



Satisfaction with Singlehood and Sexual Activity

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Abstract

The purpose of this paper is to examine the extent to which Norwegians are satisfied with their singlehood, and to determine the association between being single and sexual activity. Data were obtained from a questionnaire survey of a representative web sample of 1076 unpartnered individuals (568 women, 508 men) aged 18–89 years. A total of 45.2% of the single respondents reported being satisfied with being single, while 33.9% reported being unsatisfied. There was no difference between the age groups in men, but more women aged 45 years or older than women under the age of 45 were satisfied with being single. A higher percentage of gay, bisexual, and transmen than heterosexual men was satisfied with being single. More women who had not been sexually active with a partner in the past year were satisfied with being single than were women who had been sexually active. The men who were most satisfied with being single were those who had masturbated and/or had sexual intercourse, and least satisfied were those with no sexual activity, or exclusively masturbation activity. The results are discussed in terms of biological, psychological, and social positions.

Keywords Singlehood · Sexual satisfaction · Sexual activity · Masturbation · Sexual intercourse

Introduction

In 2016, nearly one of three adults lived in single-person households in 32 OECD countries (Organization for Economic Co-operation and Development, 2013, 2016), and the proportion seems to be increasing. According to Statistics Norway 2021, of a total population of 5.3 million individuals, approximately 2.5 million live alone (Families and households—SSB), many of whom are single and not in a committed relationship.

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Even though the prevalence of singlehood is increasing, DePaulo and Morris (2005) argue that we still live in what they call the “Ideology of Marriage and Family,” with the assumption that:

1. Those who marry and have children are happier, less lonely, more mature, and leading more meaningful and more complete lives than those who do not marry and have children.
2. The sexual life as a single individual is unsafe, unreliable, and less rewarding than the more accessible and safe sexual life within a committed relationship.
3. A great advantage of having a committed partner is having access to a regular sexual partner, and thus the possibility to enjoy physical and emotional intimacy.
4. Being a single individual does not exclude having close relationships or having sexual encounters, and one may be perfectly satisfied with not having a committed partner to relate to.
5. Many single individuals feel pressured to be in a committed partnership as this is the image of a successful individual and the heterosexual norm.

The sexual aspect of single individuals' lives has received little attention in research, and the few existing studies on their degree of sexual satisfaction have mostly been conducted for comparison with partnered individuals. For instance, Antičević et al. (2017), compared partnered and single individuals and found that single individuals had lower sexual self-esteem and sexual satisfaction, and higher sexual depression and avoidant attachment, compared to partnered individuals. Furthermore, Park et al. study (2021) found that having a satisfying sexual life was associated with how positively single individuals viewed their singlehood. Also, single individuals with higher sexual satisfaction tended to have less desire for a partner, believed that unpartnered individuals could be happy, and were more satisfied in general with singlehood (Park et al., 2021). In this context it should be noted, however, that the degree of sexual satisfaction among single individuals depends upon whether the single status is voluntary or involuntary (Kislev, 2020). If single by choice, the individual was also more likely to be satisfied with the state of affairs on the sexual domain, have less sex and desire less sex (Kislev, 2020). In contrast, if singlehood is involuntary, the individual may in their desire for new partners, search for a committed partner but end up with a casual partner instead.

Being single does not equate to sexual abstinence, having many sexual partners, only one-night stands, or having sex alone (DePaulo & Morris, 2005). Previous sexual and life experiences, sexual orientation, age, and gender are all aspects that may influence how sexuality is expressed in singlehood. For instance, due to the heteronormative perspective, being in a relationship is the norm. Being single represents a break with the heterosexual norm, and it is therefore likely that heterosexuals are less satisfied with singlehood than LGBT+ (Lesbian, Gay, Bisexual, Transgender/Transsexual) individuals. However, in addition to sexual orientation differences, there may also be a gender difference in this respect. It has been suggested that the gay subculture is more permissive than the heterosexual (Kontula

& Haavio-Mannila, 1995), and within this subculture the search for sexual pleasure is seen as the main drive for seeking varied sexual practices, also with more or less casual partners (Abramson & Pinkerton, 2002; Matsick et al., 2021).

