

# Sexual Information Needs of Japanese Youths: The 7<sup>th</sup> National Survey of the Sexual Behavior of Japanese Youths

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## 日本の若者の性情報のニーズ

～第7回青少年の性行動全国調査に基づいて～

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### 抄 録

本稿は、2011年に行われた第7回青少年の性行動全国調査（JASE）のデータに基づき、日本の若者の性行動の現状を明らかにすることを目的としている。この調査は、7640人から回答を得ており、若者が性的関心をもたなくなってきたのはなぜかといった問題に焦点をあててきた。本稿は、この調査の項目のうちから、「あなたがいま、性について知りたいことは何ですか」という質問に着目して分析を行った。分析から得られた第一の結果は、性情報のニーズは、性別と学校段階によって、いくつかのタイプに分けることができるという点である。第二の結果は、性情報のニーズは、「性行為と妊娠」「性的な悩み」「性病」「恋愛」という4つのカテゴリーに収斂していくプロセスとみることができるという点である。特に、日本の若者にとって、「セックス（性交）」は、恋愛としてよりもむしろ妊娠に関わるものとして意識されているということ、その一方で性交によって生じる別種のリスクである「性感染症」や「エイズ」のリスクは性交とは独立したものとして意識されていることが明らかになった。また、第三に、性的関心が性情報ニーズと正の相関がみられたことから、性的関心が性情報ニーズに強い影響を与えていることが明らかになった。

キーワード：性情報、若者、性行動

### Abstract

This study examines the sexual behavior of Japanese youths. Using quantitative data gathered from the 7,640 respondents to the 7<sup>th</sup> National Survey of the Sexual Behavior of Japanese Youths, it explores why sexual interest is declining in Japan. The main question of our study posed is “What would you like to know about sexuality?” Our analysis provides the following results. First, Japanese youths need several types of sexual information, varying in accordance with gender and school level. Second, sexual information needs to address four factors: (1) sexual intercourse and pregnancy, (2) the anguish of sexuality, (3) sexual diseases, and (4) romantic love. We think it important to note that Japanese youths consider sexual intercourse to be strongly related to pregnancy but not to romantic love. Additionally, Japanese youths do not seem to link sexual intercourse to the risk of contracting an STD. Third, sexual interest was correlated with the need for sexual information.

Keywords: Sexual information, Japanese youths, sexual behavior

## 1. Introduction

In Japan, the lack of interest in love and sex among youths has been attracting attention. This is foregrounded by the well-known issue of the country's declining birth rate. It has often been argued that the cause of this decline was compounded by persistent gender inequality in the workplace and the hesitation on the part of couples to start families, owing to economic reasons (Ochiai 2004, Yamada 2007, Matsuda 2013). In the mass media, this situation had also been attributed to the rise of the "herbivorous boy" ("Sousyokukei danshi"), which became a buzzword in the late 2000s and which referred to males who were passive in matters of love and sex (Morioka 2008).

Although a direct causality between the rise of the "herbivorous boy" and the declining birth rate remains to be determined, it is indisputable that the proportion of young people who are passive in matters of love and sex has increased. According to the National Survey of Sexuality among Young People, which has been conducted every 6 years since 1974 by the Japanese Association for Sex Education (JASE), of which we are members, the number of youths who do not show any interest in sexual matters increased more rapidly than the number of those who do. Hayashi (2013) analyzed the data and demonstrated that this polarization became more accentuated with every decade. The author also found that the age at which people started being interested in sex increased as well.

Why is sexual interest declining in Japan? The main question this study asked respondents was: "What would you like to know about sexuality?" We focused on the latter information needs to understand what subtends the apparent lack of sexual interest of young Japanese individuals.

Research on the information needs of young people regarding their sexual education is currently gaining ground. However, the subject was largely ignored in the past. In Japan, some people and groups, especially politicians and the religious right, object to proactive sexual education because they believe that providing information about sex encourages young people to engage in sexual activity. On the other hand, advocates for sexual education often approach it largely from a theoretical viewpoint. Neither the proponents nor the deterrents of sexual education adequately grasp the information

needs of young people. To reevaluate sexual education in schools, it is first necessary to understand students' needs for information. For older respondents, Daneback et al. (2012) conducted a mass survey of Swedish people aged 18 to 65 to identify those who used the Internet to seek information about sexual issues and to examine the reasons for using the Internet for this purpose. They found that the three most commonly cited reasons for using the Internet to seek information about sexuality were "to get to know my body", "to learn about how to have sex", and "because of curiosity about sex". The most common reason in the youngest age group (18–24 years) was "to get to know my body". The authors demonstrated that the need for sexual education continued even into adulthood.

