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Sexual behaviors and desires of inmates in a Finnish prison
– a survey study with population-based comparisons

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Abstract

Using paper surveys, we investigated sexual behaviors and desires of 181 inmates in a Finnish prison. Conjugal visits, sexual desire, and gender were the strongest predictors of sexual activity. Reports of coercive experiences were somewhat less prevalent compared to foreign studies. Compared with population-based data, prisoners reported fewer partnered behaviors, although their desires for these activities were similar. The masturbation frequency did not differ between the two populations; men generally masturbated more than they desired. Male prisoners who reported more masturbation also reported lower wellbeing. Our results can be used to guide prisoner staff on topics relevant to prisoner sexuality.

Keywords: prison, inmate, sexual behaviors, sexual desire, sexual health

Imprisonment has a major impact on a person's life. According to the Finnish Imprisonment Act ([2005/767], 2005), the content of imprisonment is the deprivation of liberty or the restriction thereof. The implementation of imprisonment should not impose any restriction on the rights or conditions of the prisoner other than those provided for by the law or which may result from the sentence itself. In other words, the prison condition should resemble the living conditions in society as well as possible, and prisoners should be able to lead as normal a life as possible while serving a sentence (i.e., the principle of normality; Hartoneva, 2013). Sexual rights are grounded in universal human rights and are not limited by the Imprisonment Act (World Association for Sexual Health, 2014), which means that prisoners have the same sexual rights as people outside of prison and the right to safe ways of living out sexuality in prison. However, as with many other areas of life, sexuality is affected by incarceration and many experience difficulties in having a satisfying sex life while incarcerated (e.g., Carcedo, Perlman, López, Orgaz & Fernández-Rouco, 2014; Lassila, 2017).

There are many aspects that complicate the maintaining of a satisfying sex life. Some aspects that might affect sexuality in prison are the security level of the facility, attitudes among the staff, and the possibility for prisoners to meet their partners (Hartoneva, 2013). Privacy is not always guaranteed as some prisoners share their cell with other prisoners, and prison staff can enter the cell at any time. The availability of preferred partners is also limited. Sexual rights also include being free from coercion, sexual assault, harassment, rape, and other actions that violate a person's right to decide over their own body and sexuality. However, studies indicate that sexual coercion does occur inside prisons.

A Neglected Area of Research

The scientific literature on prisoner sexuality is sparse and many of the studies are outdated. Most of the literature available has focused on sexual coercion and sexual violence (e.g., Hensley, Tewksbury, & Castle, 2003; Struckman-Johnson & Struckman-Johnson, 2006; Wolff, Blitz, Shi,

Bachman & Siegel, 2006). The reason for sexual coercion having received more attention compared to consensual sex is largely due to coercion being more readily viewed as a constitutional and social problem. There are, however, a few studies that have explored non-coercive aspects of prisoners' sexual desires and needs. For instance, studies conducted in a Spanish prison found a relationship between sexual satisfaction and psychological health (Carcedo, López, Orgaz, Toth, & Fernández-Rouco, 2008; Carcedo et al. 2014), indicating the importance of sexual fulfilment for prisoner wellbeing. Knowledge about how sexuality is experienced and expressed in prison is needed to ensure the sexual health of prisoners (Coelho & Gonçalves, 2010).

Most of the available studies have been conducted in the United States, and only a handful studies have been conducted in Europe. There are notable differences between countries in, for example, restrictions regarding sexual activity inside prison, the structures of the prisons, the prison populations, and the length of sentences. Whereas consensual sexual contact is prohibited in U.S. prisons (Krienert, Walsh & Lech, 2014), consensual same-sex sexual contact is allowed in Finnish prisons (Kivelä, 2015). Sexual contact between women and men is, however, prohibited, and men and women are usually kept in separate facilities (Kivelä, 2015). In several U.S. prisons, masturbation (Hughes, 2020) and sexually explicit materials are also prohibited, whereas Finnish prisons allow masturbation as well as possession of some pornographic materials (Lassila, 2017), although the rules for pornographic materials vary between specific prisons. Countries also have different regulations regarding conjugal visits, and in the United States, for instance, conjugal visits are only allowed in a few states (Goldstein, 2015). The allowance of these visits has been shown to have positive effects on prisoners and decrease instances of reported rape and other sexual offenses in prison (D'Alessio, Flexon & Stolzenberg, 2012; De Claire & Dixon, 2016). Taken together, these differences are likely to influence sexual coercion and consensual sex in prison, and the reporting of these.

Coercive Sexual Behaviors Among Prisoners

Sexual violence in prison is a highly challenging research topic, and prevalence estimates vary considerably due to differences in research methods and conceptual understandings (Simpson et al., 2015). In a U.S. review of prisoners' experiences, 1.1% reported being a victim of nonconsensual sexual acts and an additional 1.0% of unwanted sexual touching in the past year or since admission to the facility if less than a year (Beck et al., 2013). However, rates for specific facilities varied substantially; whereas some facilities reported no instances of coercive sexual behaviors, there were reports up to 10.9% of nonconsensual sexual acts and 12.2% of unwanted sexual touching. In another fairly recent study, conducted at an Australian prison, 2.3% of male prisoners reported experiences of sexual coercion during incarceration (Simpson et al., 2015).

It is also worth noting that the perpetrator does not always seem to be another prisoner: research indicates that sexual coercion inside prison is sometimes also carried out by prison staff (e.g., Kubiak et al., 2017). Moreover, prisoners sometimes engage in sexual activity for protection against other inmates, violence, and sexual assault (so-called survival sex or protective pairing; Trammell, 2011) or to pay for drugs or other goods (Richters et al., 2010). This highlights the complexity of sexual coercion and rape inside prison. Sometimes sexual activity that may seem consensual at first glance has components of hidden coercion.

There are many factors that affect the reporting of sexual coercion in prison. The so-called inmate code, which consists of rules and values found in the prison subculture, can influence the prisoners' decision to report sexual violence. In a study by Garland and Wilson (2013), 65% of the inmates in 30 U.S. high-security prisons considered reporting prison rape to be the same as snitching (i.e., when an inmate reports another inmate), which is known to have serious consequences for the prisoner—sometimes even outside of prison—as snitching often permanently puts the prisoner at the bottom of the inmate social hierarchy. Embarrassment, anticipated retaliation, fear of harassment by inmates, and fear of being put in protective custody are some

reasons that inmates have reported as reasons for not reporting sexual assault (Miller, 2010). These reasons make it likely that many cases of sexual assault remain unreported.