In an extensive review of the literature, Baumeister (2000) presents evidence that women report spontaneous sexual desire less often, rate their sexual urges as less strong, think about sex less often, have fewer sexual fantasies, desire less frequent sex, initiate sex less often, and desire fewer partners than men. Furthermore, studies within an evolutionary perspective often emphasize that men have greater sexual interest and experience arousal more often than women (Baumeister et al., 2001; Schmitt, 2003). On the background of the examined literature, Baumeister (2000) concluded that women's sexuality is more flexible than men's sexuality is, indicating that women's sexuality is more plastic than men's sexuality. Baumeister (2000) posits that erotic plasticity is the ability to adapt to environmental factors, such as culture, social factors, and experience. Female sexuality is more malleable in that women's sexuality will be more affected in response to sociocultural factors, women's sexual behavior vary more across time, and that the consistency between sexual attitude behavior will be weaker in women compared to men. Accordingly, women may succeed better than men at adjusting their sexual expectations in line with their social reality, and this may also make women more satisfied with being single than men (Baumeister, 2000).

Sexual interactions require an available partner. Sexual activity provides partners with bodily contact, which may be both emotionally and physically satisfying. Within the prevailing heterosexual sexual script, sexual interaction is legitimized by love and infatuation (Francoeur & Noona, 2004; Gagnon & Simon, 2005; Træen & Lewin, 2008), and is equivalent to the perception of the sex taking place as something "natural" and "good" (Fileborn et al., 2017; Gagnon & Simon, 2005; Træen & Lewin, 2008). There is, however, little room for solitary sex within this script (Hogarth & Ingham, 2009). Traditionally, all sex that could not result in reproduction, such as solitary sex, was considered unnecessary. This view may explain why masturbation is perceived as both pleasurable and shameful at the same time (Hogarth & Ingham, 2009; Kaestle & Allen, 2011). This is likely more so for older than younger segments of the population, as research indicates a generational shift regarding masturbation as an independent source of sexual pleasure (Dekker & Schmidt, 2003; Kontula & Haavio-Mannila, 2003).

Masturbation activity has the advantage of providing sexual pleasure independent of partner availability (Dekker & Schmidt, 2003; Hinchliff et al., 2018; Kontula & Haavio-Mannila, 2003), and not being in a relationship has been linked to higher masturbation frequency (DeLamater & Moorman, 2007; Regnerus et al., 2017; Rowland et al., 2020; Schick et al., 2010). Masturbation can be compensatory for individuals who do not have access to a partner or complementary in a partnership, serving the purpose of releasing sexual tension and meeting a desire to have sex more frequently than one's partner does (Das et al., 2009; Regnerus et al., 2017). Research has shown that men generally report masturbating more often than women do (Fischer et al., 2021; Kontula & Haavio-Mannila, 2003; Lee et al., 2016). This is somewhat surprising, as women seem to reach orgasm more often by masturbation than by sexual intercourse (Dekker & Schmidt, 2003; Howard et al., 2006). Another

finding in many studies is that frequent masturbation is associated with lower sexual satisfaction in both men and women (Ayalon et al., 2019; Brody & Costa, 2009; Rowland et al., 2020; Velten & Margraf, 2017), or in men only (Pedersen & Blekesaune, 2003).

How sexual activity relates to satisfaction with being single is rarely studied. The present study attempts to set focus on this relationship.

Purpose

The overall purpose of this paper is to study Norwegian singles' satisfaction with being single, and how this relates to their sexuality. We attempt to answer the following questions:

1. To what extent are single individuals satisfied with a single relationship status?
 - a. Are there gender, age and sexual orientation differences in satisfaction with singlehood?
2. How do single individuals satisfy their sexual needs?
 - a. Is it through masturbation and/or sex with casual partners?
3. How does the sex life of single individuals relate to their satisfaction with their singlehood?