There are two important prior studies that have examined the information needs of youths regarding sex-related matters. Tanton et al. (2015) assessed the progress of meeting young people's sexual education needs in Britain. They examined the then-current situation and the changes over the previous 20 years in sources of information on sexual matters and unmet information needs. They evaluated the latter by asking, "Looking back to the time you first felt ready to have some sexual experiences yourself, is there anything on this list that you now feel you ought to have known more about?" The authors stated that most men and women felt they ought to have known more, especially about topics related to reducing the potential health risks of sexual activity (e.g., the rubric "STDs") and psychosexual issues ("sexual feelings, emotions, relationships"). According to the authors' analysis, the respondents' information needs varied little by gender. The only difference was that women were more likely than men to have wanted to know about "contraception/birth control" and "how to say no". The other study, by Iketani (1993), examined the need for sexual education among the younger generation in Japan to reevaluate sexual education as a whole. According to the survey, the most common "thing to want to know" among elementary school upper-grade boys was "how boys' bodies developed"; while the two most common "things to want to know" among elementary school upper-grade girls were "how a baby is born" and "how girls' bodies developed". With the development of secondary sexual characteristics, primary-school children were likely to be interested in their own bodies. However, the two most commonly cited "things to want to know" by

junior high school students were “the difference between men’s and women’s mindsets” and “how to interact with boy/girlfriends”. Thus, the study showed that information needs about sexuality varied according to school level.

Drawing on the foregoing two precedents, our paper examines the information needs of Japanese youths regarding sex-related matters and explores how these needs vary by gender, school level, and other factors.

## **2. Methods and Procedure**

The JASE conducted surveys in 1974, 1981, 1987, 1993, 1999, 2005, and 2011. All samples were randomly selected from eligible classes in junior high schools, senior high schools, and universities in Japan using stratified probability sampling. For this study we mainly used the data collected in 2011 (7640 respondents).

### **Measures and Variables**

We assessed seven general areas: sexual experiments and behavior; sexual norms and awareness; sexual damage; sex education, knowledge and information; friendship; family relationships; and media usage.

These categories were further subdivided as follows:

#### **1) Sexual experiments and behavior:**

Sexual interests

Sexual information needs

Dating

Kissing

Intercourse

Masturbation

#### **2) Sexual norms and awareness:**

Image of sexuality in general

Gender role consciousness

Sexual norms (about intercourse without love, prostitution)

**3) Sexual damage:**

Sexual harassment

Date rape

**4) Sex education, knowledge, and information:**

Sex education

Sexual interests

Information resources

Sexual knowledge

**5) Friendship:**

Number

**6) Family relationships**

Image

Cohabitation

Parental employment

**7) Media usage:**

Mobile media usage

SNS usage

Pornographic sites

Game sites

**Results**

We have tabulated the results as follows:

**1: Sexual interest**

Table 1 presents the frequency of sexual interest by gender and school level. Male students expressed a greater sexual interest than female students, and older students

were more interested in sexuality than younger ones. Specifically, 95.1% of male university students reported having sexual interests but only 71.5% of female university students did. In some contexts, a number of young Japanese males seemed to be asexual — the so-called “herbivorous men”. However, according to the data, females appeared more “herbivorous” than males in Japan.

Table 1. Sexual interest

	Total	Junior high male	Junior high female	High school male	High school female	University/college male	University/college female
Has sexual interests	58.2%	41.2%	33.0%	73.5%	44.5%	95.1%	71.5%
No answer	2.5%	2.2%	2.0%	2.3%	4.0%	0.5%	3.1%
N	7682	1271	1233	1006	1572	1036	1564

Table 2 shows changes in sexual interest between 1981 and 2011 and indicates that the proportion of young people reporting an interest in sexual matters declined (Hayashi, 2013). Table 3 shows changes in sexual interest in the following demographic cohorts: 1963–68, 1969–74, 1975–80, 1981–86, 1987–92, and 1993–99 (Hayashi, 2013). Approximately 80% of male students born between 1963 and 1968, and between 1981 and 1986, reported being interested in sexual matters by 14 years of age, but this rate declined in those born between 1987 and 1992, and this tendency became more marked in those born between 1993 and 1999. Indeed, in this sample,

Table 2. Sexual interest by school level (1981–2011)

	1981	1987	1993	1999	2005	2011
Total	87.9	69.4	70.6	74.3	61.0	58.2
Junior high male	–	52.5	53.9	59.2	44.9	41.2
High school male	92.8	89.6	89.9	90.5	78.5	73.5
Junior college male	–	–	–	100.0	–	–
University/college male	98.2	95.9	96.7	99.4	93.8	95.1
Junior high female	–	45.5	48.6	49.2	37.1	33.0
High school female	75.0	71.4	70.5	76.9	54.8	44.5
Junior college female	87.6	83.4	88.0	84.8	–	–
University/college female	90.4	85.7	87.8	91.1	87.0	71.5
No answer	3.2	5.6	5.1	2.7	3.6	2.5
N	4,989	8,681	4,944	5,492	5,437	7,682

Hayashi (2013) analysed all data.

interest in sex seemed to decline according to become young cohorts. Furthermore, only 70.3% of females born between 1987 and 1992 reported being interested in sexuality by 20 years of age, and less than half of those born between 1993 and 1999 reported sexual interest by the age of 18. The age at which Japanese girls and young women became interested in sexual matters increased as a function of time.