Sexual Desire and Consensual Sexual Behaviors Among Prisoners

Research indicates that many prisoners experience a change in sexual desire when incarcerated. In a study conducted by Merotte (2012) in a French prison, 49% of the participants reported a change in sexual desire and an increase in feelings of emptiness and frustration. Barth (2012), studying men in a German prison, found that 45% reported a decreased sexual desire. Ammar et al. (2015) also reported similar results among female inmates in a Tunisian prison, with 73% of the participants reporting a change in sexual desire and 53% a lack of fantasies. Merotte (2012) found that the decrease in sexual desire was associated with the length of the sentence. The author argued that with short sentences, sexuality becomes of secondary importance because of the depression and anxiety often experienced in the beginning. However, with longer sentences, a deterioration in the prisoners' sexual lives can be noticed. Merotte (2012) also reported an increase in masturbation frequency among prisoners compared to the frequency prior to incarceration. Older U.S. studies have also reported frequent masturbation among both male and female prisoners (Hensley, Tewksbury, & Koscheski, 2001; Hensley, Tewksbury & Wright, 2001), although these rates have not been compared to the general population.

Although most of the available literature on prison sex explores coercive sexual behaviors, the existing literature indicates that consensual sex also occurs inside prison. The reported prevalence estimates do, however, vary. In a large-scale study by Warren and Jackson (2013) conducted at Ohio and Texas prisons, nearly 6% of the prisoners reported participating in consensual sex while incarcerated. Tewksbury and Connor (2014), again, reported that 25–40% of male prisoners in an Ohio prison had participated in consensual sex while incarcerated. In a large-scale study conducted in Australia, Richters et al. (2010) reported that 7% of the prisoners had had sexual contact with another inmate, and 79% of these said they did it for pleasure.

The Current Study

The overarching aim of the current study was to gain knowledge about prisoner sexuality using self-report survey data from prisoners in a Finnish prison. We further used population-based data to examine possible differences between the two populations. To our knowledge, the present study is the first quantitative study on sexuality among prisoners in Finland. Our specific research questions and hypotheses were the following:

1. *How frequent are different sexual desires and behaviors among the inmates?* Based on previous literature, we expected both consensual and coercive sex to exist in the prison setting. However, we expected reports on (a) sexual coercion to be somewhat lower compared to previous international estimates due to differences in legislation regarding conjugal visits and sexual contact in prison.
2. *How do the frequencies of sexual desires and behaviors among inmates compare to the general population?* Due to restrictions in the prison environment, we expected (a) the inmates to report less partnered sex compared to the general population. Based on previous literature, we did, however, expect (b) the masturbation frequency to be higher among the prisoners than in the general population, and (c) the prisoners to report lower levels of sexual desire compared to the general population.
3. *What aspects are associated with sexual behaviors among inmates?* Based on previous literature, we expected that (a) unsupervised conjugal visits would predict more frequent sexual behaviors. We further explored whether sex crime conviction, sexual desire, the length of the sentence served, and gender would associate with the frequency of sexual behaviors.
4. *How does the frequency of sexual behaviors among inmates associate with mental health and wellbeing?* Based on previous literature, we expected more frequent sexual behaviors

to be positively related to mental health aspects, such as better mental wellbeing and fewer symptoms of anxiety and depression.

Our intention was also to analyze aspects that predicted coercive sexual behaviors among prisoners, but due to the small number of reported cases of coercive sexual experiences in our sample ($n = 3$), the analyses would have been heavily underpowered and were therefore left out.

Method

Participants

We used two independent samples: a sample of prisoners, which was the focus of the present study, and a population-based sample, which was used as reference for the prison sample.

The Prison Sample

The sample consisted of prisoners serving time at Turku Prison, Finland, at the time of the data collection in June 2019. The data were collected by the prison psychologist (IR) and two graduate psychology students (MA, ML). During the four weeks of data collection, 218 prisoners were given the opportunity to participate. To attract participants, a 7€ prison canteen voucher was offered all participants. The final sample consisted of 181 prisoners, 151 men and 30 women, resulting in a total response rate of 82.6%. The response rate was 82.4% for male prisoners and 83.3% for female prisoners. None of the participants identified as something other than man or woman. Most of the prisoners who chose not to participate did so because of insufficient skills in English, Finnish, or Swedish skills. Participation was not possible for prisoners who were away at the time of the data collection, that is, prisoners that were, for instance, in solitary confinement, in hospital care, on escorted leave, or in court. These prisoners were not included when calculating the response rate, but it was estimated that the prison hosted around 230–250 inmates at the time of the data collection (the exact number changed daily). Demographic information of the prison sample is presented in Table 1.

Table 1
Demographic Characteristics of the Prison Sample

		<i>n</i>	%	
Gender	Man	151	83.4	
	Woman	30	16.6	
	Other	0	0.0	
Nationality	Finnish	162	89.5	
	Dual/other	19	10.5	
Type of prisoner	Prison inmate	130	71.8	
	Remand prisoner ^a	37	20.4	
	Default prisoner ^b	7	3.9	
Primary crime	Drug-related	29	16.0	
	Violent	27	14.9	
	Homicide	22	12.2	
	Property	22	12.2	
	Sexual	9	5.0	
	Financial	3	1.7	
	Sabotage	2	1.1	
	Traffic	1	0.6	
	Other	5	2.8	
	Multiple ^c	60	33.1	
	Marital status	Single	98	54.1
		Married	41	22.7
Cohabiting		24	13.3	
In a relationship		17	9.4	
Sexual orientation	Heterosexual	170	93.9	
	Bisexual	5	2.8	
	Homosexual	2	1.1	
	Other	1	0.6	

Notes.

^a Imprisoned due to a suspected offense

^b Serving a conversion sentence in lieu of an unpaid fine

^c Includes inmates who misunderstood the question and ticked several response options.

The Ethics Review Board at Åbo Akademi University and the Central Administration of the Criminal Sanctions Agency reviewed and approved the study before the data collection began. The anonymous and voluntary nature of the study was explained to the participants, and they were informed of their right to terminate their participation at any time without giving a reason. Instructions were given both verbally and in written form in Finnish, Swedish, and English. The prisoners were informed that a decision to not participate or to discontinue the study, would not in any way affect their rights inside or outside prison. All participants provided written informed consent prior to participation and no personal details were collected. To guarantee anonymity and to ensure that the participants did not talk to each other about the content, the prisoners filled out the paper questionnaires in their cells. The questionnaires were distributed to all prisoners and

collected from each cell approximately half an hour later, one at a time, to ensure that no other prisoner would be able to know who decided to participate and who did not.