Methods

Participants and Recruitment

For this study, the Norsk Gallup (a subsidiary of Kantar in Norway) collected data based on their web panel, which has approximately forty thousand active members (<https://www.galluppanelet.no/>). Norwegian members of Kantar's Gallup Panel were randomly recruited through national phone registries; thus, there was no possibility of self-recruitment. The Gallup Panel represents Norway's population of Internet users, which in turn reflects 98% of the population with access to the Internet (see <http://www.medienorge.uib.no/english/>). The Gallup Panel members were contacted regularly to fill out online questionnaires. To motivate participation, Kantar developed a carefully planned incentive program. Although small incentives were given (e.g., lotteries, occasional surprises of varied quality), these were not large enough to be cohesive. All study participation was voluntary, and the participants were guaranteed anonymity. All research complied with the Personal Data Act and the guidelines of the Norwegian Data Protection Authority and followed the ethical guidelines developed for market and poll organization surveys (Norway's Market Research Association and the European Society for Opinion and Market Research [ESOMAR]).

In March 2020, 11,685 Gallup Panel members were randomly invited to participate in an online survey on sexuality. Of those who were asked to participate, 4,160 individuals (18–89 years) completed the questionnaire, for a response rate of 35.6%. Fifty-one percent completed the online survey on their mobile phones. In this study, only the 1076 respondents who did not have a partner were included.

In the questionnaire, two separate questions about relationship status were asked, and on the basis of the response to these two questions a new variable was constructed. The first question was, “What is your marital status?,” with the response categories: *unmarried* (1), *separated/divorced* (2), *widow/widower* (3), and *married/cohabitant/registered partnership* (4). The second question was, “If unmarried, separated/divorced, or widow/widower: Are you currently in a permanent relationship?” with the response categories *No* (1), *Yes, with one person* (2), and *Yes, with several persons* (3). The new variable had the categories *No partner* (*unmarried, separated/divorced, widow/widower not in a permanent relationship*) (0) and *Partnered* (*Married/cohabitant/registered partnership, and unmarried, separated/divorced, widow/widower in a permanent relationship*) (1).

Norsk Gallup registers gender at birth. About half of the non-partnered respondents were registered as women (52.8%, $n=568$) and 47.2% as men ($n=508$). The mean ages of the women and men were 44.0 ($SD=18.9$) and 41.6 ($SD=16.2$) years, respectively. Most identified themselves as heterosexual (87.9%) and 12.1% as LGBT+ (4.3% = homosexual/lesbian, 6.5% = bisexual, and 1.3% = asexual/other). About 66% were not religious, while most of those who reported religious affiliation were Christian (32.5% = Christians, 1.4% = Muslim/other). Regarding residence, 62.1% respondents lived in urban areas, 25.0% in smaller towns or suburban areas, and only 12.9% lived in rural areas. Most participants had a bachelor’s degree or similar educational qualifications (38.2%), while 34.0% had 12–13 years of education, 22.3% reported a master’s degree, Ph.D., or similar, and 5.5% had 6–10 years of education.

Measures

Satisfaction with being single was measured by the question “All things considered, how satisfied are you with being single/not being in a permanent/long-term relationship?” The response categories ranged from *not satisfied at all* (1) to *completely satisfied* (7).

For *gender*, men and women were coded as 1 and 2, respectively.

Age groups were assessed by year of birth and recoded into three categories: 18–29 (1), 30–44 (2), 45–59 (3), and 60+ years (4).

Sexual orientation was described by completing the phrase “Do you currently regard yourself as,” with possible responses: *homosexual/lesbian* (1), *heterosexual* (2), *bisexual/pansexual* (3), *asexual* (4), and *other* (5). Response options 1, 3, and 5 were recoded as *LGBT+* (1), while response option 2 was recoded as *heterosexual* (2).

