 100,000 unique visitors per week. The size of the University was nearly 21,000 students.

Between 27 February and 8 March 2009, a banner was placed on the Passagen.se and Spray.se (part of the Eniro Corporation) Web portal site, and this site was visible at all times to all visitors. The banner read "Participate in a study on love and sex on the Internet." On the 11th of March, an e-mail briefly describing the study including a hyperlink to the Web questionnaire was sent to all active student e-mail addresses registered at the university. Finally, on the 18th of March, a message with similar content as to the University was randomly sent by the administrators to 10,000 members 18 or older of the Playahead.se community. Data collection was ended on 20 March 2009.

### Instrument

The instrument was based on an earlier instrument that was used in a similar study in 2002 but was revised and expanded.<sup>3</sup> The questionnaire comprised 85 questions divided into six subsections. The first section had 24 socio-demographic questions, including items on Internet access, various forms of relationship constellations, love, and sexuality. Section two had twenty-eight questions about love and sexual activities on the Internet focusing on what activities the respondents engage in, how frequently, and why. Section three comprised eleven questions of sexual exposure and sexual exploitation. The fourth section had six questions about sexual activities in exchange for money or goods (attitudes and experiences). Section five had six questions about positive and negative experiences from using the Internet for love and sexual purposes. The sixth section comprised ten questions on online sexual problems (i.e., loss of control, addiction to online sex, sexually transmitted infections, and HIV). However, by using skip patterns, we were able to personalize the question to some extent. This could reduce the number of questions to 51 for some respondents.

### Sample

The sample participating in this study came from the population who visited the Passagen.se and Spray.se Web portals during the time for the study, those who were members of the Playahead Web community by the 18th of March, and were enrolled in the University through the spring semester of 2009.

A total of 1,913 respondents completed the questionnaire. The majority of the respondents were recruited from the University, 955 respondents, and 580 respondents from the Playahead.se web community. The numbers recruited from Spray.se and Passagen.se were 273 and 105 respondents, respectively.

The sample comprised 66 percent women and 34 percent men. However, the distribution differed depending on site for recruitment (University, 78 percent women vs. 22 percent men; Playahead.se, 50 percent women vs. 50 percent men; Spray.se, 63 percent women vs. 37 percent men; Passagen.se, 42 percent women vs. 58 percent men). The mean age was 28 for women and 29 for men, and it also differed depending on site for recruitment (University, 29 years for both sexes; Playahead.se, 20 years for women vs. 21 years for men; Spray.se, 37 years for women vs. 43 years for men; Passagen, 36 years for women vs. 46 years for men). Approximately 1 percent claimed to be from a country outside Sweden.

In this study, only those who reported using the Internet for sexual purposes were included ( $n=1,614$ ), 62 percent women and 38 percent men.

### Data analysis

SPSS version 17 (SPSS, Chicago, IL) was used for all data analyses. Descriptive statistics were used for variables related to demographic questions. The dependent variable examined in the current study was phrased *Do you have access to an Internet connected computer no one else has access to?* and the response alternative was simply *Yes* or *No*. Since the dependent variable was a binary, multivariate logistic regression analysis was chosen to predict group membership of those

who had access to an Internet-connected computer none else had access to. Previous research has suggested sex to be a discriminating variable in relation to online sexual behavior. Therefore, two models were built, and separate regression analyses were conducted for women and men, respectively. The independent variables were determined *a priori* and revolved around three areas: sociodemographic, sexual behavior offline, and sexual behavior online. Sociodemographic variables comprised sex (woman, man), age (age groups: 18–24, 25–34, 35–49, 50–65), relationship status (in a relationship, not in a relationship). Sexual orientation was measured by the respondents' reported sexual experience on a five-point version of the Kinsey H-H scale (sexual experience with women only, mostly women sometimes men, both men and women, mostly men sometimes women, and with men only). Those respondents who reported opposite sexual experience only were coded heterosexual; those who reported same sex only were coded gay/lesbian; and those who reported sexual experiences with both sexes were coded bisexual. Due to the low number of gay men and lesbians, the original variable sexual orientation was collapsed into a two-category variable (heterosexual, nonheterosexual). Sexual behavior offline included frequency of having sex (not in last 12 months, rarely, monthly, weekly, and daily) and frequency of masturbation (never, rarely, monthly, weekly, and daily). Sexual behavior online was measured through positive and negative responses to a range of love and sexual activities engaged in on the Internet: reading erotic novels, viewing pornography, chatting about sex, seeking information about sex, shopping for sex products, flirting, seeking romantic partners, seeking sex partners, having had sex with a partner met online, and having had cybersex.

The effects of the multivariate logistic regression analyses are expressed in odds ratios (OR) with 95 percent confidence intervals, where values above 1 indicate increased effects and values below 1 indicate decreased effects.

## Results

The sample characteristics of the respondents using the Internet for sexual purposes are shown in Table 1. The majority of these respondents reported having access to an Internet-connected computer no one else had access to (62 percent women and 70 percent men).

A total of 1,610 respondents who used the Internet for sexual purposes had answered the question of whether they had access to an Internet-connected computer no one else had access to. The results of the multivariate logistic regressions are displayed in Table 2. The Hosmer and Lemeshow's goodness of fit was nonsignificant for both regression models, indicating appropriate fitting of the data to the model (women=0.84, men=0.56). Nagelkerke's R square was 0.16 for women and 0.19 for men. The women's model classified 67 percent of the cases correctly, while the corresponding proportion for the men's model was 75 percent.

The results showed age and relationship to be associated with women's access to an Internet-connected computer no one else had access to. Women aged 35–49 (OR=0.60,  $p<0.01$ ) and in a relationship (OR=0.31,  $p<0.001$ ) were significantly less likely to have access to an Internet-connected computer no one else had access to. For men, it was associated with sexual orientation and relationship status. Men

TABLE 1. SAMPLE CHARACTERISTICS OF RESPONDENTS USING THE INTERNET FOR SEXUAL PURPOSES ( $N=1,614$ )

Variable	Percentages and means
Gender (%)	
Women	62
Men	38
Age (means)	
Women	27.23 (SD=9.46)
Men	28.59 (SD=12.45)
Sexual orientation (%)	
Heterosexual	85
Gay/lesbian/bisexual	15
Relationship status (%)	
In a relation	53
Not in a relation	47

TABLE 2. EFFECT ON ODDS IF HAVING ACCESS TO AN INTERNET-CONNECTED COMPUTER NO ONE ELSE HAS ACCESS TO ( $N=1,610$ )

Factors	Women (n=1,047)	Men (n=563)
	OR (95% C.I.)	OR (95% C.I.)
Age groups		
18–24 (ref.)	1	1
25–34	0.96 (0.68–1.35)	1.05 (0.63–1.74)
35–49	0.60 (0.39–0.90)*	1.14 (0.60–2.16)
50–65	0.75 (0.33–1.71)	0.89 (0.40–1.96)
Sexual orientation		
Heterosexuals	1.12 (0.77–1.63)	0.45 (0.23–0.88)*
GLB (ref.)	1	1
Relationship status		
Steady relationship	0.31 (0.21–0.46)**	0.35 (0.21–0.59)**
Frequency having sex		
Daily (ref.)	1	1
Weekly	0.84 (0.44–1.61)	0.43 (0.17–1.10)
Monthly	0.70 (0.36–1.35)	0.44 (0.17–1.12)
Rarely	0.92 (0.44–1.93)	0.32 (0.12–0.88)***
Not in last 12 months	0.80 (0.32–2.02)	0.64 (0.19–2.11)
Frequency of masturbation		
Daily (ref.)	1	1
Weekly	1.47 (0.68–3.21)	0.85 (0.50–1.45)
Monthly	1.12 (0.51–2.43)	0.79 (0.41–1.53)
Rarely	1.17 (0.53–2.60)	0.76 (0.35–1.64)
Do not masturbate	0.77 (0.32–1.86)	0.69 (0.18–2.67)
Online sexual activities		
Read erotic novels	0.90 (0.66–1.22)	1.59 (1.03–2.45)***
View pornography	0.91 (0.66–1.25)	1.47 (0.81–2.67)
Chat about sex	0.85 (0.57–1.26)	1.14 (0.66–1.97)
Seek sex information	1.20 (0.89–1.61)	1.60 (1.06–2.42)***
Shop sex merchandise	0.92 (0.67–1.26)	1.10 (0.69–1.75)
Flirt	1.12 (0.77–1.64)	1.31 (0.76–2.25)
Seek romantic partner	0.79 (0.50–1.27)	0.93 (0.53–1.61)
Seek sex partner	1.50 (0.79–2.86)	0.83 (0.47–1.47)
Have met sex partner online	1.40 (1.02–1.93)***	1.71 (1.06–2.75)***
Have had cybersex	1.70 (1.17–2.48)*	1.09 (0.63–1.89)

\* $p<0.01$ , \*\* $p<0.001$ , \*\*\* $p<0.05$ .