Table 3. Age at first sexual interest by cohort

		Cumulative experience proportion of sexual interest					
		Age	Birth cohort				
		1963–68	1969–74	1975–80	1981–86	1987–92	1993–99
Male	10	13.1	9.9	14.1	13.9	11.4	8.6
	12	44.1	37.1	40.5	43.5	33.6	26.9
	14	85.4	72.7	76.9	76.5	65.4	54.2
	16	94.6	85.8	91.4	89.5	80.1	67.8
	18	95.4	87.6	93.3	91.4	84.2	68.9
	20	96.2	–	–	–	86.7	–
	N		2,004	3,103	2,444	2,552	2,954
Female	10	5.6	4.4	9.2	9.0	7.6	6.3
	12	23.0	25.6	31.0	30.2	21.7	17.0
	14	57.3	54.4	55.3	55.2	40.7	33.7
	16	77.1	70.7	73.7	73.2	56.5	44.7
	18	84.2	77.8	80.5	83.2	65.0	48.4
	20	85.5	85.2	82.7	87.1	70.3	–
	N		1,985	3,051	2,243	2,511	3,240

Hayashi (2013) analysed all data.

## 2: Sexual information needs

In terms of areas in which additional information was needed, 24.6% of the youths cited “romantic love”, 20.5% mentioned “the differences between men’s and women’s mindsets”, and 15.2% wanted to know about “sexual minorities”. The need for sexual information about romantic love was the most frequently cited topic among junior high and high school students, whereas university students were more likely to cite “the differences between men’s and women’s mindsets”. Older students wanted to know about “methods of contraception”, “HIV/AIDS”, “STDs”, “the differences between men’s and women’s mindsets”, and “sexual minorities”.

There was also a gender effect on sexual information needs. Specifically, older male

students wanted to know more about the “mechanics of pregnancy” than did younger male students, whereas older female students were less interested in this than were younger female students.

Table 4. Sexual information needs

	Total	Junior high male	Junior high female	High school male	High school female	University/ college male	University/ college female
01. How a baby is born	7.1%	5.4%	9.1%	7.8%	6.6%	8.1%	6.0%
02. Sexual intercourse	14.0%	15.1%	15.6%	16.8%	10.0%	15.5%	13.0%
03. Birth control	10.7%	6.5%	12.1%	9.2%	10.2%	10.8%	14.4%
04. (Induced) abortion	8.2%	5.3%	9.4%	6.0%	7.5%	9.6%	10.8%
05. Masturbation	8.8%	10.0%	13.5%	7.9%	7.2%	5.5%	8.5%
06. HIV/AIDS	12.7%	9.0%	9.9%	11.9%	9.9%	17.7%	17.9%
07. STD	14.3%	9.3%	11.7%	11.7%	11.7%	18.3%	21.6%
08. The difference between men and women's mentality	20.5%	11.7%	15.1%	17.5%	19.9%	25.1%	31.3%
09. Romantic love	24.6%	18.4%	27.7%	24.0%	23.6%	24.0%	28.6%
10. Gender equality	8.7%	6.9%	7.8%	7.9%	4.8%	11.4%	13.6%
11. Sexual harassment, sexual abuse	7.7%	5.8%	9.0%	5.1%	6.2%	9.2%	10.3%
12. Consultation for sexual problems / anxiety	8.5%	4.9%	7.4%	5.1%	9.8%	8.1%	13.1%
13. Sexual minority	15.2%	7.0%	14.3%	8.3%	18.0%	14.8%	24.2%
14. Others	1.4%	0.8%	0.6%	2.3%	1.9%	2.3%	0.8%
15. Nothing to want to know	42.8%	61.9%	46.0%	50.8%	39.7%	37.4%	27.2%
N	7682	1195	1196	974	1538	1016	1539

### 3. Effects of developmental stage

The previous section on the perceived need for information about sexual matters showed that information needs differed depending on gender and school level. In this section, we used a factor analysis of gender and school level to examine the context in which this need for information emerged. This analysis was based on responses to the question: “What would you like to know about sex? Please circle any that apply to you”. After excluding “Other” and “Nothing” responses, we used the results of a principal factor analysis (promax rotation) to obtain the pattern matrix shown Table 5.1. Factor loadings > 0.2 are indicated in bold.

Within the whole sample (Table 5.1), the aspects included in the “sexual intercourse and pregnancy” factor were “sex”, “masturbation”, “contraceptive methods”, “pregnancy”, and “abortion”. The rubrics included in “the anguish of sexuality” factor



were “issues of sexual violence and harassment”, “sexual minorities (e.g., homosexuals and those with gender identity disorder)”, “issues of gender equality”, and “counselling for sexual anxiety and problems”. The aspects included in the “sexual diseases” factor were “venereal diseases such as chlamydia and gonorrhoea”, and “HIV/AIDS”; lastly, those in the “romantic love” factor were “love” and “the difference between men’s and women’s mindsets”.