Sexual satisfaction was tapped by one single item “All things considered, how satisfied are you with your sexual life?” The response was evaluated on a 5-point scale from *very unsatisfied* (1) to *very satisfied* (5).

Satisfaction with the current level of sexual activity was measured by the question, “In general, how satisfied are you with your current level of sexual activity?” The response options ranged from *very unsatisfied* (1) to *very satisfied* (5).

Frequency of sexual activity was measured with the questions, “How many times have you had sexual intercourse (vaginal, anal, or oral sex) during the last month?” and “How many times have you masturbated during the last month?” The response categories to both questions were *no times* (1), *once a month* (2), *2 or 3 times the past month* (3), *Once a week* (4), *2 or 3 times per week* (5), *Once a day* (6), and *More often than once a day* (7). The questions were modified versions of questions previously used in the Healthy Sexual Ageing Project (Træen et al., 2018). Based on responses to the two questions, the variables were first dichotomized into “no activity” and “activity,” and subsequently, a new variable was constructed. This variable had the following values: *No sexual activity last month* (0), *Exclusively masturbation activity* (1), and *Masturbation and intercourse activity* (2). Eight persons had had sexual intercourse but did not masturbate; these respondents were coded as 2.

Statistical Analyses

All data analyses were carried out using SPSS 26.0 for Windows. Chi-square analysis and t-test/variance analysis (ANOVA) was used to test differences in expected and observed frequencies and mean group differences respectively. Bivariate correlation (Pearson's r) was performed to measure the strength of the association between satisfaction with singlehood and the selected sexuality variables.

Results

A plural of single respondents reported being satisfied with being single (45.2%), one of three reported being unsatisfied (33.9%), and about one of five (20.9%) claimed they were neither satisfied nor dissatisfied.

Table 1 shows the satisfaction with being single based on the selected background variables. Higher percentages of women than men, of respondents 60+ years than <30 years, of LGBT+ respondents than heterosexual respondents, and of respondents who had not been sexually active during the past year were completely satisfied with being single. All group differences were statistically significant ($p < 0.001$). Although not shown in the table, there was no difference in satisfaction with being single among individuals across religious affiliation or level of education.

Table 2 shows the satisfaction with being single by selected background variables for men and women. A PostHoc Bonferroni analysis revealed that there was no difference between the age groups in men, but more women aged 60 years or older than women under the age of 60 were satisfied with being single ($p < 0.001$). LGBT+men scored significantly higher in satisfaction with being single than

Table 1 Satisfaction with Being Single, by Selected Background Variables (Percent, Means, Standard Deviations, and One-Way Analyses of Variance (ANOVA)).

	<i>N</i>	Percent	Completely dissatisfied						Completely satisfied						<i>Chi-square</i>	<i>p</i>	<i>M</i>	<i>SD</i>	<i>t/F</i>	<i>p</i>
			1	2	3	4	5	6	1	2	3	4	5	6						
Gender																				
Male	505	8.5		11.1	18.0	24.2	14.7	12.7	10.9						35.96	.000	4.1	1.7	25.85	.000
Female	567	4.9		8.6	16.9	18.0	14.8	13.2	23.5								4.6	1.8		
Age																				
< 30	335	6.0		9.6	22.1	21.2	16.1	15.2	9.9						101.62	.000	4.2	1.7	20.75	.000
30-44	296	9.5		12.8	18.9	22.3	15.2	9.8	11.5								4.0	1.8		
45-59	209	5.7		10.0	16.3	21.5	15.3	14.8	16.3								4.4	1.8		
60+	232	4.7		6.0	9.9	18.1	11.6	12.1	37.5								5.1	1.9		
Sexual orientation																				
LGBT+	126	2.4		7.1	15.1	15.9	13.5	24.6	21.4						23.80	.001	4.9	1.7	12.84	.000
Heterosexual	918	7.0		10.1	18.0	21.6	15.1	11.2	17.0								4.3	1.8		
Partnered sexual activity																				
No activity	370	5.4		10.3	14.6	19.2	12.4	13.2	24.9						24.91	.000	4.6	1.9	12.60	.000
Activity	416	7.9		10.1	20.7	19.2	15.9	13.9	12.3								4.2	1.8		

Tested for group differences by means of Chi-square, F-test of significance (*F*) and t-test (*t*).