OR, odds ratios; C.I., confidence intervals; GLB, gay, lesbian and bisexual.

were significantly less likely to be heterosexual (OR=0.45,  $p<0.01$ ) and in a relationship (OR=0.35,  $p<0.001$ ). No significant associations were found for the frequencies of partnered sex and masturbation other than that men were less likely to masturbate rarely compared with daily (OR=0.32,  $p<0.05$ ). For both women and men, online sexual behavior was associated with having access to an Internet-connected computer no one else had access to. Women were significantly more likely to have met someone on the Internet whom they later met offline and had sex with (OR=1.40,  $p<0.05$ ) and to have had cybersex with (OR=1.70,  $p<0.01$ ). Men were significantly more likely to read erotic novels online (OR=1.59,  $p<0.05$ ) and to seek information about sexuality online (OR=1.60,  $p<0.05$ ). They were also significantly more likely to have met someone on the Internet whom they later met offline and had sex with (OR=1.71,  $p<0.05$ ).

## Discussion

The aim of this study was to investigate whether demographic characteristics and sexual behavior online and offline were associated with private, respectively, nonprivate access to the Internet in a Web sample of people who use the Internet for sexual purposes. The results showed that it is possible to differentiate between those who have access to an Internet-connected computer no one else has access to and those who have shared access to an Internet-connected computer. Not only do they differ in demographic characteristics, but also in the sexual activities they engage in on the Internet. However, barely any association with offline sexual behavior was found.

Not surprisingly, having access to an Internet-connected computer was associated with relationship status. Since almost 90 percent of Swedes have Internet access,<sup>20</sup> not being in a relationship would for most people mean that they do not have to share computers. Gay and bisexual men were more likely than heterosexuals to have access to Internet-connected computers no one else have access to. This was also not surprising, as anecdotic evidence suggest gay men to have pioneered the social uses of the Internet, but there are likely several other factors not included in this study that may better explain this finding. Women aged 35–49 were less likely than women aged 18–24 to have access to an Internet-connected computer no one else had access to. Perhaps this could point to an aspect of the digital divide in this group, a divide not found between other age groups and among men. This finding merits further research.

Women and men who had access to an Internet-connected computer no one else had access to were more likely than those who shared their computer to have met someone on the Internet they later met offline and had sex with. On the one hand, this is not surprising, as they were also more likely to be singles (not in a relationship), but on the other hand, they were not more likely to seek romantic partners or sex partners online. Thus, an alternative explanation could be that those who have access to Internet-connected computers no one else have access to also use it to find partners for sexual encounters outside their committed relationships.

Although women seem to prefer interactive online sexual activities, previous research has shown women and men to have had cybersex to a similar extent.<sup>10</sup> In the current study, women who had access to an Internet-connected computer no

one else had access to were also more likely than those who shared their computer to have had cybersex. Maybe women feel the need for a high level of offline privacy to have cybersex, perhaps due to their engagement in a behavior they deem inappropriate for various reasons, whether in a relationship or not. Cybersex consumes more time than several other online sexual activities, and previous research has shown that cybersex users spend twice as much time online for sexual purposes.<sup>10</sup> Perhaps, engaging in a time-consuming activity demands access to a computer no one else has access to. However, it could be the other way around as well, that having access to a computer no one else has access to allows more time to be spent on such activities. More research is needed related to this for a more complete understanding.

Men who had access to Internet-connected computers no one else had access to were more likely than those who shared their computer to read erotic novels online and to seek information about sexual issues. At this point, we have no satisfactory explanation as to why these activities stood out from the rest, as they are not associated with the most explicit or stigmatized behaviors. Nevertheless, the fact that men were more likely to seek information about sexual issues on the Internet is interesting and makes us think of the possible health benefits related to how and where people connect to the Internet. This is yet another question produced from this study that should be examined in future research.

Until now, the power and attraction of the Internet has been explained by the specific and extraordinary characteristics of various online settings, primarily anonymity.<sup>2</sup> Remaining unseen and unknown to others online has been thought to make it possible for people to engage in behavior they would not otherwise engage in, not the least in sexually related behavior due to individual, interpersonal, and societal norms of acceptable and unacceptable sexual behavior.<sup>23,24</sup> The results of this study suggest that the offline setting also plays an important role in how the Internet is used for sexual purposes. This would translate directly to the theory of sexual scripts where sexual behavior is determined partly by the setting.<sup>25</sup> In addition, it actualizes the works of Goffman and his dramaturgical perspective and the concepts of front stage and back stage as viable tools for future analyses.

This study was not without limitations. First, it was a convenient sample; thus, we are not able to make generalizations to a larger population. Second, it was conducted in Sweden, and the results may differ from those in other countries on several parameters. Third, this was a self-reported questionnaire, which means that participants may have over or under reported their actual behavior due to social desirability pressures. Fourth, we did not specify the type of Internet-connected computer the respondent had access to and, thus, we are not able to draw any conclusions about how they accessed the Internet and where they accessed it from. Fifth, relationship status does not automatically predict co-habitations. This means that in a relationship, one could live alone and have private access to the Internet.

## Conclusion

This was one of the first studies to suggest that the offline setting plays an important role in how the Internet is used for sexual purposes. Those who had access to Internet-connected computers no one else had access to were more likely than



those who had shared access to Internet-connected computers to engage in certain sexual activities on the Internet. In addition, different patterns were found for women and men. Interestingly, men who had access to Internet-connected computers were more likely than those who had shared access to seek information about sexual issues. Thus, having access to Internet computers no one else has access to may promote sexual knowledge and health for men. The results of this study along with the technological development implies that in future, research attention is paid to where and how people access the Internet in relation to online behavior, in general, and online sexual behavior, in particular.

#### Author Disclosure Statement

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**Researching sex on the internet**

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# Characteristics of Men and Women Who Complete or Exit From an On-Line Internet Sexuality Questionnaire: A Study of Instrument Dropout Biases

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*This study compared respondents who completed an Internet sexuality questionnaire and those who dropped out before completion. The study was in Swedish and comprised 3,614 respondents over a 2-week period (53% males, 47% females). There were significant differences between males, of whom 51% dropped out before completion of the 175-item questionnaire, and females, of whom 43% dropped out. Dropout in both genders followed a curve of negative acceleration. The data suggest that dropout is likely to be significant and gender and demographically biased, and to occur significantly earlier for men than for women. Geography, education, sexual orientation, age, relationship status, living arrangements, and Internet connection speed were related to dropout for men, while only relationship status and living arrangements, which were in the opposite direction from men, were related to dropout in women.*

Despite the increase of research into the Internet and sexual behavior, interpretation of Internet and sexuality data are limited by a lack of clarity regarding sample biases, among other methodological issues. Since it is very difficult to obtain a random sample of Internet users on sexuality-related sites, and since respondents to Internet questionnaires are usually subject to some sort of self-selection bias, there are difficulties in interpretation of data. Cooper, Scherer, Boies, and Gordon (1999) have already observed that respondents to website surveys may be more frequent Internet users or have a greater interest in the subject matter, and Ochs, Mah, and Binik (2002) have noted some of the sampling biases that relate to questionnaire data obtained from the Internet. A second area of potential bias is that of questionnaire completion: Anecdotal evidence has suggested that a large number of people who commence responding to sexuality-related Internet-based questionnaires drop out before completion of the questionnaires. Thus, this source of bias relates to whether those who complete the questionnaire are likely to be typical of those accessing and responding, or whether they are unrepresentative in systematic ways. Finally, the dropout rate itself is not well known, nor is the point at which dropout is most likely to occur or rates for various sub-populations including gender.