The Population-Based Sample

The sample consisted of participants from a large-scale Finnish population-based data collection conducted between November 2018 and January 2019. For a full description of the sample and the data collection, see Tybur et al. (2020). The data was collected through an online survey, which Finnish twins and their siblings were invited to complete. Individuals were invited only if their mother tongue listed in the Central Population Registry was Finnish, if they resided in Finland at the time of gathering their contact addresses, and if they were over 18 years old. In total, 33,211 study invitations were sent out. Of these, 9,564 individuals responded, resulting in a total response rate of 28.8%, with 9,319 (97.0%) of respondents consenting to their data being used for scientific purposes.

To avoid dependency in our sample, as the original sample consisted of twins and siblings of twins, only one person per family was randomly included in the present study. Further, to match the population-based sample with the prison sample, individuals of the same age and gender as the prisoners were randomly selected from the data. To increase the statistical power of the population-based sample, we chose a sample four times the prison sample, resulting in a sample of 724 individuals.

The Ethics Review Board at Åbo Akademi University reviewed and approved the study and before the data collection begun. The anonymous and voluntary nature of the study was explained to the participants, and they were informed of their right to terminate their participation at any time without giving a reason. All participants provided written informed consent prior to participation and no personal details were collected.

Measures

We used both validated scales and items that were constructed specifically for the prison sample. To consider various cognitive difficulties and to minimize the dropout rate, the prison questionnaire was kept as short as possible, and therefore, short versions of some of the scales were used.

Sexual Desire

In both samples, we assessed sexual desire using a short form of the Sexual Desire Inventory-2 (SDI-2; Spector, Carey & Steinberg, 1996). The original SDI-2 includes 14 items designed to measure interest in or wish for sexual activity. We used a short version of the SDI-2, which included item 4, 5, 9, 11, 13 and 14. These items assessed sexual desire directed towards attractive people, desire to engage in sexual activity with another person as well as with oneself, and the amount of time one could comfortably go without sexual activity. The response for items 4, 5, 9, 11, and 13 are given on a 9-point Likert scale, and the response for item 14 is given on an 8-point Likert scale. We created a composite variable by adding the items together, resulting in a score with the possible range of 6–53, with higher scores indicating more or stronger sexual desire. In addition to the SDI-2 short form, the prison data collection included an item assessing change in sexual desire during imprisonment, measured on a 7-point Likert scale, ranging from 1 (much lower) to 7 (much higher).

Desired and Actual Frequency of Sexual Behaviors

In both samples, we assessed the desired and actual frequency of sexual behaviors using a modified version of the drive subscale of the Derogatis Sexual Functioning Inventory (DSFI; Derogatis & Melisaratos, 1979). The modified version, referred to as the Desired and Actual Sexual Activity scale (DASA), was constructed by Santtila et al. (2007). Individuals are asked how frequently they engage in six different sexual behaviors (kissing and petting, sexual fantasies, masturbation, oral sex, vaginal and anal intercourse) and how frequently they desired each type of

behavior using a 9-point Likert scale, ranging from 0 (not at all) to 9 (4 times a day or more). We also created discrepancy variables for each sexual behavior by subtracting the desired score from the actual score (i.e., a negative score indicated that the respondent desired more of the behavior than they experienced, and a positive score that they experienced more of the behavior than they desired).

Symptoms of Anxiety and Depression

In both samples, we assessed symptoms of anxiety and depression using the anxiety and depression subdomains from the Brief Symptom Inventory-18 (BSI-18; Derogatis, 2001). The anxiety and depression subdomains both include six items assessed on a 5-point Likert scale, ranging from 1 (not at all) to 5 (extremely), and respondents are asked to evaluate their experiences over the past four weeks. We created a composite variable by adding the items together, resulting in a score with the possible range of 6–30, with higher scores indicating more psychological distress.

Mental Wellbeing

In the prison sample, we assessed the participants' mental wellbeing using the Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS; Stewart-Brown et al., 2009). The scale includes seven items about feelings and thoughts related to the positive aspects of mental health, for instance, "I've been feeling optimistic about the future", "I've been feeling relaxed" and "I've been dealing with problems well". Respondents are asked to evaluate their experiences over the past two weeks using a 5-point Likert scale ranging from 1 (none of the time) and 5 (all of the time). We created a composite variable by adding the items together, resulting in a score with the possible range of 7–35, with higher scores indicating better mental wellbeing.

Experiences of Sexual Coercion

In the prison sample, we assessed coercive sexual experiences during imprisonment and pecuniary advantages related to living out sexuality in prison with a 5-item self-constructed scale.

The questions explored experiences of (1) forcing another prisoner into sexual activity, (2) being forced into sexual activity by another prisoner or (3) by prison personnel, and (4) giving or (5) receiving something in return for sexual acts (e.g., tobacco, coffee, drugs). All four items had the checkbox-type response options “no”, “kissing or touching”, “oral sex or hand job” and “vaginal or anal intercourse”, indicating which behaviors the participant had experienced during their imprisonment. We also created a dichotomous composite variable based on the five items, indicating whether the participants had experienced any type of coercive behavior, either as the perpetrator or the victim.

Prison-Specific Sexual Experiences

In the prison sample, we also included four dichotomous (yes/no) items on prison-specific sexual experiences: (1) sexual contact with a person of the same sex during imprisonment, (2) the use of self-made sex toys, (3) the experience of unsupervised conjugal visits, and (4) sexual contact during unsupervised conjugal visits.

Statistical Analyses

All statistical analyses were performed using R (R Core Team, 2021). As an initial step, we calculated zero-order correlations in the prison sample between the variables age, gender, length of sentence served, sexual crime conviction (yes/no), sexual desire, actual sexual behaviors, conjugal visits (yes/no), sexual contact during conjugal visits (yes/no), coercive sexual behaviors (yes/no) the prison-specific sexual experiences (yes/no), anxiety, depression, and mental wellbeing. We used Spearman correlations for the ordinal variables and point-biserial correlations for the dichotomous variables. We used the *corrplot* package to illustrate the correlations.