Table 2 Satisfaction with Being Single among Norwegian Men and Women, by Selected Background Variables (Means, Standard Deviations, and One-Way Analyses of Variance (ANOVA) and t-tests)

		N	Men					Women				
			M	SD	F/t	p	N	M	SD	F/t	p	
Age	< 30	146	4.1	1.7	2.00	.114	189	4.2	1.6	20.90	.000	
	30-44	169	3.8	1.7			127	4.2	1.9			
	45-59	110	4.2	1.7			99	4.7	1.9			
	60+	80	4.3	1.9			152	5.5	1.7			
Sexual orientation	LGBT+	79	4.9	1.7	20.32	.000	47	5.0	1.8	1.78	.183	
	Heterosexual	412	3.9	1.7			506	4.6	1.8			
Partnered sexual activity	No activity	140	3.9	1.8	2.12	.146	230	5.1	1.8	28.09	.000	
	Activity	213	4.1	1.8			203	4.6	1.8			

Tested for group differences by means of F-test of significance (*F*) and t-test (*t*).

heterosexual men, but there was no difference between women. Lastly, women who had not been sexually active with a partner in the past year were more satisfied with being single than women who had been sexually active. No such difference was observed among men.

The bivariate relationships between being satisfied with being single and selected sexuality variables are presented in Table 3 separately for men and women. The strengths of the associations show that men who were satisfied with their sexual life in general, who were satisfied with their current level of sexual activity, who were more likely to have had sexual intercourse, and who had a lower masturbation activity in the past month were more likely to be satisfied with being single.

Table 4 shows the satisfaction with being single by age group and partnered sexual activity in the past year separately for men and women across sexual orientation. There were no statistically significant differences in the degree of satisfaction among respondents of different age groups or partnered sexual activity in LGBT+ men and women and in heterosexual men, but there were differences among heterosexual women. Older women were more satisfied with being single than younger women, and women with no sexual activity in the past 12 months were more satisfied with

Table 3 Correlations Between Satisfaction with Being Single and Sexuality Variables Among Norwegian Men and Women (Pearson's r_{xy})

	Men			Women		
	<i>N</i>	R_{xy}	<i>p</i>	<i>N</i>	R_{xy}	<i>p</i>
General satisfaction with the sex-life	484	.454	.000	496	.393	.000
Satisfaction with current level of sexual activity	482	.409	.000	507	.513	.000
Masturbation frequency last month	481	-.167	.000	521	-.244	.000
Intercourse frequency last month	398	.169	.001	472	-.033	.474
Any sexual activity last 12 months	353	.077	.146	433	-.247	.000

Table 4 Satisfaction with Being Single Among Norwegian Men and Women Across Sexual Orientation, by Selected Background Variables (Means, Standard Deviations, and One-Way Analyses of Variance (ANOVA) and t-tests).