Research into the correlates of sexual contact on the Internet suggests that the Internet has a greater and more

instantaneous reach than any other medium to facilitate encounters that result in face-to-face sexual activity (Bull & McFarlane, 2000). The potential for more efficient disease transmission is highlighted by a syphilis outbreak associated with men who have sex with men (MSM) seeking partners on the Internet (Klausner, Wolf, Fuschler-Ponce, Zolt, & Katz, 2000). McFarlane, Bull, and Rietmeijer (2002), using an on-line survey, found that young adults using the Internet to meet sexual partners had quite different patterns of sexual behavior compared to those who did not use the Internet to meet sexual partners. In a study comparing MSM who responded to a questionnaire on the Internet to those completing the same questionnaire distributed conventionally to members of a gay organization in Sweden, Ross, Tikkanen, and Månsson (2000) found that those responding to the Internet questionnaire were significantly younger and more likely to come from a rural area or small town, to be bisexual and have significant heterosexual experience, not to be as "out" as homosexual, and to be less well educated. While there were few differences in actual sexual behavior between the two samples, these data made it clear that Internet samples can differ on many important demographic variables from conventional questionnaire samples.

The question of potential biases in Internet research is a central one. Wallace (1999) indicates that there has been little solid research as to who participates on the Internet and at what level. Mustanski (2001) also notes that Internet studies frequently rely on volunteer altruism, although a study by Frick, Bächtiger, and Reips (2001) found that randomizing participants to an incentive or incentive-free condition with the same Internet-based questionnaire produced fairly small dropout rates, 9.5% compared with 18.5%

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respectively. Mustanski (2001) identifies participation bias as one of the crucial problems facing on-line research and suggests that this is one reason why Internet-based questionnaires are typically less than 15 minutes long. Important questions, however, are (a) at what point dropout is likely to occur and (b) what characterizes those who are likely to drop out compared with those who continue. Here, the use of Internet technology makes it possible to analyze the dropouts compared with a standard paper and pencil questionnaire where such a comparison would be difficult unless all incomplete questionnaires were returned. An understanding of this issue will help us better decipher the nature of the bias involved.

To assess the possible biases and their directions in those who complete versus those who do not complete an Internet questionnaire investigating Internet sexual practices, we carried out a study of those responding to an Internet questionnaire in Sweden. Our research questions were (a) what is the rate of dropout in respondents to an Internet questionnaire; and (b) what demographic characteristics, including gender, are associated with dropout versus retention?

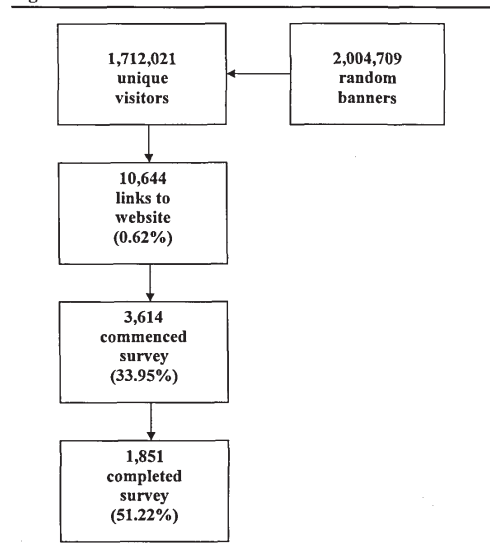
## METHODS

### Procedure

The questionnaire, which was administered in the Swedish language, was launched through a Swedish portal site called Passagen (<http://www.passagen.se>) that is part of the Eniro Corporation. Passagen is ranked one of the top four Internet domains in Sweden considering the number of unique visitors. We placed a banner on the website for 2 weeks from June 10 to June 23, 2002, announcing our study; it appeared randomly on the portal as well as on portal subsites. There was no way to control where the banner would appear, nor was it possible to predict for whom the banner would show; thus, for all practical purposes, its appearance was random. The banner appeared 2,004,709 times in the 2-week period. During these 2 weeks, Passagen had 818,422 and 893,599 unique visitors per week respectively, and the total number of visits was approximately 2 million with approximately 14 million pages viewed. By "clicking" on the banner, 10,644 visitors were actually linked to the study site (Figure 1).

By clicking on the banner, the viewer was linked to an introduction site located on a server within the University of Gothenburg website. The introduction site had the University logo and described the project, the nature and number of the questions, the funding source, and material related to ethics and confidentiality, including the fact that the questionnaire was anonymous. The introduction site also informed participants that this survey was limited to people 18 or more years old. By clicking on an "accept" button, the viewer was linked to the questionnaire, which was also placed on the University server. Below the questionnaire and visible at all times was a set of boxes numbered 1 to 75 and corresponding to each question (many

Figure 1. Level of contacts with website over 2 weeks.



questions contained more than one item; we measured 165 items total). Different colors indicated whether a question had been answered or not, and it was possible up to completion for respondents to return to a particular question to revise an answer. The system was running on an Intel-based 2 x 450 Mhz server placed within the University of Gothenburg website with a 10 GB connection both ways.

Each respondent opened a session with the server, and this session was active until the questionnaire was finished or the respondent quit. If the respondent quit, the session was automatically shut down. All responses and changes of responses were logged and saved continually. This format makes it possible to analyze missing values, when and where respondents drop out, and other variables which might be related to their discontinuing participation, such as gender and age.

### Instrument

We based the questionnaire on two earlier instruments. The first was used in an earlier study done in conjunction with MSNBC, one of the largest American portals (Cooper, Scherer, & Mathy, 2001). The second was used in the Sex in Sweden Survey (Lewin, 1998). The instrument in this study consisted of 75 questions broken down into seven sections.<sup>1</sup> Section 1 had 24 demographic questions including items on Internet access and experience of relationships and sexuality. Section 2 consisted of 13 questions focusing

<sup>1</sup> The complete questionnaire can be obtained from Professor Sven-Axel Månsson at University of Gothenburg, P.O. Box 720, 405 30 Göteborg, Sweden.

on perceptions of on-line love and sexual behavior. Section 3 had 7 questions on on-line sexual activity in the workplace and relevant policies and regulations for such behavior. Section 4 consisted of 17 questions dealing with both on-line and off-line sexual experiences. In Section 5, respondents were to answer 4 questions including 12 statements about the Internet and sexuality to help make clearer their attitudes about this phenomenon. Questions here asked, for example, if cybersex is cheating, if sex on the Internet is better suited for men, if the Internet fosters equality between genders, and similar questions. Items were rated on a 3-point Likert scale (1 = *fully agree*, 3 = *do not agree*). Section 6 had 8 questions around issues of on-line sexual problems and STDs. The last question contained a 10-item Kalichman scale (Kalichman, Johnson, Adair, & Rompa, 1994) on sexual compulsivity. The final item of the instrument provided respondents with an opportunity to comment on the questionnaire.

Due to the format and technique used in this survey, differences were obtained for items throughout the questionnaire. The first question (age) was answered by 3,614 persons, and the last question (10-item Kalichman scale) by 1,851 persons. This provides a possibility for special analyses of those who did not complete the entire questionnaire. For example, half of the males had dropped out by item 23, whereas half of the females had dropped out by item 49.

### Sample

**Portal site.** Of those who visit the Passagen portal site, 54% are men and 46% are women. Twelve percent of the visitors are between 18 and 24 years old. The two largest groups are ages 25 to 34 (22%) and 35 to 49 (27%). Eighteen percent are 50 to 64 years old and 4% are 65 or more years old. A total of 17% are under age 17. More than half of the portal population consists of the following groups: full-time students (17%), service occupation workers (13%), educational workers (10%), administrative workers (8%), and technical workers (7%). Ten percent do not currently have an occupation.