For our first research question, we calculated group means for the desired and actual sexual behaviors, sexual desire, and sexual desire change. We also calculated frequencies for experiences of sexual coercion and prison-specific sexual experiences.

For our second research question, we compared the group means between the prison sample and the population sample for the desired and actual sexual behaviors, as well as sexual desire. We compared the means separately for women and men. As no variables except SDI for male prisoners were normally distributed, we performed non-parametric two-samples Wilcoxon rank sum (i.e., Mann Whitney) tests. Due to the great number of tests performed, we set the Bonferroni corrected p -level at .001315 (p -value $0.05/38$ tests).

For our third and fourth research question, we conducted multiple linear regressions with the $lm()$ function. The regression analyses included the full prison sample. For our third research question, we conducted six different regressions with the DASA actual behavior items as dependent variables, and gender, sexual desire, length of the sentence served, sexual crime conviction, and conjugal visits as independent variables in each regression. For our fourth research question, we conducted three different regressions with anxiety, depression, and mental wellbeing as dependent variables, and the DASA actual behavior items as independent variables in each regression. For our fourth research question, we also conducted regressions separately for male prisoners (but not female prisoners, as they were fewer).

Results

Descriptive Results

Table 2 contains frequencies of prison-specific sexual experiences and experiences of sexual coercion.

Table 2
Frequencies Of Prison-Specific Sexual Experiences and Experiences of Sexual Coercion During Imprisonment

	<i>n</i>	<i>%</i>
Same-sex sexual contact	5	2.8
Use of self-made sex toys	14	7.8
Unsupervised conjugal visits	63	34.8
Sexual contact during unsupervised conjugal visits	35	38.9 ^a
Giving prisoner something in return for sexual acts	3	1.7
Kissing or touching	0	0.0
Oral or hand sex	1	0.6
Vaginal or anal intercourse	2	1.1
Receiving something in return for sexual acts	7	3.9

Kissing or touching	1	0.6
Oral or hand sex	4	2.2
Vaginal or anal intercourse	2	1.1
Being forced into sexual acts by another prisoner	3	1.7
Kissing or touching	0	0.0
Oral or hand sex	1	0.6
Vaginal or anal intercourse	2	1.1
Forcing another prisoner into sexual acts	3	1.7
Kissing or touching	1	0.6
Oral or hand sex	0	0.0
Vaginal or anal intercourse	2	1.1
Being forced into sexual acts by prison personnel	3	1.7
Kissing or touching	0	0.0
Oral or hand sex	1	0.6
Vaginal or anal intercourse	2	1.1

Note.

^aBased on prisoners who had been granted conjugal visits

Table 3 contains mean levels of sexual desire and actual and desired frequencies of sexual behaviors in the prison and control sample. Of the prisoners, 37.2% (37.3% men; 36.7% women) reported that their level of sexual desire had stayed the same since incarceration. Forty-five percent (44.7% men; 46.7% women) reported that their sexual desire had decreased since incarceration and 17.8% (18.0% men; 16.7% women) reported that their desire had increased.

Table 4 contains mean levels of anxiety, depression, and mental wellbeing.

Mean Levels of Sexual Desire and Actual and Desired Frequencies of Sexual Behaviors in the Prison and Control Sample

		Full sample		Men			Women				
		Prisoners	Controls	Prisoners	Controls	Prisoners vs Controls	Prisoners	Controls	Prisoners vs Controls		
		<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>W</i>	<i>p</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>W</i>	<i>p</i>
SDI		25.64 (10.61)	29.71 (8.38)	27.13 (9.92)	30.62 (7.85)	37608	< .001 ^a	18.22 (11.00)	24.93 (9.38)	1128	< .001 ^a
Desire change		3.33 (1.61)		3.39 (1.62)				3.07 (1.57)			
DASA											
Kissing and caressing	Actual	2.14 (2.07)	5.14 (2.68)	1.88 (1.60)	5.10 (2.65)	15454	< .001 ^a	3.27 (3.24)	5.35 (2.81)	1274.5	< .001 ^a
	Desired	4.86 (2.84)	6.74 (1.79)	4.91 (2.77)	6.69 (1.79)	29456	< .001 ^a	4.56 (3.20)	7.03 (1.79)	1020.5	< .001 ^a
	Δ			3.08 (2.88)	1.59 (2.13)	51668	< .001 ^a	1.16 (3.47)	1.68 (2.19)	1354.5	.049
Sexual fantasies	Actual	2.95 (2.23)	3.25 (2.13)	3.14 (2.30)	3.32 (2.16)	45466	.140	2.00 (1.56)	2.90 (1.93)	1353	.006
	Desired	3.67 (2.36)	3.84 (1.94)	3.88 (2.39)	3.95 (1.92)	42202	.326	2.64 (1.91)	3.26 (1.98)	1401.5	.089
	Δ			0.64 (2.15)	0.63 (1.53)	38670	.221	0.62 (1.58)	0.36 (0.96)	1802	.601
Masturbation	Actual	4.11 (2.18)	4.36 (1.71)	4.43 (2.07)	4.60 (1.65)	50309	.482	2.48 (1.99)	3.15 (1.49)	1416	.007
	Desired	3.81 (2.18)	4.02 (1.73)	4.01 (2.14)	4.17 (1.71)	38132	.523	2.88 (2.13)	3.25 (1.60)	1406	.165
	Δ			-0.46 (1.56)	-0.43 (1.11)	38640	.951	0.21 (1.47)	0.10 (0.74)	1670	.839
Oral sex	Actual	1.58 (1.41)	2.40 (1.35)	1.55 (1.37)	2.39 (1.34)	25099	< .001 ^a	1.69 (1.58)	2.42 (1.45)	1198	< .001 ^a
	Desired	4.08 (2.37)	3.88 (1.65)	4.32 (2.33)	4.04 (1.60)	52810	.077	2.80 (2.24)	3.08 (1.64)	1492	.196
	Δ			2.64 (2.34)	1.65 (1.58)	51464	< .001 ^a	1.08 (2.08)	0.66 (1.12)	1836.5	.762
Vaginal intercourse	Actual	1.72 (1.41)	3.28 (1.62)	1.65 (1.29)	3.26 (1.60)	19259	< .001 ^a	2.00 (1.85)	3.37 (1.72)	1041.5	< .001 ^a
	Desired	4.90 (2.30)	4.74 (1.41)	5.13 (2.21)	4.80 (1.37)	54463	.009	3.68 (2.39)	4.44 (1.54)	1355	.053
	Δ			3.62 (2.32)	1.53 (1.58)	61146	< .001 ^a	1.56 (2.45)	1.08 (1.46)	1818	.842
Anal intercourse	Actual	1.23 (0.83)	1.28 (0.64)	1.23 (0.86)	1.29 (0.65)	42441	.003	1.24 (0.69)	1.27 (0.59)	1939	.474
	Desired	2.34 (2.06)	1.98 (1.26)	2.48 (2.13)	2.10 (1.31)	47462	.648	1.62 (1.53)	1.37 (0.72)	1837.5	.963
	Δ			1.12 (1.86)	0.81 (1.15)	41079	.529	0.35 (1.44)	0.10 (0.45)	1869.5	.858