	LGBT+ men					Heterosexual men					LGBT+ women					Heterosexual women				
	N	M	SD	F/t	p	N	M	SD	F/t	p	N	M	SD	F/t	p	N	M	SD	F/t	p
Age																				
< 30	32	5.0	1.5	0.45	.685	112	3.9	1.7	1.92	.125	31	4.9	1.8	0.43	.730	150	4.0	1.5	24.86	.000
30-44	26	4.6	1.8			137	3.7	1.6			12	5.1	1.9			113	4.1	1.9		
45-59	13	5.2	1.7			94	4.1	1.6			2	4.0	0.0			93	4.7	1.9		
60+	8	4.8	1.9			69	4.3	1.9			2	6.0	1.4			150	5.5	1.7		
Partnered sexual activity last 12 months																				
No activity	18	4.7	1.8	0.17	.682	119	3.8	1.7	0.94	.334	16	4.7	1.9	1.79	.191	210	5.1	1.8	35.18	.000
Activity	40	4.9	1.7			169	4.0	1.7			17	5.5	1.5			184	4.0	1.8		
Intercourse experience																				
No experience	17	5.0	1.6	0.12	.726	62	3.7	1.7	0.98	.323	12	4.9	2.0	0.01	.928	50	4.3	1.6	1.58	.146
Experience	62	4.8	1.7			338	4.0	1.7			35	5.0	1.7			439	4.6	1.9		

Tested for group differences by means of F-test of significance (*F*) and t-test (*t*).

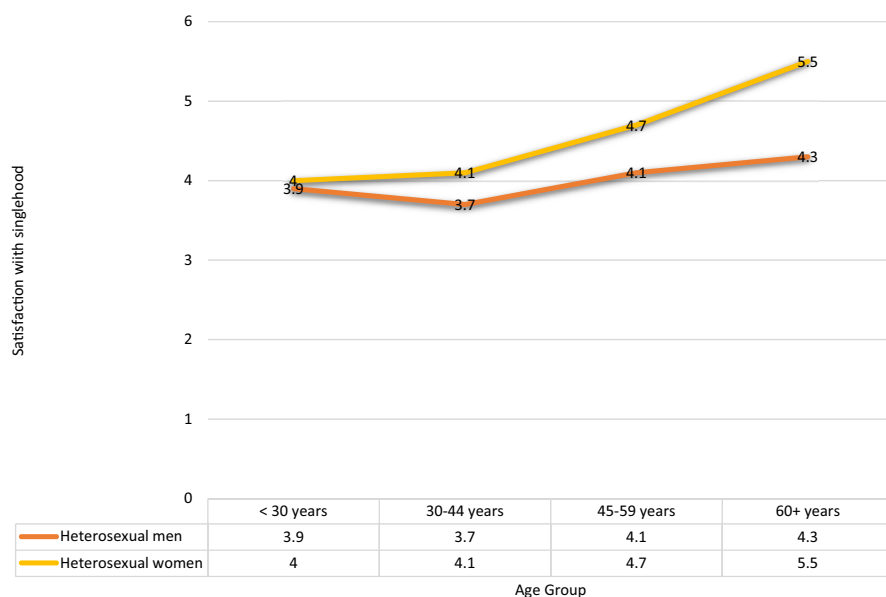


Fig. 1 Satisfaction with being single, by age groups (means)

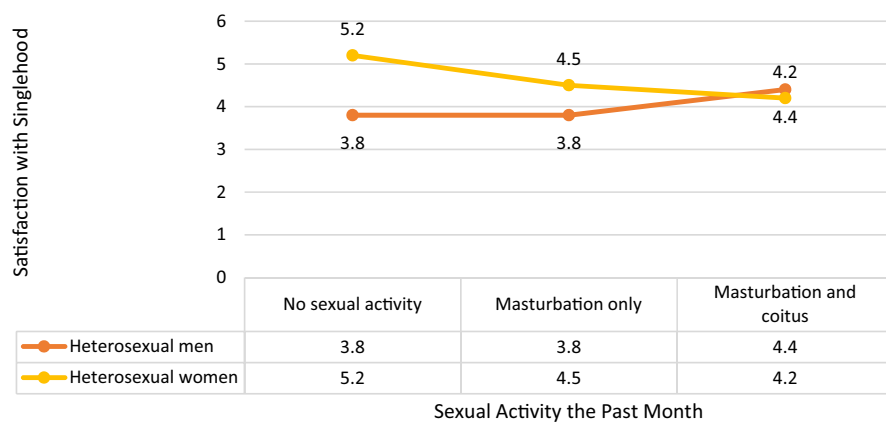


Fig. 2 Satisfaction with being single in heterosexuals, by sexual activity during the past month (means)

being single than women who had been sexually active. These significant differences are illustrated for heterosexuals in Figs. 1 and 2.