**Study respondents.** The sample participating in this survey came from the population of those who visited the Passagen portal site during the 2 weeks from June 10 to June 23, 2002. Because the survey was related to sexuality, which brought up ethical and legal complications for involving minors, it was decided to restrict participation to adults (over the age of 18). If a respondent filled out the questionnaire and claimed to be under 18, we removed that case from the database. An upper age limit was set at 75 years, both because of the small population claiming to be older and so that we could compare the results with previous research (Cooper, Morahan-Martin, Mathy, & Maheu, 2002; Lewin, 1998). Data on the sample characteristics are presented in Table 1. For those who reported engaging in online sexual activity ( $n = 2035$ ), the mean age for females was 29.7 years ( $SD = 10.6$ ) and for males 32.0 years ( $SD = 10.5$ ).

The gender distribution of those who engaged in on-line sexual activity in this study was 55% males and 45%

females, the same percentages found in overall use of the Internet in Sweden (Nielsen Netratings, 2002, January), and statistically almost identical to the percentages of those who visited the portal site where the questionnaire was launched (54% males and 46% females). Fewer than 3% claimed to be from a country outside Sweden, and almost all of these were from adjacent Scandinavian countries (Denmark, Norway, Finland).

### Analysis

We analyzed data using SPSS Version 11.0. Respondents were considered to have dropped out if they did not complete the second and third-last items on the questionnaire (the last items on the Kalichman Sexual Compulsiveness Scale). Kaplan-Meier analysis indicated a significant difference between male and female dropout rates. Thus, we analyzed further data for males and females separately, comparing those who dropped out before completion of the questionnaire to those who completed it. Because of the relatively high dropout rate of men by the end of the basic demographic data (half of the dropouts had done so by the end of this section), we confined ourselves to analysis of these demographics. Data were subject to comparison using Chi-squared tests for categorical data (with Yates correction for discontinuity where appropriate) and  $t$  tests (unequal variance assumed where Levene's  $F$  for equality of variances was significant at  $p < .05$ ) for linear data, with significance set at the .05 level. Finally, we used multinomial logistic regression with dummy variable coding to compare those who exited or were retained on the demographic and other variables that were statistically significant.

### RESULTS

Table 1 displays demographic characteristics of the participants. The sample comprised roughly equal numbers of males and females, of whom about 40% were single, and the great majority were Swedish with most of the remainder being Swedish speakers in adjacent Scandinavian countries. About one third lived in one of the greater metropolitan areas in Sweden (Stockholm, Gothenburg, or Malmö). However, just one fifth grew up in one of those metropolitan areas. Just over one third lived alone, and just under one third lived with children. The sample was predominantly well-educated, with nearly 40% having some postsecondary education. About half were working, although nearly one quarter of the women were students. Nearly two thirds worked with computers with Internet access, and over 80% had Internet access at home and about half at work. Additional details on the sample are provided by Cooper et al. (2003) and Månsson et al. (2003).

Figure 2 shows that exit survival scores are curves of negative acceleration, with most dropout occurring by Item 25 for half the males who would drop out, compared to Item 49 for the women, reflecting almost double the retention number of items for women. Kaplan-Meier survival analysis indicated that this difference was significant

**Table 1. Sample Characteristics (%)**

Variable	Males (n = 1846)	Females (n = 1637)	t or $\chi^2$
Age (Mean $\pm$ SD)	32.5 $\pm$ 11.3	29.2 $\pm$ 10.5	t = 9.1, df = 3445, p < .000
Marital status			
Single	39.2	36.0	
Married	20.0	11.8	
Cohabiting	22.7	28.0	
Divorced/widowed	5.8	8.5	
Live apart	9.7	13.4	$\chi^2 = 67.9$ , df = 4, p < .000
Nationality			
Swedish	91.7	91.4	
Other Scandinavian	2.4	2.8	
Other European	1.3	1.9	
Non-European	1.1	0.7	$\chi^2 = 9.5$ , df = 3, p < .03
Residence			
Large city	34.9	29.3	
City	40.7	43.9	
Town or rural	17.7	21.1	
Other Scandinavian place	1.1	1.4	$\chi^2 = 17.6$ , df = 4, p < .002
Grew up in			
Large city	22.4	20.8	
City	35.1	34.9	
Town or rural	30.4	34.8	
Capital or large city outside	2.5	2.2	
Town or rural area outside	1.8	2.4	$\chi^2 = 7.0$ , df = 4, p < .13
Living arrangement			
Alone	38.1	35.6	
Parents	12.8	18.0	
Spouse/partner	40.1	37.1	
Friend(s)	2.8	5.2	$\chi^2 = 30.6$ , df = 3, p < .000
Living with children			
Yes	33.7	31.6	
No	59.9	64.5	$\chi^2 = 3.6$ , df = 1, p < .06
Highest education			
Elementary school	6.5	7.7	
High school	41.0	43.0	
University	38.4	39.5	$\chi^2 = 1.39$ , df = 3, p < .71
Occupation			
Working	58.8	45.9	
Student	14.1	23.8	
Unemployed	5.7	8.0	
Retired	1.7	1.1	
Homemaker, parental leave	0.5	3.3	
Sick leave	1.9	3.8	
Other	4.8	6.1	$\chi^2 = 135.7$ , df = 6, p < .000
Work with computers			
With Internet access	64.9	62.9	$\chi^2 = 1.6$ , df = 1, p < .02
Without access	5.6	7.2	$\chi^2 = 3.9$ , df = 1, p < .05
Internet access			
At home	80.0	84.1	$\chi^2 = 9.8$ , df = 1, p < .002
At work	54.2	42.6	$\chi^2 = 34.7$ , df = 1, p < .000
At school	15.4	25.4	$\chi^2 = 54.3$ , df = 1, p < .000
At Internet cafés	5.1	4.6	$\chi^2 = 0.5$ , df = 1, p < .48
At other places	3.5	6.4	$\chi^2 = 15.6$ , df = 1, p < .000

Note. Where responses total < 100%, the remainder are missing responses.

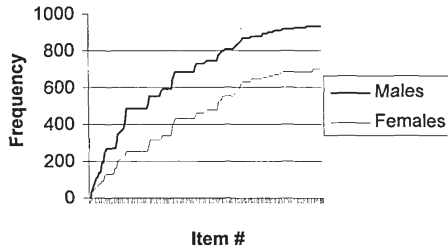
(F = 30.4, df = 1, p < .000). Further, 50.6% of men had dropped out by the end of the questionnaire compared to 42.9% of women, again significant ( $\chi^2 = 20.4$ , df = 1, p < .000).

The differences between the exiters and completers (summarized in Table 2) indicated that heterosexual men were significantly more likely to exit than bisexual or

homosexual men. While the trend was similar for women, this was not significant. For men, those exiting were significantly more likely to be in a sexual relationship (married, cohabiting, partnership), whereas women exiters were significantly less likely to be in a relationship. For men, exiters were significantly more likely to have lower educational levels, with a gradient toward the better edu-



Figure 2. Cumulative frequency of dropout; 165 cases who did not specify gender are omitted.



cated being less likely to exit, while for the women there was no significant relationship between education and exiting. A similar pattern occurred for geographical location, with men in the large metropolitan areas (Stockholm, Gothenburg, Malmö) being least likely to exit and those in a small town or rural area being more likely to exit. In contrast, there was again no significant association between exiting and location of residence for women.

For current living status, men who exited were significantly more likely to be living with others (spouse, parents, friends) rather than alone, and a similar significant pattern was observed for women. Those males living in a household without children were significantly less likely to exit, and while there was a similar pattern for women, it was not significant.