In general, given the lack of overlap between the factors above, male junior high students (Table 5.2) appear to have only vague information about sex. We can assume that the vague “unease about sex” factor emerged because most of the options were not familiar to junior high school students. The second factor was “love and sex”, which included “sex”, “masturbation”, and “love”; the third was “male–female relationships”, which is consistent with the comparatively large number of responses related to gender differences.

Among male high school students (Table 5.3), the first and third most common factors were the same as in the analysis of the total sample: “the anguish of sexuality” and “sexual diseases”. The second factor was “sexual relations in general”, which incorporated responses related to “romantic love”, “sex”, and “pregnancy”. The inclusion of “romantic love” and “sex” in the same factor among male junior high and high school students differs from the results obtained from students in other grades and from females. Male university students showed a stable factor structure that was the same as that of the overall analysis.

The factor structure for female junior high school students (Table 5.4) was inconsistent with that for male junior high school students, suggesting gaps in the sexual knowledge of the respondents. The first factor, “sexual risks,” included items that related to personal risks and risk managements arising from sex, such as contraception, pregnancy, abortion, and venereal diseases; the second factor, “intercourse”, included many aspects focused on “sex” and “masturbation”. The third factor, “romantic love”, contained items related to love. Similar to the first factor, the fourth factor included many elements that dealt with the “negatives” of sex, but, as these dealt with larger-scale social problems, this factor was called “social issues”.

The factor structure for female high school students (Table 5.5) was essentially

identical to that of the overall sample. However, it differed from that of high school males, reflecting the fact that females mature sexually earlier. It should be noted that “masturbation” was included within the “social issues” factor. As explored in detail in the next section, females view masturbation as undesirable or as an act that should be shunned, and this leads junior high and high school female students to think that engaging in masturbation is a “problem”.

Female university students showed the same stable factor structure as their male counterparts, and therefore also similar to the overall analysis.

Although not a paired sample, if we suppose that the results at each school levels reflect the children’s development, we can see this as a process in which “vague unease about sex” and “vague expectations for sex” crystallize as students mature, eventually converging in the four categories of “intercourse and pregnancy”, “the anguish of sexuality”, “sexual diseases”, and “romantic love”.

Table 5.1 Factor structure of sexual information needs (promax rotation)

	Total			
	Factor 1 sexual intercourse and pregnancy	Factor 2 the anguish of sexuality	Factor 3 sexual diseases	Factor 4 romantic love
02. Sexual intercourse	<b>.793</b>	-.121	-.085	.096
05. Masturbation	<b>.532</b>	.078	-.053	-.015
03. Birth control	<b>.511</b>	.032	.157	-.043
01. How a baby is born	<b>.458</b>	.021	.055	.031
04. (Induced) abortion	<b>.308</b>	<b>.253</b>	.127	-.121
11. Sexual harassment, sexual abuse	.078	<b>.585</b>	-.060	.002
13. Sexual minority	-.036	<b>.522</b>	.000	-.020
10. Gender equality	-.107	<b>.506</b>	-.026	.167
12. Consultation for sexual problems / anxiety	.116	<b>.430</b>	.027	-.022
07. Sexually transmitted disease (STD)	-.028	.005	<b>.786</b>	-.001
06. HIV/AIDS	.029	-.048	<b>.754</b>	.047
09. Romantic love	.141	-.035	-.047	<b>.654</b>
08. The difference between men and women’s mentality	-.082	.098	.094	<b>.625</b>
N	7458			

Factor loadings > 0.2 are indicated in bold.

Table 5.2 Factor structure of sexual information needs (junior high male)

	Junior high male		
	Factor 1 sexual anxiety	Factor 2 love/sexual conduct	Factor 3 men and women
04. (Induced) abortion	<b>.749</b>	-.023	-.005
13. Sexual minority	<b>.717</b>	-.049	-.031
12. Consultation for sexual problems / anxiety	<b>.706</b>	-.093	.043
07. STD	<b>.676</b>	.032	-.114
03. Birth control	<b>.659</b>	.130	-.044
11. Sexual harassment, sexual abuse	<b>.497</b>	.091	.120
06. HIV/AIDS	<b>.458</b>	.064	.071
01. How a baby is born	<b>.299</b>	.145	<b>.275</b>
02. Sexual intercourse	-.077	<b>1.030</b>	-.019
05. Masturbation	.286	<b>.471</b>	-.033
08. The difference between men and women's mentality	-.084	-.050	<b>.865</b>
09. Romantic love	-.051	<b>.305</b>	<b>.459</b>
10. Gender equality	.333	-.127	<b>.388</b>
N		1195	

Factor loadings > 0.2 are indicated in bold.