Table 5 shows the bivariate relationships between being satisfied with being single and selected sexuality variables separately for men and women of different

sexual orientations. Among both LGBT+ and heterosexual men, being satisfied with being single was associated with being satisfied with one's sexual life in general, being satisfied with one's current level of sexual activity, and having lower masturbation frequency. Among heterosexual men, having had sexual intercourse in the last month was also significantly associated with being satisfied with being single. The relationships were generally stronger for LGBT+ men than for heterosexual men. Among LGBT+ women, being satisfied with being single was significantly associated only with being satisfied with their sexual life in general and satisfied with their current level of sexual activity. These two relationships were also the most important for heterosexual women. In addition, heterosexual women with lower masturbation frequency and having had some partnered sexual activity during the past 12 months were more likely to be satisfied with singlehood.

Table 6 shows satisfaction with singlehood by type of sexual activity during the previous month. The heterosexual men that were most satisfied with being single were those who had masturbated and/or had sexual intercourse, and the least satisfied were those with no or exclusively masturbation activity. The same pattern was found among LGBT+ men, except that none of the LGBT+ men had totally abstained from sex in the past month. The heterosexual women who were most satisfied with being single were those with no sexual activity, and the least satisfied were those who had masturbated and had sexual intercourse. The group difference in LGBT+ women was not statistically significant, but the number of respondents in this group was small ($n = 35$).

Discussion

We found that the majority of single respondents reported being satisfied with being single. This finding most likely reflects that in contemporary Norwegian society, there is a higher acceptance of deviation from the "Ideology of Marriage and Family" (DePaulo & Morris, 2005). In other words, there is a broad acceptance of diversity in how people live their lives. The finding that a higher percentage of respondents who had not been sexually active during the past year was completely satisfied with being single is most likely related to the composition of the sub-sample, as the majority of respondents were female. This will be further discussed below.

A higher percentage of older than younger respondents reported being satisfied with being single. Furthermore, a higher percentage of women than men, and more women aged 60 years or older than women under the age of 60, were satisfied with being single. This finding, in part, should be considered in relation to the study by Bergström and Vivier (2020), which showed that the rate of singlehood steadily increased for women aged 40 years and that more women than men stated that singlehood for them was voluntary. Contrary to men, who are able to become fathers throughout their whole life span, women's ability to conceive is significantly reduced by the age of 45 years. It is likely that at younger ages, single women aspire for a committed partner to raise a family and children (Du Bois-Reymond, 1998), and not finding the "right" partner reduces satisfaction with this involuntary singlehood. Around the age of 30 years, as single individuals see their friends forming

Table 5 Correlations Between Satisfaction with Being Single and Sexuality Variables Among Norwegian Men and Women Across Sexual Orientation (Pearson's r_{xy}).

	LGBT+ men			Heterosexual men			LGBT+ women			Heterosexual women		
	<i>N</i>	R_{xy}	<i>p</i>	<i>N</i>	R_{xy}	<i>p</i>	<i>N</i>	R_{xy}	<i>p</i>	<i>N</i>	R_{xy}	<i>p</i>
General satisfaction with the sex-life	78	.510	.000	393	.419	.000	44	.467	.001	442	.390	.000
Satisfaction with current level of sexual activity	77	.415	.000	392	.380	.000	43	.458	.002	456	.523	.000
Masturbation frequency last month	79	-.297	.008	390	-.171	.001	46	-.178	.237	462	-.271	.000
Intercourse frequency last month	62	.225	.079	328	.133	.016	34	.289	.098	431	-.085	.079
Any sexual activity last 12 months	58	.055	.682	288	.057	.334	33	.233	.191	394	-.287	.000