Those men who exited were significantly older by a mean of 2 years than those retained, whereas there was no significant age difference between the women who exited or were retained. Nor were there any significant differences between those who exited or were retained, male or female, on the mean number of hours per week they were active on the Internet or the mean number of hours per week they were on-line for sexual interests. However, the type of Internet connection was a significant variable in male, but not female, dropout: Men were significantly more likely to drop out if they had a slower connection (modem compared to DSL), whereas the connection speed had no relationship to dropout in women.

We also compared by gender those who either exited or were retained on two Internet sexuality questions, where the remaining  $n = 101$  for males and 100 for females. There was no significant difference between the exiting and retained groups on whether the respondent had had cybersex (males,  $\chi^2 = 0.03$ ,  $df = 1$ ,  $ns$ ; females,  $\chi^2 = 0$ ,  $df = 1$ ,  $ns$ ) or met a partner with whom they had had sex in real life (males,  $\chi^2 = 0$ ,  $df = 1$ ,  $ns$ ; females,  $\chi^2 = 0.02$ ,  $df = 1$ ,  $ns$ ).

On regression analysis, the equation was significant ( $\chi^2 = 40.48$ ,  $df = 11$ ,  $p = .000$ ), with three variables individually significant: type of Internet connection (broadband or modem;  $B = -.28$ ,  $\text{Exp}(B) = .76$ ,  $p = .0020$ ), sexual orienta-

Table 2. Differences Between Exited and Retained Respondents by Gender

Variable	Male		Female	
	Exit	Retained	Exit	Retained
	Percentages			
Sexual identity				
Heterosexual	38.4	61.6	35.0	65.0
Homosexual	22.7	77.3**	26.6	73.4
Relationship situation				
Not in one	46.1	53.9	44.3	55.7
In one	53.6	46.4**	38.3	61.7*
Education				
High school	53.8	46.2	40.8	59.2
Some college	47.8	52.2	42.7	57.3
Graduate	40.3	59.7**	36.4	63.6
Geography				
Large city	43.8	56.2	38.7	61.3
Small city	48.3	51.7	42.6	57.4
Town or rural	55.0	45.0	42.1	57.9
Overseas	56.3	43.8**	34.8	65.2
Living companions				
Alone	43.0	57.0	39.8	60.2
Parents or friends	49.8	50.2	53.7	46.3
Partner or spouse	51.1	48.9**	36.1	63.9**
Living with children				
Yes	50.8	49.2	39.1	60.9
No	45.2	54.8*	41.5	58.5
Type of Internet connection				
DSL	36.8	62.3	35.0	65.0
Modem	45.5	54.5**	38.3	61.7
	Means			
Age	34.4	32.3**	28.9	29.9
Hours/week active on Internet	16.0	17.3	14.3	15.3
Hours/week online for sex	6.2	5.2	4.5	4.6

\*  $p < 0.05$ . \*\*  $p < 0.01$ .

tion (homosexual/bisexual or heterosexual;  $B = .570$ ,  $\text{Exp}(B) = 1.77$ ,  $p = .001$ ), and gender ( $B = .17$ ,  $\text{Exp}(B) = 1.18$ ,  $p = .05$ ). Approaching significance was living arrangement (alone or with others;  $B = -.41$ ,  $\text{Exp}(B) = .67$ ,  $p = .15$ ).

## DISCUSSION

These data are subject to several limitations, including the fact that the sample represents volunteers and that we have little information on their representativeness, although the sample characteristics appear to be close to those of the characteristics of general Passagen website users. Further, because of the high dropout rates in the early section of the questionnaire, especially among men, dropout characteristics on later items should be interpreted with the caution that they are simply comparing middle and late dropouts. Finally, we had no way of determining if any respondents had completed the questionnaire more than once.

The data show that dropout follows a curve of negative acceleration, with differences in survival rates between males and females (males dropping out significantly earlier and at a higher rate). The half-life for male dropout is at Item 25, whereas for females it is Item 49, reflecting almost a doubling of the retention time for females. Further, half of

men and 40% of women dropped out. The shape of the curves in Figure 2 suggests that there is a relatively rapid rate of dropout that flattens over time, and that those remaining after about 25 items for men and about 50 for women tend to continue. This has implications for Internet questionnaire design, suggesting that sexuality questionnaires for males need to be shorter than for females to avoid significant dropout bias.

For males, self-identified heterosexuals were significantly more likely to exit, as were men currently in a relationship. For women, however, the relationship pattern was the reverse, with women in a relationship less likely to exit. The reversed relationship between men and women recurs with living with children, although since this is likely to be highly associated with being in a relationship, this is not surprising. For men, there was a significant gradation in the relationship between education and premature questionnaire exit, with the less educated more likely to drop out. While there was a similar trend in women, it did not reach significance. Geographically, again there was a similar pattern for men, who were significantly more likely to exit if they were in a smaller city or small town or rural area, whereas for women there was no apparent relationship between geography and dropout. These data suggest that without correcting for dropout, homosexual and bisexual men are likely to be overrepresented in Internet questionnaire samples, as are better educated and more urban men and those living alone. The different trends for relationship situation for men and women are intriguing and suggest that longer questionnaires (over about 30 items) will underrepresent men in relationships and overrepresent women in relationships. There was a significant difference in the age of men retained in the questionnaire, with dropouts being significantly older, but this relationship was not significant for women. Interestingly, there were no significant differences in Internet use in dropouts and those retained between either men or women, suggesting that the patterns of Internet use are not significant in determining the risk of dropout in terms of time per week active on the Internet or hours per week on-line for sexual purposes.

These data indicate that there is a high and early dropout rate for sexuality-related questionnaires, higher than that noted by Frick et al. (2001). This may be due to the nonsexual content of Frick et al.'s questionnaire and the lack of an incentive in the present study. While the present study was a volunteer questionnaire, the significantly higher dropout rates for men suggest that they may be unwilling to devote much time away from sexual pursuits on the Internet, compared to women. As in this study the participants could see the number of questions in the total questionnaire and the number they had completed, it may be that they made a decision based on time early in the questionnaire to drop out. The ability to assess progress in the questionnaire is unusual and may have contributed to dropout. This suggests that critical data questions should be placed as early as possible in a questionnaire. The technology employed in this study, which allows dropout point to be determined, may

also be useful to assess dropout bias. Of particular interest is the fact that men but not women with slower Internet connections were significantly more likely to drop out. This, combined with the higher dropout rate for men, suggests that time and impatience are factors that are more important to male than to female respondents.

These data also suggest that estimates of the population of those who will complete an Internet sexuality questionnaire will vary depending on the length of the questionnaire. Given the progressive dropout rates in this study, simple univariate analyses that base demographic characteristics on initial demographics and subsequent analyses on those remaining are likely to progressively misrepresent the demographics and items appearing later in the study. The acknowledged bias toward urban and better educated respondents in Internet studies may also, to a limited extent, be an artifact of those who will continue with a sexuality questionnaire on the Internet rather than those who will initially commence it. A remaining question that these data do not directly answer is related to the motivations for dropout, although time and attention span are strongly implicated by the data on the connection speed being related to dropout in men.

It is likely, however, that the bias for Internet sexuality-related questions is not as large as might be expected, given the nonsignificant differences between exiters and those retained on the two sexuality questions relating to having cybersex and meeting partners on the Internet with whom the respondent had had sex in real life. A strong caveat, however, is that the questions on cybersex (Item 47) and meeting partners in real life (Item 51) occurred at the point where over half of the respondents who would drop out had already done so; thus, these questions are only a measure of potential differences between late dropouts and those who were retained.

Finally, it is likely that dropout rates may also be influenced by variables including culture, language, content, and, as already noted, incentives. It would seem unwise to generalize these data beyond incentive-free sexuality questionnaires in Western countries or to replicate these data without regard to the specific sexuality content areas of the questionnaire. However, it is clear from these data that dropout does constitute a significant bias in Internet sexuality research and that it varies significantly by gender, sexual orientation, Internet connection type, relationship status, and other demographic characteristics. Dropout biases therefore need to be considered in interpreting the results of Internet sexuality questionnaires, particularly given the high rates of dropout before questionnaire completion found in this study.