Table 5.3 Factor structure of sexual information needs (high school male)

	High school male		
	Factor 1 social issues	Factor 2 sexuality in general	Factor 3 sexual diseases
11. Sexual harassment, sexual abuse	<b>.726</b>	.007	-.072
10. Gender equality	<b>.627</b>	-.051	-.016
13. Sexual minority	<b>.594</b>	-.067	-.019
04. (Induced) abortion	<b>.582</b>	.093	.026
12. Consultation for sexual problems / anxiety	<b>.497</b>	.062	.066
02. Sexual intercourse	-.213	.967	-.032
05. Masturbation	.118	<b>.557</b>	-.021
09. Romantic love	.083	<b>.520</b>	-.085
03. Birth control	.141	<b>.378</b>	<b>.217</b>
01. How a baby is born	<b>.210</b>	<b>.358</b>	.085
08. The difference between men and women's mentality	<b>.238</b>	<b>.240</b>	.125
06. HIV/AIDS	-.070	-.024	<b>.927</b>
07. STD	.031	-.037	<b>.823</b>
N		974	

Factor loadings > 0.2 are indicated in bold.

Table 5.4 Factor structure of sexual information needs (junior high female)

Junior high female				
	Factor 1 sexual risks	Factor 2 intercourse	Factor 3 romantic love	Factor 4 social issues
03. Birth control	<b>.621</b>	<b>.208</b>	-.052	-.107
07. STD	<b>.592</b>	-.156	-.073	.197
04. (Induced) abortion	<b>.582</b>	.032	-.050	.029
06. HIV/AIDS	<b>.398</b>	-.105	.076	<b>.210</b>
01. How a baby is born	<b>.294</b>	.118	<b>.268</b>	-.146
02. Sexual intercourse	-.023	<b>.915</b>	.032	.001
05. Masturbation	-.012	<b>.452</b>	-.042	<b>.256</b>
08. The difference between men and women's mentality	-.064	-.091	<b>.734</b>	.080
09. Romantic love	-.054	.123	<b>.611</b>	-.032
13. Sexual minority	-.028	.172	-.089	<b>.655</b>
12. Consultation for sexual problems / anxiety	.202	.051	.119	<b>.304</b>
11. Sexual harassment, sexual abuse	.120	<b>.211</b>	.090	<b>.271</b>
10. Gender equality	.090	-.106	.195	<b>.214</b>
N	1196			

Factor loadings > 0.2 are indicated in bold.

Table 5.5 Factor structure of sexual information needs (high school female)

High school female				
	Factor 1 intercourse and pregnancy	Factor 2 sexual diseases	Factor 3 romantic love	Factor 4 social issues
02. Sexual intercourse	<b>.696</b>	-.108	.036	.026
01. How a baby is born	<b>.557</b>	.079	.019	-.173
03. Birth control	<b>.462</b>	.185	.057	-.086
05. Masturbation	<b>.394</b>	-.105	-.004	<b>.239</b>
04. (Induced) abortion	<b>.365</b>	.094	-.134	.142
06. HIV/AIDS	.033	<b>.746</b>	.031	.002
07. STD	.004	<b>.745</b>	-.036	.059
09. Romantic love	.036	-.073	<b>.674</b>	.024
08. The difference between men and women's mentality	-.017	.061	<b>.579</b>	.015
13. Sexual minority	-.066	.004	-.009	<b>.500</b>
11. Sexual harassment, sexual abuse	.023	.072	.029	<b>.404</b>
10. Gender equality	-.074	.098	.178	<b>.266</b>
12. Consultation for sexual problems / anxiety	<b>.202</b>	-.026	-.018	<b>.246</b>
N	1538			

Factor loadings > 0.2 are indicated in bold.

#### 4. Role of the need for information on sex

This section describes a logistic regression analysis performed on the relationship between sexual behavior and the need for information about sex. Age and interest in sex, engagement in masturbation, dating, kissing history, and experience with sexual intercourse were treated as independent variables (converted to dummy values). The following responses to “Things you would like to know about sex” were treated as dependent variables: “1. Mechanics of Pregnancy” through to “13. Sexual minorities”. Because a major gender difference in the need for information about sex was observed in previous analyses, this analysis was undertaken separately for males and females. The details for each factor (as well as the average age at which each sexual experience occurred) are shown in Table 6, whereas the results of the logistic regression analysis are shown in Tables 7 and 8.

After confirming the average age at which each sexual experience first occurred, following Nagata’s (2013) “Courting Sequence”, this section also considered sex as a series of experiences that progress from “sexual awareness → masturbation → dating → kissing → sex”.

Table 6. Descriptive statistics for each factor

	mean	SD
Age	16.82	2.859
Sexual interest dummy	59.7%	.490
Masturbation experience dummy	40.0%	.490
Dating experience dummy	53.1%	.499
Kissing experience dummy	40.6%	.491
Intercourse experience dummy	25.3%	.435

Table 7. Odds ratios from the logistic regression of information needs for male

	01. How a baby is born		02. Sexual intercourse		03. Birth control		04. (Induced) abortion		05. Masturbation	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.	B	S.E.
Age	-0.089 **	0.034	-0.119 ***	0.024	-0.069 *	0.030	-0.029	0.034	-0.185 ***	0.034
Sexual interest	0.739 **	0.244	1.352 ***	0.173	0.983 ***	0.239	0.647 *	0.257	1.222 ***	0.218
Masturbation	0.043	0.234	0.461 **	0.158	0.607 **	0.219	0.214	0.247	0.297	0.200
Dating	0.118	0.223	-0.114	0.144	0.286	0.186	0.281	0.222	-0.130	0.191
Kissing	0.353	0.251	0.082	0.169	0.004	0.212	0.247	0.246	0.165	0.224
Intercourse	0.580 **	0.222	-0.118	0.166	0.153	0.199	0.327	0.219	-0.138	0.230
Constant	-2.083 ***	0.502	-0.988 **	0.354	-2.581 ***	0.452	-3.135 ***	0.507	-0.510	0.486
Nagelkerke R-sq	0.045		0.074		0.056		0.045		0.087	