Notes. Full prisoner sample $n = 181$, Full control sample $n = 724$. W = Wilcoxon rank sum. SDI = 7-items short form of the Sexual Desire Inventory, total range 6–53 with higher scores indicating stronger sexual desire. Desire change = Self-assessed change in sexual desire during imprisonment, measured on a 7-point Likert scale, ranging from 1 (much lower) to 7 (much higher). DASA = Desired and Actual Sexual Activity Scale, measured on 9-point Likert scales with high scores indicate higher actual or desired frequency. Δ = Discrepancy between actual and desired frequency with positive score indicating less actual activity than desired and negative score indicating more actual activity than desired.

^a significantly different at the Bonferroni corrected p level of .001315

Table 4
Mean Levels of Mental Wellbeing, Depression, And Anxiety

	<u>Men</u>				<u>Women</u>				Scale range
	Prisoners		Controls		Prisoners		Controls		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Mental wellbeing	22.3	4.7			22.6	5.2			7–35
Depression	13.9	5.4	11.2	5.2	15.0	6.1	11.9	5.8	6–30
Anxiety	11.5	4.6	9.5	3.9	13.2	5.9	10.6	5.1	6–30

Note. Mental wellbeing = short Warwick-Edinburgh Mental Well-being Scale, higher scores indicate better mental wellbeing. Depression and Anxiety = depression and anxiety subdomains from the Brief Symptom Inventory-18, higher scores indicate more psychological distress. Mental wellbeing data were only available for the prison sample.

Mean Comparisons Between the Prison and Population Samples

The Wilcoxon rank sum (i.e., Mann-Whitney) test results are shown in Table 3.

Mean Comparisons for Men

Men in the population-based sample had statistically significantly higher levels of sexual desire than men in the prison sample. Men in the population-based sample both experienced and desired significantly more kissing and caressing than men in the prison sample. Men in the population-based sample experienced significantly more oral sex than men in the prison sample, but no significant difference was found in the desired frequency of oral sex. That is, there was no significant difference between the two samples in how much they desired oral sex, but men in the population-based sample experienced oral sex closer to the desired amount than men in the prison sample. Men in the population-based sample experienced significantly more vaginal intercourse than men in the prison sample. After Bonferroni correction, there was no statistically significant difference in the desired frequency of vaginal intercourse between the two samples. Consequently, men in the prison sample experienced a significantly larger discrepancy between their actual and desired frequency of vaginal intercourse than men in the population-based sample. No significant differences were found in actual or desired levels of sexual fantasies, masturbation, and anal intercourse between the two male samples.

Mean Comparisons for Women

Women in the population-based sample had statistically significantly higher levels of sexual desire than women in the prison sample. Women in the population-based sample both experienced and desired significantly more kissing and caressing than women in the prison sample. Women in the population-based sample also experienced significantly more oral sex and vaginal intercourse than women in the prison sample. No significant differences were found in the desired frequency of oral sex and vaginal intercourse between the two samples. After Bonferroni correction, there were no statistically significant differences in desired or actual frequencies of sexual fantasies and masturbation between women in the two samples. Furthermore, no significant differences were found between the two samples regarding desired or actual frequency of anal intercourse.

Correlations

Zero-order correlations between different study aspects are illustrated in Figure 1.

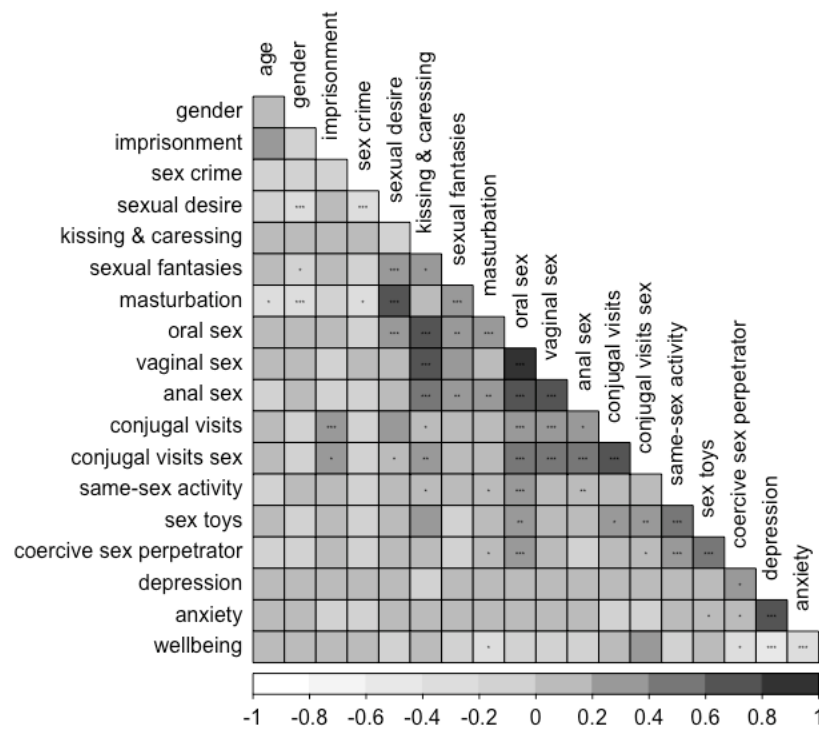


Figure 1. Zero-order correlations between the study variables. High positive correlations are shown in black, high negative correlations are shown in white, and correlations close to zero are shown in grey. Gender: 0 = men; 1 = women. Imprisonment = the length of the sentence served, same-sex activity = sexual contact with a prisoner of the same sex during imprisonment (yes/no), sex toys = the use of self-made sex toys (yes/no), conjugal visits sex = sexual activity during unsupervised conjugal visits (yes/no), sex crime = sexual crime conviction (yes/no), coercive perpetrator = having forced another prisoner into sexual activity (yes/no). * $p < .05$, ** $p < .01$, *** $p < .001$.