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## Biases in internet sexual health samples: Comparison of an internet sexuality survey and a national sexual health survey in Sweden

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### Abstract

The internet is becoming a favored technology for carrying out survey research, and particularly sexual health research. However, its utility is limited by unresolved sampling questions such as how biased internet samples may be. This paper addresses this issue through comparison of a 'gold standard' random selection population-based sexual survey (The Swedish Sexual Life Survey) with an internet-based survey in Sweden which used identical demographic, sexual and relationship questions, to ascertain the biases and degree of comparability between the recruitment methods. On the internet questionnaire, there were significant differences between males and females on all the measured indices. There were no significant differences in proportions of males and females, or nationality, between the two samples. However, the internet samples for both males and females were significantly more likely to be younger, originally from and currently living in a major city, better educated, and more likely to be students and less likely to be retired. Relationship variables were less likely to be significantly different between samples: there were no differences for males or females between the SSS and the internet samples on having been in a committed relationship, and how they met their present partner, nor for males in having discussed separation in the past year. However, there was a higher proportion of people attracted to the same sex, and higher numbers of sex partners (as well as a higher proportion of people reporting no sex) in the past year, in the internet sample. These data suggest that apart from the demographics of age, location, and education, currently being in a committed relationship, and the number of sex partners in the past year, internet samples are comparable for relationship characteristics and history with a national sexual life survey. Comparison of internet data with random survey data in other western countries should occur to determine if these patterns are replicated.

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## Introduction

The internet is becoming a favored technology for carrying out survey research, and particularly sexual health research. Not only do computer-based questionnaires have the advantage of significantly improving honesty in reporting on potentially stigmatized areas such as human sexuality, along with providing the perception of anonymity (Turner et al., 1998), but the internet is also a favored mechanism for exploration of sexual themes and contacts. A significant advantage of the internet is based on the Quin-A engine: Cooper (1998) has identified the factors of *accessibility*, *affordability* and *anonymity* as driving the internet's popularity for sexual interactions. King (1999) added the high *acceptability* of the internet, and Tikkanen and Ross (2003) and Ross and Kauth (2002) have included the ability of people using the internet to *approximate*, or experiment with, different aspects of sexuality or sexual practices on-line rather than in person.

The increase in the importance of the internet as a medium for studying sexuality and sexual health has, however, been limited by sampling questions. While it has been claimed that the internet is inherently biased toward people who are male, younger, wealthier and more highly educated (Hewson, 2003), data from a study comparing men who have sex with men (MSMs) accessed through a traditional sampling of a major national gay organization, and through the same organization's website, demonstrated somewhat the opposite (Ross, Tikkanen, & Månsson, 2000). Men who used the internet were more likely to be significantly younger, less well educated, located more often in smaller towns and rural areas, and more bisexually identified and bisexual in their sexual practices. They were also significantly less likely to be "out" as gay or bisexual, although there were very few significant differences in HIV-risk practices.

These studies raise the methodological question as to how biased internet samples might be in collecting data on human sexual health. Interpretation of such data is contingent upon an assessment of the nature and degree of sampling from a medium in which it is almost impossible to assess the denominator and thus completion rate. Even if this can be done, it is usually assessed at around 0.7% of hits leading to entry into a survey (Ross, Daneback, Månsson, Cooper, & Tikkanen, 2003). With such a low response rate (although given the level of traffic on the internet, high *n*), traditional approaches to assessing non-completion bias are difficult to apply. Further, there are markedly higher drop-out rates in internet surveys than conventional studies, due to the nature of the medium, which are an additional unique factor in considering potential bias (Ross et al., 2003). Thus, a key question in social science

research into sexuality is the comparability of internet and national random sampling, and specifically the characteristics of those who use the internet. A second key question relates to the importance of such differences in indicating increased access to populations who may be more "hidden" or difficult to access for sexuality-related health interventions such as HIV/STD prevention programs.

Given the intense interest in using the internet for sexual health education (DeGuzman & Ross, 1999) and recent data indicating that STD transmission in some locales has been fuelled by internet-mediated sexual contacts (Klausner, Wolf, Fischer-Ponce, Zolt, & Katz, 2000), an understanding of the population base of the internet based on those who fill out internet-based surveys also provides useful information on who internet-based sexual health programs such as HIV/STD risk reduction might target. We report on a comparison of data from the Swedish National Sexual Life Survey (SSS) and an internet survey in Sweden that used identical demographic questions to the SSS, in order to compare a "gold standard" random selection population-based sexual survey with an internet-based sexual survey in the same country to ascertain the biases and degree of comparability between the two recruitment methods.

## Methods

### National SSS

A full report of the SSS is available (Lewin, Fugl-Meyer, Helmius, Lalos, & Månsson, 2000) in English and Swedish. The study was carried out in January–October 1996, by the University of Uppsala and the Swedish Institute of Public Opinion Research (SIFO). The sample was based upon a population-based sample of 5250 individuals residing in Sweden in December 1995 aged between 18 and 74. After excluding those who were not able to speak and read Swedish, and those deceased, emigrated or abroad, in prison, with sensory defects that would limit their participation, those who had moved and had unknown new addresses, and those with long-term illness or senility, the remaining (net) sample was 4781 individuals. An introductory letter describing the study was sent to the sample in January 1996 and potential respondents were contacted by a trained interviewer to determine their willingness to participate and to schedule an appointment. The anonymous interview took approximately 1½ h. Interviews were conducted at a place and time agreed on by the respondent, the majority in their home. The questionnaire, which was interviewer-administered, contained questions relating to social background, lifestyle, health, sexual knowledge, attitudes, sexual behavior,

and an evaluation of their sexual experiences. A copy of the full questionnaire is available in Lewin et al. (2000).

Responses that could be processed further were obtained from 2810 individuals (59%). Reasons for not taking part included the subject matter (13% of net sample), “principle” and “other” (feeling that surveys were an invasion of privacy and a general reluctance to take part in survey research: 20% of net sample), and “lack of time” (5%) (Lewin et al., 2000). The demographic questions asked and analyzed in the present study appear in Tables 1 and 2.

### Internet survey

The questionnaire, which was administered in the Swedish language, was launched through a Swedish portal site called Passagen ([www.passagen.se](http://www.passagen.se)), which is part of the Eniro Corporation. Passagen is ranked one of the top four domains in Sweden considering the number of unique visitors. A banner was placed on the website for 2 weeks from June 10 to June 23, 2002 and appeared randomly on the portal as well as on its sub-sites. There was no way to control where the banner

Table 1  
Male differences between internet and Sexual Life Survey samples (%)

	Internet	Sexual Life Survey	
<i>Age group</i>			
18–24	23.0	14.9	
25–34	50.8	21.7	
35–49	23.0	30.8	
50–65	1.7	23.4	
66–75	1.5	9.2	$\chi^2 = 41.5, df = 4^{**}$
<i>Place grew up</i>			
Major city	24.8	18.7	
Other city	38.8	30.2	
Town > 10,000/rural	33.6	46.2	
Foreign city	1.1	2.2	
Other place abroad	1.7	2.8	$\chi^2 = 70.8, df = 4^{**}$
<i>Present residence</i>			
Major city	37.4	24.9	
Other city	43.7	36.2	
Town > 10,000/rural	19.0	38.9	$\chi^2 = 161.5, df = 2^{**}$
<i>Nationality</i>			
Swedish	95.1	94.2	
Other Nordic country	2.5	1.7	
Other European country	1.4	2.5	
Outside Europe	1.1	1.6	$\chi^2 = 9.4, df = 3, ns$
<i>Employment</i>			
Employed	67.2	67.8	
Study	16.1	10.6	
Unemployed	6.6	6.5	
Retired	2.0	11.9	
Homemaker	0.0	0.0	
Military	0.1	1.2	
Parental leave	0.4	0.2	
Long-term sick leave	2.2	1.0	
Other	4.7	0.1	$\chi^2 = 178.7, df = 8^{**}$
<i>Education</i>			
Did not complete high school	1.2	1.1	
Completed high school	6.0	22.5	
Vocational post-high school	45.9	54.2	
University/college	43.0	21.1	
Other	3.9	1.2	$\chi^2 = 301.5, df = 4^{**}$
<i>Ever in committed relationship</i>			
Yes	81.1	74.6	