  

	06. HIV/AIDS		07. STD		08. The difference between men and women's mentality		09. Romantic love		10. Gender equality	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.	B	S.E.
Age	0.025	0.025	0.002	0.025	.091 ***	.022	-.005	.021	.082 **	.030
Sexual interest	0.635 ***	0.186	0.856 ***	0.195	.606 ***	.161	.992 ***	.144	.847 ***	.216
Masturbation	0.295	0.183	0.440 *	0.186	.373 *	.161	.300 *	.141	-.050	.208
Dating	0.087	0.160	-0.075	0.163	-.109	.140	-.011	.126	-.102	.183
Kissing	-0.297	0.197	-0.205	0.199	.117	.163	-.195	.152	-.428	.236
Intercourse	0.493 **	0.184	0.615 ***	0.182	-.250	.154	-.175	.150	.039	.231
Constant	-3.078 ***	0.379	-2.953 ***	0.380	-3.705 ***	.334	-2.000 ***	.307	-4.155 ***	.450
Nagelkerke R-sq	0.045		0.064		0.063		0.054		0.032	

  

	11. Sexual harassment, sexual abuse		12. Consultation window for sexual problems/anxiety		13. Sexual minority	
	B	S.E.	B	S.E.	B	S.E.
Age	.009	.033	.025	.035	.078 **	.028
Sexual interest	1.044 ***	.263	.624 *	.256	.788 ***	.213
Masturbation	.467	.241	.215	.251	.110	.204
Dating	-.223	.208	.002	.221	.045	.176
Kissing	-.039	.247	.275	.248	-.146	.211
Intercourse	-.189	.240	-.334	.236	.030	.199
Constant	-3.745 ***	.505	-3.805 ***	.527	-4.181 ***	.426
Nagelkerke R-sq	0.040		0.023		0.042	

N=2925, \*p<0.05, \*\*p<0.01, \*\*\*p<0.001.

Table 8. Odds ratios from the logistic regression of information needs for female

	01. How a baby is born		02. Sexual intercourse		03. Birth control		04. (Induced) abortion		05. Masturbation	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.	B	S.E.
Age	-0.109 ***	0.026	-0.124 ***	0.020	-0.048 *	0.020	-0.042	0.023	-0.100 ***	0.023
Sexual interest	0.535 ***	0.147	1.566 ***	0.127	1.080 ***	0.124	0.750 ***	0.137	0.994 ***	0.132
Masturbation	-0.068	0.158	0.411 ***	0.113	0.109	0.117	0.264 *	0.130	0.494 ***	0.134
Dating	-0.026	0.187	-0.058	0.142	0.213	0.146	-0.186	0.171	-0.301	0.156
Kissing	0.091	0.214	0.162	0.157	0.245	0.158	0.154	0.192	-0.117	0.182
Intercourse	0.432 *	0.196	-0.354 *	0.148	-0.194	0.144	0.330	0.170	-0.451 *	0.187
Constant	-1.154 **	0.401	-0.845 **	0.315	-2.008 ***	0.323	-2.121 ***	0.358	-0.973 **	0.349
Nagelkerke R-sq	0.023		0.112		0.144		0.107		0.109	

  

	06. HIV/AIDS		07. STD		08. The difference between men and women's mentality		09. Romantic love		10. Gender equality	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.	B	S.E.
Age	0.061 **	0.020	0.065 ***	0.019	0.085 ***	0.016	-0.038 *	0.015	0.123 ***	0.023
Sexual interest	0.700 ***	0.119	0.863 ***	0.114	0.469 ***	0.094	0.540 ***	0.086	0.063	0.134
Masturbation	0.091	0.115	0.193	0.106	0.349 ***	0.095	0.214 *	0.093	0.115	0.142
Dating	-0.150	0.149	-0.112	0.141	0.187	0.114	0.185	0.104	0.032	0.159
Kissing	0.207	0.166	0.245	0.155	0.080	0.128	0.010	0.119	-0.163	0.187
Intercourse	0.121	0.145	0.112	0.135	-0.162	0.119	-0.331 **	0.115	-0.225	0.180
Constant	-3.452 ***	0.323	-3.494 ***	0.306	-3.149 ***	0.262	-0.705 **	0.236	-4.390 ***	0.380
Nagelkerke R-sq	0.050		0.08		0.065		0.025		0.021	

  