Sexual desire was significantly associated with masturbation frequency ($r = .60; p < .001$) and significantly negatively associated with sex crime conviction ($r = -.31; p < .001$), indicating that those convicted for a sex crime reported lower sexual desire. Many of the sexual behaviors were also strongly associated with each other, suggesting that prisoners who are sexually active are likely to be so in many ways. Same-sex sexual activity during imprisonment was significantly associated with the use of sex toys ($r = .48, p < .001$). Furthermore, forcing another prisoner into sexual activity was significantly associated with same-sex sexual activity during imprisonment ($r = .51, p < .001$) and with the use of sex toys ($r = .45, p < .001$). The sample size of forcing another prisoner into sexual activity was, however, very small ($n = 3$).

Regarding the mental health aspects, we found that masturbation frequency was significantly associated with lower mental wellbeing ($r = -.16, p = .045$), and that the use of self-made sex toys was significantly associated with more anxiety ($r = .17, p = .029$). Having forced another prisoner into sexual activity was also significantly associated with lower mental wellbeing ($r = -.19, p = .016$), more anxiety ($r = .19, p = .012$), and more depressive symptoms ($r = .17, p = .025$).

Multiple Linear Regressions

Results from the multiple linear regressions for sexual behaviors are shown in Table 5. The model for kissing and caressing explained 12.5% of the variance. Gender was the only variable that significantly contributed to the model, with women reporting more kissing and caressing. The model for sexual fantasies explained 18.9% of the variance. Sexual desire was the only variable that significantly contributed to the model. The model for masturbation explained 37.6% of the variance. Gender and sexual desire contributed significantly to the model, with men reporting more masturbation. The model for oral sex explained 11.6% of the variance. Gender, sexual desire, and conjugal visits contributed significantly to the model, with women reporting more oral sex. The model for vaginal intercourse explained 9.7% of the variance. Gender and conjugal visits

contributed significantly to the model, with women reporting more vaginal intercourse. None of the items included in the model for anal intercourse were significant predictors.

Table 5
Results from the Multiple Linear Regressions for Sexual Behaviors

Dependent variable	<i>F</i>	<i>p</i>	<i>R</i> ²	Independent variables	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Kissing and caressing	3.76	.003	.12	Gender	2.13	0.50	4.26	< .001
				Sex crime conviction	0.69	0.76	0.91	.366
				Sexual desire	0.03	0.02	1.59	.114
				Sentence served	0.00	0.01	0.21	.834
				Conjugal visits	0.32	0.39	0.83	.408
Sexual fantasies	6.32	< .001	.19	Gender	-0.33	0.51	-0.64	.520
				Sex crime conviction	0.14	0.71	0.20	.840
				Sexual desire	0.08	0.02	4.41	< .001
				Sentence served	-0.00	0.01	-0.66	.512
				Conjugal visits	0.42	0.38	1.11	.270
Masturbation	16.89	< .001	.38	Gender	-0.98	0.43	-2.26	.025
				Sex crime conviction	-0.30	0.61	-0.49	.626
				Sexual desire	0.11	0.02	6.73	< .001
				Sentence served	0.00	0.01	0.46	.647
				Conjugal visits	0.15	0.32	0.47	.640
Oral sex	3.38	.007	.12	Gender	0.72	0.35	2.06	.041
				Sex crime conviction	1.01	0.52	1.94	.054
				Sexual desire	0.04	0.01	2.93	.004
				Sentence served	-0.00	0.00	-0.91	.363
				Conjugal visits	0.55	0.27	2.05	.043
Vaginal intercourse	2.68	.025	.10	Gender	0.86	0.35	2.46	.015
				Sex crime conviction	0.52	0.51	1.01	.313
				Sexual desire	0.02	0.01	1.20	.232
				Sentence served	-0.00	0.00	-0.49	.627
				Conjugal visits	0.70	0.26	2.65	.009
Anal intercourse	0.74	.595	.03	Gender	0.16	0.22	0.72	.476
				Sex crime conviction	0.15	0.31	0.50	.618
				Sexual desire	0.01	0.01	1.10	.274
				Sentence served	-0.00	0.00	-0.67	.506
				Conjugal visits	0.21	0.16	1.28	.204

Note. *n* = 126–141 (the exact *n* for the regressions varied due to missing values). Variables that contributed significantly to the model are highlighted. Gender: 0 = men, 1 = women; Sex crime conviction: 0 = no, 1 = yes; Sexual desire: higher score = more desire; Sentence served: higher score = longer time served, Conjugal visits: 0 = no, 1 = yes.

Results from the multiple linear regressions for mental health are shown in Table 6. In the full sample, none of the sexual behaviors significantly predicted mental wellbeing, anxiety, and depression. In the model for male prisoners, masturbation significantly predicted lower mental wellbeing. None of the other sexual behaviors significantly predicted mental wellbeing, anxiety, and depression.