Table 1 (continued)

	Internet	Sexual Life Survey	
No	18.9	25.4	$\chi^2 = 1.1, df = 1, ns$
<i>Currently in committed relationship</i>			
Single	56.2	22.6	
In relationship	43.8	77.4	$\chi^2 = 161.5, df = 1^{**}$
<i>How met present partner</i>			
Through friends	38.1	29.7	
At work	9.5	11.5	
At school/education	14.3	8.8	
Through club/hobby	0.0	6.0	
At a bar/disco/restaurant	19.1	33.3	
Advertisement/agency	0.0	0.5	
Other (incl. internet)	19.1	10.2	$\chi^2 = 5.4, df = 6, ns$
<i>Attracted to</i>			
Opposite sex	90.6	97.0	
Same sex or both sexes	9.4	3.0	$\chi^2 = 6.9, df = 1^{**}$
<i>Discussed separation past year</i>			
Yes	14.3	7.4	
No	85.7	92.6	$\chi^2 = 1.37, df = 1, ns$
<i>Number of sex partners past 12 months</i>			
1	48.7	79.4	
2	21.6	10.4	
3–5	16.2	7.8	
>5	13.5	2.4	$\chi^2 = 28.1, df = 3^{**}$

\*  $p < 0.05$ ; \*\*  $p < 0.01$ .

would appear, neither was it possible to predict for whom the banner would show, thus for all practical purposes its appearance was random. During the 2 weeks Passagen had 818,422 and 893,599 unique visitors, respectively, and the total number of visits was approximately 2 million with approximately 14 million pages viewed. Of these 1,712,021 unique visitors, 0.62% linked to the website. Of these, 33.95% commenced the survey, and of these, 1851 (51.22%) completed it. Ross et al. (2003) have analyzed dropout biases in detail, and note that dropouts are more likely to be male, heterosexuals, in relationships and in small towns, with slow internet connection speeds. Female dropouts in contrast were more likely to be not in a relationship and living with a parents or friends.

When clicking on the banner the viewer was linked to an introduction site located on a server within the University of Gothenburg web. The introduction site also had the University logo and described the project, the nature and number of the questions, the funding source and material relating to ethics and confidentiality, including the fact that the questionnaire was anonymous. The introduction site also informed participants that this survey was limited to those who were

18 years or older. By clicking on an “accept” button, the viewer was linked to the questionnaire which was also placed on the University server. Below the questionnaire and visible at all times was a set of boxes numbered 1–75 and corresponding to each question (many questions contained more than one item: we measured 165 items in total in the questionnaire). Different colors indicated whether a question had been answered or not and it was possible up to completion for respondents to return to a particular question to revise an answer. The system was running on an Intel-based 2 × 450 MHz server, placed within the University of Gothenburg website with a 10 GB connection both ways. The study was approved by the relevant university Human Subjects review board.

Each respondent opened a session with the server and this session was active until the questionnaire was finished or quit. If the session was quit it was automatically shut down. All responses and changes of responses were logged and saved continually. The specific format used made it possible to get exact information on when the respondent started to answer the questionnaire and when and on what item the respondent stopped. It was presented in year–month–day–hour–minute–second format for both starts and stops.



Table 2  
Female differences between internet and Sexual Life Survey samples (%)

	Internet	Sexual Life Survey	
<i>Age group</i>			
18–24	41.1	13.6	
25–34	35.7	23.7	
35–49	16.1	29.7	
50–65	7.1	24.2	
66–74	0.0	8.8	$\chi^2 = 46.0, df = 4^{**}$
<i>Place grew up</i>			
Major city	26.8	20.3	
Other city	35.5	31.4	
Town > 10,000/rural	35.5	44.1	
Foreign city	0.8	2.3	
Other place abroad	1.4	1.8	$\chi^2 = 42.1, df = 4^{**}$
<i>Present residence</i>			
Major city	31.0	27.9	
Other city	46.6	39.4	
Town > 10,000/rural	22.4	32.8	$\chi^2 = 39.4, df = 2^{**}$
<i>Nationality</i>			
Swedish	95.1	94.2	
Other Nordic country	3.9	3.0	
Other European country	1.9	1.7	
Outside Europe	0.7	1.1	$\chi^2 = 3.1, df = 3, ns$
<i>Employment</i>			
Employed	49.9	58.3	
Study	25.9	12.4	
Unemployed	8.7	5.9	
Retired	1.2	12.7	
Homemaker	0.8	1.4	
Military	0.0	0.0	
Parental leave	2.8	5.9	
Long-term sick leave	4.1	1.9	
Other	6.6	1.5	$\chi^2 = 278.7, df = 8^{**}$
<i>Education</i>			
Did not complete high school	0.6	0.8	
Completed high school	7.7	20.8	
Vocational post-high school	45.7	49.4	
University/college	41.9	27.9	
Other	4.2	1.1	$\chi^2 = 157.7, df = 4^{**}$
<i>Ever in committed relationship</i>			
Yes	95.6	91.1	
No	4.4	8.9	$\chi^2 = 1.0, df = 1, ns$
<i>Currently in committed relationship</i>			
Single	59.3	31.4	
In relationship	40.7	78.6	$\chi^2 = 124.5, df = 1^{**}$
<i>How met present partner</i>			
Through friends	17.2	29.3	
At work	10.4	12.3	
At school/education	13.8	8.4	
Through club/hobby	6.9	7.2	
At a bar/disco/restaurant	20.7	31.5	
Advertisement/agency	3.5	0.6	
Other (incl. internet)	27.6	10.7	$\chi^2 = 14.3, df = 6, ns$

Table 2 (continued)

	Internet	Sexual Life Survey	
<i>Attracted to</i>			
Opposite sex	83.3	93.3	
Same sex or both sexes	16.7	6.7	$\chi^2 = 7.1, df = 1^{**}$
<i>Discussed separation past year</i>			
Yes	32.3	7.2	
No	77.7	92.8	$\chi^2 = 26.1, df = 1^{**}$
<i>Number of sex partners past 12 months</i>			
1	55.8	86.9	
2	18.6	7.6	
3–5	16.3	4.9	
>5	9.3	0.7	$\chi^2 = 52.6, df = 3^{**}$

\* $p < 0.05$ ; \*\* $p < 0.01$ .

### Portal data

Of those who visit the Passagen.se portal site, 54% are women and 46% are men. Twelve percent of the visitors are between 18 and 24 years old. The two largest groups are ages 25–34 (22%) and 35–49 years (27%). Eighteen percent of the sample are 50–64 years and 4% 65 years or older. A total of 17% are under the age of 17. More than half of the portal population consists of the following groups; full time students (17%), within service occupation (13%) educational work (10%), administrative work (8%) and technical work (7%). Ten percent do not currently have an occupation.

### Instrument

The internet questionnaire was based on two earlier instruments. The first was used in an earlier study done in conjunction with MSNBC, one of the largest American portals (Cooper, Scherer, & Mathy, 2001). The second was used in the SSS (Lewin et al., 2000). The instrument in this study consisted of 75 questions, broken down into seven sections;<sup>1</sup> Section one had 24 demographic questions including items on internet access and experience of relationships and sexuality. Section two consisted of 13 questions focusing on perceptions of on-line love and sexual behavior. Section three had seven questions on online sexual activity in the workplace and relevant policies and regulations on such behavior. The fourth section consisted of 17 questions dealing with both on-line and off-line sexual experiences. In Section five respondents were to answer four questions including 12 statements about internet and sexuality to help make clearer their attitudes about this

phenomenon. For example if cybersex is cheating, if sex on the internet is better suited for men, if the internet fosters equality between gender and similar questions. Items were rated on a three point Likert scale (i.e., whether they fully agreed, agreed somewhat, did not agree, or if they could not answer the question.) Section six had eight questions around issues of online sexual problems and STDs. The last question contained a ten-item Kalichman and Johnson (1994) scale on sexual compulsivity. The final item of the instrument provided respondents with an opportunity to comment on the questionnaire. Here, we report on the demographic characteristics of the internet sample, where the questions were identical to those asked in the SSS.