	11. Sexual harassment, sexual abuse		12. Consultation window for sexual problems/anxiety		13. Sexual minority	
	B	S.E.	B	S.E.	B	S.E.
Age	-0.020	0.023	0.035	0.022	0.058 ***	0.017
Sexual interest	0.902 ***	0.145	0.851 ***	0.134	0.762 ***	0.100
Masturbation	0.476 ***	0.135	0.203	0.123	0.558 ***	0.099
Dating	-0.443 *	0.177	0.128	0.158	-0.213	0.121
Kissing	0.063	0.202	0.000	0.177	0.108	0.136
Intercourse	0.079	0.185	-0.002	0.159	-0.506 ***	0.129
Constant	-2.530 ***	0.373	-3.400 ***	0.353	-2.797 ***	0.272
Nagelkerke R-sq	0.047		0.050		0.072	

N=3892, \*p&lt;0.05, \*\*p&lt;0.01, \*\*\*p&lt;0.001.

The responses obtained from male students confirmed that “sexual interest” was positively correlated with all rubrics, whereas age was negatively correlated with the items included in “sexual intercourse and pregnancy”. The responses obtained from female students showed the same tendency. The data also confirmed that age was positively correlated with several other rubrics and that some information needs were influenced by sexual experiences.

Age was negatively associated with “pregnancy”, “sexual intercourse”, “birth control”, “abortion”, and “masturbation”. This shows that the need for information on sexual intercourse and pregnancy arose soon after an interest in sex had developed, and that this need decreased in proportion to the amount of information gained. The positive association for “gender equality” and “sexual minorities” reflects that awareness of these as social issues increased as children matured. An additional positive association was found for “venereal diseases” and “AIDS” among females, reflecting a process by which females become aware of sexual risks as they mature, regardless of sexual experience; this contrasts with the attitudes of males towards STDs, which we will examine below.

In terms of experimenting with sex, sexual interest was positively correlated with all dependent variables, although it was statistically insignificant for “gender equality” among females, which suggests that sexual interest develops first and subsequently gives rise to the need for specific information.

With regard to masturbation, among males, masturbating was associated with an increased need for information about “romantic love” and “sexual intercourse” and, thus, simultaneously gave rise to a need for information on “abortion”, “STDs”, and “the difference between men’s and women’s mindsets”. Although, as with males, masturbation by females increased their need for information about “romantic love”, “sexual intercourse”, and “the difference between men’s and women’s mindsets”, it also increased their need for information on “abortion” rather than birth control, and increased their concern with “sexual violence” and “sexual minorities”. However, the relationship between female masturbation and the need for information is likely a



spurious correlation<sup>1)</sup>.

There was no apparent influence of dating or kissing on information needs among either males or females (although going on a date markedly reduced females' needs for information on "sexual harassment and violence"), but having sex increased the need for information on "pregnancy", "venereal diseases", and "AIDS" among males. It also increased the need for information on "pregnancy" among females. Having sex also reduced the need for information on "masturbation", "romantic love" and "sexual minorities" among females. This shows that having sex dramatically altered the information needs of females, in particular.

## 5. Discussion

### 5.1 Relationship between sex and love

According to the factor analysis of data from male university students and all females, "sex" and "romantic love" were included in different factors. Additionally, sex was incorporated in the "sexual intercourse and pregnancy" factor, along with issues such as birth control and abortion, among male university students and female junior high and high school students. This suggests that sex is strongly associated with pregnancy rather than with romantic love<sup>2)</sup>. Male junior high and high school students considered sexual intercourse as "something having to do with sexual love", involving romantic love. For female junior high school students, sex constituted its own domain, unrelated

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1) It appears that, among females, rather than increasing the need for information, masturbation reflects a more positive attitude towards sex as a whole. Responses to the question "Have you masturbated?" reflected a clear gender difference, with 91.1% of male university students answering either "Yes, in the last month" or "Yes, but not in the last month", versus only 36.2% of female university students selecting these options. Mori (2013) divided female high school and university students into four groups based on whether they had sex and whether they masturbated and analyzed the attitude of each group towards sex. The study found that the groups who masturbated ("had sex and masturbated" and "did not have sex but masturbated") possessed a wealth of information on sex and had a positive image of it. Thus, it is possible to conclude that women who masturbate have the greatest need for information on sex as a whole. It seems reasonable to assume that the relationship between female sex and masturbation is spurious and "that women generally interested in sex will masturbate and gather information on sex".

2) This does not, of course, mean that love and sex are considered to be entirely unrelated, and the correlation between "love" and "sex and pregnancy" was not low: 0.412 overall, 0.352 for female junior high students, 0.378 for female high school students, 0.399 for male university students, and 0.325 for female university students.

to pregnancy, but it came to be connected to rather pregnancy than sexual love as they progress through school.

Takahashi (2013) has underscored the trend towards “accentuating the risks of sex” among adolescents. For the author, the recent liberalization of sexual mores has promoted self-determination with regard to sexual activity, which has resulted in some young people not receiving accurate information (particularly from their friends) and, thus, thinking of sex as a risk (accentuating the risks of sex for the individual). The connection shown in the above results between intercourse and pregnancy should probably be regarded as one manifestation of this risk awareness.