Table 6
Results from the Multiple Linear Regressions for Mental Health

Sample	Dependent variable	<i>F</i>	<i>p</i>	<i>R</i> ²	Independent variables	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Full sample	Wellbeing	0.87	.516	.04	Kissing and caressing	-0.18	0.36	-0.51	.614
					Sexual fantasies	0.11	0.23	0.46	.644
					Masturbation	-0.40	0.24	-1.69	.093
					Oral sex	0.29	0.57	0.51	.613
					Vaginal intercourse	0.34	0.52	0.65	.518
	Depression	0.46	.840	.02	Anal intercourse	-0.87	0.73	-1.20	.233
					Kissing and caressing	-0.54	0.37	-1.45	.148
					Sexual fantasies	0.02	0.25	0.08	.936
					Masturbation	-0.09	0.26	-0.35	.731
					Oral sex	0.37	0.77	0.48	.631
	Anxiety	0.64	.701	.03	Vaginal intercourse	0.31	0.68	0.46	.646
					Anal intercourse	0.13	0.87	0.15	.885
					Kissing and caressing	-0.40	0.35	-1.15	.252
					Sexual fantasies	0.01	0.23	0.06	.951
					Masturbation	-0.09	0.23	-0.37	.716
Men	Wellbeing	1.82	.102	.09	Oral sex	0.54	0.56	0.96	.338
					Vaginal intercourse	-0.24	0.51	-0.47	.637
					Anal intercourse	0.59	0.71	0.82	.412
					Kissing and caressing	0.73	0.43	1.69	.095
					Sexual fantasies	0.10	0.24	0.44	.663
	Depression	0.69	.662	.04	Masturbation	-0.60	0.27	-2.23	.028
					Oral sex	-0.38	0.62	-0.62	.540
					Vaginal intercourse	0.11	0.58	0.19	.849
					Anal intercourse	-0.03	0.82	-0.04	.969
					Kissing and caressing	-0.60	0.47	-1.28	.204
	Anxiety	1.00	.431	.06	Sexual fantasies	0.00	0.26	0.00	.997
					Masturbation	0.20	0.29	0.69	.491
					Oral sex	0.82	0.93	0.88	.381
					Vaginal intercourse	-0.08	0.78	-0.11	.913
					Anal intercourse	0.12	1.03	0.12	.906
				Kissing and caressing	-0.51	0.41	-1.25	.214	
				Sexual fantasies	0.03	0.22	0.11	.911	
				Masturbation	0.12	0.25	0.47	.639	
				Oral sex	0.58	0.58	1.00	.321	
				Vaginal intercourse	-0.43	0.54	-0.79	.430	
				Anal intercourse	0.71	0.77	0.92	.360	

Note. Significant result is bolded. The exact *n* for the full sample regressions ranged between 129 to 132 due to missing values. The exact *n* for the male prisoner regressions ranged between 103 to 106 due to missing values.

Discussion

The present study set out to study the sexuality of prisoners, using survey responses from 181 prisoners in a Finnish prison. We investigated sexual desires and behaviors of the prisoners and examined possible differences between the prisoners and the general population using a population-based reference sample. We also investigated aspects potentially associated with the frequency of sexual behaviors among prisoners, and whether the frequency of sexual behaviors among prisoners were related to mental health and wellbeing. The present study was, to our knowledge, the first quantitative study on prisoner sexuality in Finland.

Frequencies of Sexual Desires and Behaviors

According to our first hypothesis, prisoners reported both consensual and coercive sexual activities. Supporting hypothesis 1a, the reports of sexual coercion (1.7%) was somewhat lower compared to estimates from more recent studies conducted in other countries (2.1% although rates for specific facilities varied substantially, Beck et al., 2014; 2.4% Simpson et al., 2015). There are some factors potentially affecting the reported frequencies. For instance, the prison structure might affect the prevalence of sexual coercion. The prison where data was collected is a maximum-security prison and prisoners are divided into cell blocks based on, for instance, gender, type of crime, and security reasons. For instance, minors and prisoners with a higher risk of becoming victims of violence are kept apart from other prisoners to ensure their safety. The prisoners can also apply for unsupervised conjugal visits, and in our data, 39% of prisoners that had been granted conjugal visits had also engaged in sex during the visits. In our regression models, conjugal visits significantly predicted oral sex and vaginal intercourse. Previous research indicates that conjugal visits have a positive effect on prisoners and decrease instances of rape and violence in prisons (De Claire & Dixon, 2016; D'Alessio, Flexon & Stolzenberg, 2012). Furthermore, masturbation is not forbidden in Finnish prisons, and the results of the current study indicate that masturbation could act as an outlet for sexual desire, possibly decreasing the desire for sexual

contact with others. However, as with all self-report studies on prisoner sexuality, reports of coercive sexual behaviors are likely underreported due to the fear of being exposed as a ‘snitch’ (Garland & Wilson, 2013). Some studies have gathered information using other methods such as staff reports. These studies also have their limitations, as they lie on the assumption that the prison staff has accurate knowledge on the prevalence of sexual coercion in the prison.

Frequencies Compared to the General Population

In line with hypothesis 2a, prisoners generally reported less partnered (i.e., oral and vaginal) sex compared to the general population. We did not, however, find any significant difference in how much partnered sex the two populations desired, suggesting that both prisoners and controls had less sex than they wished. However, the discrepancy between desired and actual behaviors was larger in the prison sample, suggesting that while neither controls nor prisoners engage in as much partnered sex as they wish, this dissatisfaction is greater for prisoners. This finding is in line with results from Carcedo et al. (2014), who found that many prisoners experience difficulties in having a satisfying sex life while incarcerated. In Finnish prisons, male and female prisoners are housed in different cell blocks, which makes it difficult, if not impossible, for men and women to have sexual contact with each other. Of the prisoners, 2.8% reported having been in sexual contact with a person of the same sex during their imprisonment. The unsupervised conjugal visits are, for many prisoners, the only place for sex and intimacy. However, 54% of the prisoners in our data were single and not all prisoners with a partner were allowed conjugal visits. In our sample, 35% of the prisoners reported having had conjugal visits and the frequency of the meetings vary (conjugal visits can usually only be held every 4–6 weeks, Kriminaalihuollon tukisäätiö, 2021). In summary, our results indicate that unsupervised conjugal visits are an important outlet for inmates’ sexual desires.

Contrary to hypothesis 2b, the prisoners did not report significantly higher frequencies of masturbation compared to the general population. This result is somewhat in contrast with a

previous study by Merotte (2012), who reported an increase in masturbation frequency among prisoners compared to the frequency prior to incarceration. It is, however, worth noting that Merotte (2012) studied the self-perceived change in masturbation frequency, whereas we compared the masturbation frequency of the prisoners to population-based data. It could be that the masturbation frequency for those who were later imprisoned was for some reason lower than average before imprisonment, or that the prison setting changes subjective perceptions of masturbation frequency (e.g., so that prisoners pay more attention to these events). An additional interesting finding was that men in both the prison and general population reported higher actual frequencies than desired frequencies of masturbation, indicating that they masturbate more than they desire. This could indicate that masturbation is used as a substitute for more desired partnered sex—and that this is true both in the prison and general population.

In line with hypothesis 2c, both men and women in the prison population reported lower sexual desire levels than men and women in the general population. The prisoners were also asked to evaluate if there had been a change in their sexual desire during their imprisonment, and the average response was that their sexual desire was somewhat lower (45%). These findings are in line with previous research (Ammar et al., 2015; Barth, 2012; Merotte, 2012) showing that many prisoners experience a decrease in sexual desire when incarcerated. Future research could investigate the reasons for this experienced decrease in desire (e.g., the role of decreased substance use after incarceration), and whether the decrease is unwanted or not. It could be, that the decrease in desire is a ‘healthy’ reaction to an environment which does not provide many outlets for sexual desire.