### Analysis

The frequency data for the two surveys were analyzed using Pearson chi-squared tests to compare proportions, with Yates correction for discontinuity where appropriate (Preacher, 2001). Data were analyzed separately for males and females, and significance set at the 5% level (two-tailed). Those reporting no sex in the past 12 months were included in both samples.

### Results

Results are presented in Tables 1 and 2. There were no significant differences in the proportions of males and females in the internet survey and the SSS ( $\chi^2 = 0.2, df = 1, ns$ ) with 53% of the internet sample and 52.5% of the SSS sample being male. Comparisons between males and females for the internet sample indicated that every variable with the exception of where people met their steady partner was statistically significant, and thus findings are presented separately for the sexes.

<sup>1</sup>The complete questionnaire can be obtained from Kristian Daneback at University of Gothenburg, P.O. Box 720, 405 30 Göteborg, Sweden.

There were major and significant differences between the male samples in age group (the internet sample being younger), the place the respondent grew up and was currently living (the internet sample was more likely to grow up and currently live in a major city or other city), in occupation (the internet sample were more likely to be students and less likely to be retired), in education (the internet sample were more likely to have completed high school and to have gone to university or college), currently being in a committed relationship (the internet sample were less likely to be in a committed relationship), in being attracted to the same sex (the internet sample were more likely to identify as gay/bisexual), and in the number of sex partners in the past year (the internet sample were more likely to report more than one partner). There were no significant differences for males in nationality, ever being in a committed relationship, having discussed separation in the past year, and how they met their present partner. For the female samples, the findings paralleled the male samples, with the exception that there was also a significant difference in having discussed separation in the past year, with the internet sample having discussed separation more than the SSS sample. The proportion of individuals (not divided by gender) reporting not having had sex in the past 12 months was 10.5% in the SSS study and 15.5% in the internet study,  $\chi^2 = 28.8$ ,  $df = 1$ ,  $p < 0.001$ .

## Discussion

These data should be interpreted with several caveats. First, there was a 5-year gap between the SSS and the internet survey, with the SSS being conducted in 1996, and the internet study in 2002. While it is unlikely, differences might partially reflect changes in demographic trends and sexual behaviors in this time. We have no data that suggest any changes in sexual behavior over this period apart from the increasing penetration of the internet into the sexual culture: there were no questions regarding sexuality on the internet in the 1996 study, and only 11% of the sample reported having internet access before 1996. Time changes between the SSS study and comparable data from 1967 suggest that there is a trend in the most recent data for higher numbers of sexual partners and also for an increase in the numbers of people not reporting intercourse in the past year, as well as for differences in sexual behavior between men and women to decrease (Lewin et al., 2000). As these trends continue in the internet sample, they may be due to time-related trends rather than the nature of the internet sample. Second, the initial SSS survey, while based on a randomly drawn population sample, was not a complete sample due to some refusals to participate and this incomplete response may have lead to unknown biases.

It could be argued that one of the difficulties in comparing an internet sample with a population random sample is that the sampling frame for the internet is unknown. However, in the present study we have similar data on both samples. The population sample was drawn from a population for which age, gender and geographical location were known, and then limited by refusals to volunteers within the random sample. The internet sample was obtained from volunteers from a website where the characteristics of the population of users on age ranges, gender, and occupational group were known, but the random selection was based on whether banners advertising the study appeared. Both samples thus relied on those who volunteered from an initial random selection to complete the study: the major difference was the size of the fraction who responded, by several orders of magnitude.

These data suggest, first, that with one exception, the data for males and females follow the same pattern with regard to the relationship of the internet sample to the SSS sample. Of particular interest is the fact that the proportions of males and females in both samples was not significantly different, suggesting that the internet in Sweden is becoming a gender-equal medium. However, the internet displays a clear bias toward the younger, urban, and better educated sector of the population, perhaps reflecting the distribution of computers and internet connections in this population. Differences in employment appear to largely be a function of the difference in age distribution, with more students and less retired people in the internet sample. As might be anticipated, the internet sample was also better educated, which is probably a function of the ubiquity of computers and the internet in higher education.

Within the internet sample, males were less likely to be 18–24, more likely to come from a major city, more likely to be employed, more likely to be higher educated, and less likely to have only one sex partner in the past year. These trends followed the male–female differences in the SSS data.

Given that the internet sample in this study was derived from a sexual contact website, it is also no surprise that, compared with the SSS sample, they were less likely to be in a committed relationship, and slightly more likely to be gay, lesbian or bisexual, as well as having higher numbers of sex partners (although also in contrast a higher proportion of people reporting no sex in the past 12 months). What is of particular interest, however, is the fact that there were no significant differences between the samples on ever being in a committed relationship, where the present steady partner was met, and (for males) ever having discussed separation in the past year. There were, however, significant differences in currently being in a committed relationship and partner numbers in the past 12 months. These data suggest that despite this being a sexual

website, the biases of the internet data are insignificant with regard to history of relationships (though not current relationship), and how the present partner was met. The higher proportion of gay/lesbian or bisexual respondents in the internet sample suggests that this medium either is used by a greater proportion of gay/bisexual people, or as Turner et al. (1998) previously noted, the anonymity of the medium encourages a greater degree of accuracy in sexual histories.

For an understanding of systematic biases in internet-based sampling, apart from the demographics of geography, age, and education, and the associated variation in employment, internet-based samples appear relatively unbiased in regards to gender, nationality, and relationship history and formation. There is the suggestion that for females, there may be higher relationship dissatisfaction driving the exploration of the internet for sexual purposes. Hewson (2003) appears to be correct with regard to internet sample bias for education, but not gender. These data can provide an assessment of the level and direction of bias in internet sexual site volunteer selection, and thus an indication of the degree of care needed in the interpretation of data from internet studies in sexuality. While it is no surprise that for a site into which people select on the basis of sexual interest, there is a higher proportion of singles, numbers of sexual partners, and same-sex attraction. The lack of differences in proportions of males and females and relationship history (though not current relationship) implies that internet samples may be substantially different in demographics including age, education, residence, current relationship, sexual partner numbers, and employment. It is also of interest that, despite the internet being a sexual interest site, the proportions of respondents reporting no sex in the past 12 months was actually higher in the internet sample than in the SSS sample.

Taken together, these data are similar to Mathy, Schillace, Coleman, and Berquist's (2002) smaller internet study on lesbian and bisexual females in the US, where their internet sample when compared with a Gallup poll obtained by random digit dialing was not significantly different with regard to urban/rural residence, race/ethnicity, and proportion at poverty level, although significantly younger and better educated. While they give some idea of the magnitude of the bias in an internet sample, these data need to be replicated in other western countries to establish if similar patterns in sample bias occur.

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## **FoU rapporter från Fakulteten för hälsa och samhälle, utgivna från 2008**

2008:1 Tikkanen, R. Person, relation och situation. Riskhandlingar, hivstestfarenheter och preventiva behov bland män som har sex med män.

2008:2 Östman, M. och Afzelius, M. Barnombud i psykiatri – i vems intresse?

2008:3 Andersson, F. och Mellgren, C. Processutvärdering av "Tryggagatan". Ett projekt för minskad brottslighet och ökad trygghet i nöjeslivsmiljö.

2008:4 Östman, M. red. Migration och psykisk ohälsa.

2008:5 Berglund, S. Competing Everyday Discourses – And the Construction of Heterosexual Risk-taking Behaviour among Adolescents in Nicaragua: Towards a Strategy for Sexual and Reproductive Health Empowerment.

2008:6 Björngren Cuadra, C. Variationens spektrum – en studie av sensibilitet, tillit och vårdetik i hemsjukvård.

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