It is, of course, important to be aware of the risks of pregnancy when engaging in sex, but an excessive preoccupation with this can lead to total suppression of sexual activity. Ishikawa (2006) has argued that, because of an idealist notion of romantic love, young Japanese people today appear to aim for “pure love” and have come to share an idea that “it is natural for love to lead to sex”. If sex and love are obviously linked, then an excessive awareness of the risks of pregnancy through sex could naturally result in limitations on sexual activity as a whole.

The notion has often been vehiculated that the growing number of unmarried people in Japan put off marriage or avoid interacting with boy/girlfriends because they fear the poverty attendant to a ‘shotgun’ marriage (Ushikubo 2015). This study suggests that students share with single people of average marriageable the same uneasiness about sex.

## 5.2 Relationship between sex and STDs

The previous section addressed the strong connection between sex and pregnancy, but another set of risks that were independent of sexual intercourse — “venereal diseases” and “AIDS” — exerted an effect on both males and females from high school on. This suggests that, for the young, STDs are not considered to have a direct connection to their own sexual activity. The correlations between the “STDs” and “love” factors were 0.182 overall, 0.172 for high school females, 0.199 for university males, and even 0.009 for university females, showing a far lower correlation coefficient in comparison with other factor correlations.

Although more than 15% of both male and female university students required information on “venereal diseases” and “AIDS”, the fact that there was no relationship observed between their own anticipated sexual activity and the need for information suggests that, for these students, STDs were seen as “important but with no connection to myself or my partner”. While Section 4 indicated the positive association between male sexual activity and the need for information on STDs, this could also be interpreted as a lack of awareness regarding the connection of STDs to themselves until they have actually had sex.

### **5.3 Effects of sexual activity on females’ needs for information**

The logistic regression analysis showed that sexual interest, masturbation (among males), and experience with sex affected the need for information on sex; however, these data also showed that having had sex reduced the need for information of various types among females. It seems that this reflected the anxiety felt by female students with regard to sexual activity. That is, it reflected a psychological dynamic whereby, prior to having sex, females experienced a great deal of anxiety and difficulty with regard to sexual intercourse and their own sexual identity. This manifested in the need for, and pursuit of, information as if they were steeling themselves for sex. However, once they had had sex, these anxieties and difficulties disappeared or were alleviated, and their need for information decreased. This is an interpretation that fits with sexual intercourse often being described as “not that big a deal” after the first time.

This survey did not consider the “intensity” of the need for information or “whether essential information was being obtained”; it examined whether knowledge about sex was accurate based on the answers to six questions<sup>3)</sup>. The average number of correct

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3) The six questions were: “Extra-vaginal ejaculation (the withdrawal method) is a reliable means of contraception”; “Ovulation occurs only during menstruation”; “If excess semen builds up, it is bad for the body”; “If you don’t seek treatment for STDs, like chlamydia and gonorrhea, you may become infertile (unable to have children)”; “In Japan, over the last decade, the number of people newly infected with HIV and AIDS has continued to decrease”; and “Oral contraceptives (low-dose birth control pills) are particularly effective as a form of contraception”. The following response options were offered: “Correct / Incorrect / Don’t know / Don’t understand the question”. For the analysis, the answers were coded as “correct” or “other”. Due to restrictions imposed by the participating schools, these questions were not asked of junior

answers was 2.48 for males who had not had sex, and 2.62 for females who had not had sex, with females being more accurate ( $p < 0.05$ , t-test). Among those who had had sex, it was 3.10 for males and 3.31 for females. This implies that females were more informed about sex than males prior to engaging in sexual intercourse.

However, this decrease in the need for information does not guarantee the accuracy of the extant information. Indeed, the reduced desire for information after having had sexual intercourse is not necessarily the same as having accurate information. That the average number of correct answers to these relatively easy questions about sex was only just above three for the group that had actually exposed themselves to the risks of STDs and pregnancy suggests that there is cause for concern.

## Conclusions

Overall, our data indicate the following: 1) that Japanese youths need different types of sexual information according to gender and school level; 2) that sexual information needs to address the following four factors: “sexual intercourse and pregnancy”, “the anguish of sexuality”, “sexual diseases”, and “romantic love”; 3) that Japanese youths feel that sexual intercourse is strongly related to pregnancy but not to romantic love; and 4) that Japanese youths do not feel sexual intercourse is related to their risk of contracting an STD; and, regarding the relationship to sexual behavior, 5) that sexual interests were related to sexual information needs. Indeed, sexual interests did affect sexual information needs.

The proportion of Japanese young people interested in sexual matters is decreasing, apparently because of their awareness of the risk of pregnancy. According to our data, they felt that “sexual intercourse means pregnancy” for girls, rendering the avoidance of sexual matters inevitable and indicating that sexual information needs differ by gender and that interest in sexual matters is decreasing more in females than in males. We understand why Japanese youths would avoid the “risk” of sexuality given their belief that it leads to the “risk” of pregnancy.

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high school students; thus, data were obtained only from high school and university students.

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