Aspects Associated with Sexual Activity in Prison

Our third research question produced mixed results. In line with our hypothesis 3a, conjugal visits significantly predicted the frequency of oral sex and vaginal intercourse, further strengthening the importance of conjugal visits for fulfilling sexual desires. Gender contributed

significantly to the model for kissing and caressing, masturbation, oral sex, and vaginal intercourse (with women reporting more kissing and caressing, oral sex, and vaginal intercourse, as well as less masturbation). This could possibly be a result of less stigma attached to female than male same-sex sexual behaviors (e.g., Monto & Supinski, 2014), which is also supported by the result that same-sex behavior during incarceration was positively correlated with being a woman (— although not significantly, likely due to low statistical power). Sexual desire contributed significantly to the model for sexual fantasies, masturbation, and oral sex, so that those with more sexual desire reported more of the aspects. Sexual crime conviction and length of the sentence served did not contribute significantly to any of the models. Although sexual offenders have been found to regulate emotions through sexual behaviors, and hypersexual behaviors increase the risk of sex crime conviction, the motives behind sex crimes are often other than sexual (e.g., Kafka, 2003). Our findings could be a result of this. Worth noting is also that the sample size for sex crime conviction was small ($n = 9$). Regarding the length of the sentence served, it could be that our finding is affected by the fact that many of those with very long sentences often serve the last part of their sentence outside of maximum-security prisons.

In summary, from the variables we chose to include in the regression, gender, conjugal visits, and sexual desire predicted sexual behavior best. However, the variables included only explained 10–38% of the variance of the behaviors, masturbation being the most explained. It seems like there are other aspects not included in our analyses that explain most of the variance for the sexual behaviors. It is also worth noting that we did not conduct any regressions for same-sex activity, the use of self-made sex-toys, and coercive sexual behaviors, as the reported frequencies for these binary variables were low. However, in the preliminary correlation analyses, these three aspects were significantly correlated with each other—and uncorrelated with sexual desire—indicating that engaging in prohibited sexual behaviors is motivated by something else than the desire for sex. Future studies could, for instance, focus on how prisoners who engage in

problematic sexual behaviors regulate emotions, try to solve life challenges, and strive to achieve valuable outcomes in life (e.g., the Good Lives Model; Ward & Gannon, 2006).

Sexual Activity and Mental Health

We did not find support for our fourth hypothesis that sexual behaviors would predict better mental health. In the full sample regressions, none of the sexual behaviors significantly predicted mental wellbeing, anxiety, and depression. When conducting regression separately for male prisoners, masturbation significantly predicted lower mental wellbeing (although the overall regression was not statistically significant—likely due to the inclusion of the other variables). That is, the more the male prisoners masturbate, the lower their mental wellbeing. As the association was small ($B = -0.60$, $p = .028$) and correlational, caution should be applied before drawing any conclusions from this result. However, the result fits well with our finding that male prisoners (and men in the general population) masturbate more than they desire. It could be, that this discrepancy reflects negatively on their wellbeing. Another possible explanation is that masturbation is used as a way of regulating emotional distress among the prisoners (e.g., Carvalheira, Træen, Stulhofer, 2015). Future research could investigate whether the underlying reasons for the association between masturbation and lower mental differ between men in the general population and male prisoners.

Worth noting is also that having forced another prisoner into sexual activity was significantly associated with lower mental health in the preliminary correlation analyses, indicating a stronger association between problematic sexual behaviors and lower mental wellbeing. Although the causal association remains unclear, this result points towards an approach where the primary efforts are put into preventing problematic sexual behaviors and increasing mental health.

Strengths and Limitations

The present study presents with several strengths, such as being the first of its kind in Finland, a high response rate among the prisoners, and the use of validated questionnaires. The results from the current study should be interpreted in the context of certain limitations. The prison data collection was limited to one prison in Finland, which affects the generalizability of the study results. Moreover, the questionnaire had to be kept short to suit the prison population, which caused limitations regarding type and length of scales included in the questionnaire. Not all scales were validated in prison populations, and there were many aspects of prison sexuality that we were not able to include. Future research should aim at including aspects such as sexual satisfaction and the prisoners' own views of what works well and does not regarding sexuality in prison.

Since a notable proportion of prisoners have reading difficulties or a low educational level, the research team was present in all the cell blocks when the prisoners completed the questionnaires, and the prisoners were able to ask questions regarding the questionnaire. To minimize the risk of the prisoners influencing each other's answers on the questionnaire, the prisoners were instructed to return straight to their cells when handed the empty questionnaire. This did, however, not succeed in all the cell blocks and in two instances some of the prisoners managed to exchange a few words about the questionnaire with other prisoners before being escorted back to their cells. This could possibly have affected some of the prisoners' answers.

Lastly, due to the correlational nature of the study, it is possible that at least some of the differences found between the prison population and the general population were due to differences between the populations already before the imprisonment. Longitudinal study designs would enable studying the effects of imprisonment on sexuality over time.

Conclusions

To our knowledge, the present study was the first to quantitatively investigate sexual desires and behaviors of prisoners in Finland. We found that sexual desires and behaviors do not seem to

diminish heavily when a person is incarcerated but stays a vital part of life. Conjugal visits, sexual desire, and gender were the strongest predictors of sexual behaviors, whereas sex crime conviction and length of the sentence served did not associate with sexual behaviors. Our results thus indicate that conjugal visits are an important outlet for inmates' sexual desires. Our results also indicated that coercive sexual behaviors, although occurring in prison, seem to be somewhat less prevalent than previous foreign studies have indicated. Compared to the general population, prisoners reported less partnered sexual behaviors, although their desires for these activities were similar. The masturbation frequency did not differ between the populations, and men in both populations reported more masturbation than they desired. We found only one association between sexual behaviors and mental health: Men who reported more masturbation also reported lower mental wellbeing. The results from this study can be used to guide prison staff on topics relevant to prisoner sexuality in order to improve the sexual health and education of prisoners and to minimize sexual coercion in prison. The results can also be used when evaluating how the principle of normality is implemented in Finnish prisons. We encourage future studies to include aspects such as sexual satisfaction, to investigate the role of conjugal visits for prisoner sexual health in more detail, and to study the potential role of emotion regulation for the association between male masturbation frequency and lower mental wellbeing.

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