Table 6 Satisfaction with Being Single among Norwegian Men and Women Across Sexual Orientations, by Sexual Activity During the Past Month (Means, Standard Deviations, and One-Way Analyses of Variance (ANOVA))

Sexual activity last month	LGBT+ men				Heterosexual men				LGBT+ women				Heterosexual women											
	N		M		SD		F	p	N		M		SD		F	p	N		M		SD		F	p
No activity	–	–	–	–	6.50	.013	18	3.8	1.9	3.75	.025	2	7.0	0.0	2.08	.141	105	5.2	1.9	7.12	.001			
Masturbation only	41	4.5	1.7				229	3.8	1.6			24	4.7	1.7			258	4.5	1.9					
Masturbation and coitus	21	5.6	1.3				91	4.4	1.8			9	5.3	1.7			76	4.2	1.7					
All	62	4.8	1.7				338	4.0	1.7			35	5.0	1.7			439	4.6	1.9					

Tested for group differences by means of F-test of significance (*F*).

relationships, they become more strongly aware of their minority status, and personal and social pressure may become more intense (Bergström & Vivier, 2020). However, approaching menopause it is likely that women's expectancies for reproduction will decrease, and this may raise other issues of greater importance for them. Men of all ages are in a different social position, tending to form their first relationship at a later age than women (Bergström & Vivier, 2020), and having children is likely to affect their career and other aspects of self-realization less than women's.

Another interesting finding was that heterosexual women with no sexual activity in the past 12 months were more satisfied with being single than women who had been sexually active. Furthermore, the heterosexual women who were least satisfied were those who had masturbated and had sexual intercourse. This corroborates a British study, in which a minority of those who had sexual experience but were sexually inactive, 35% of men and 24% of women, reported being dissatisfied with their sex lives (Ueda & Mercer, 2019). According to Baumeister (1999), women's sexuality is more plastic than men's sexuality. This implies that women without access to a committed partner may "turn off" their sex drive altogether, and not longing for something they do not have and releasing energy into other things of importance in life makes them satisfied with singlehood. It can be hypothesized that women who recently had been sexually active with a partner might have been reminded of not having an available partner, which might have caused them to long for one. In that case, it can be argued that they are committed to a romantic ideal, but had either found the wrong partner to enter into a relationship with (Træen & Sørensen, 2000), or had experienced unrequited love (Baumeister, 1993). The finding that men who had less masturbation activity in the past month were more likely to be satisfied with being single indicates that some men may have lower sexual desire than others. However, based on the findings from other studies, it may also be linked to higher levels of avoidant attachment, lower sexual self-esteem and self-confidence, lower sexual satisfaction (Anticevi et al., 2017), or poor flirting skills, unattractiveness, shyness, and bad experiences in previous relationships (Apostolou, 2019).

There was no difference in satisfaction with being single between the group with no previous sexual interactions and the group with sexual experience but with no current sexual partner. Although the groups on the surface differ in terms of sexual experience, the mean scores on satisfaction probably conceal diverse reasons for singlehood. For both groups, being single may be a consequence of an active choice or an unwanted circumstance.

Park et al.'s study (2021) showed that having a satisfying sexual life was associated with how positively single individuals viewed their singlehood. Men and women are biologically different and undergo different primary sexual socialization processes. Unlike women, both LGBT+ men and heterosexual men who were satisfied with their sexual life in general, satisfied with their current level of sexual activity, and who had had sexual intercourse in the past month were more likely to be satisfied with being single. In addition, the relationships were generally stronger for LGBT+ men than for heterosexual men. It could be that men in general who are satisfied with their singlehood find it more convenient to have casual partners and to avoid all partners who could become committed partners. LGBT+ men may be able to obtain male sexual partners more readily than heterosexual men can female

sexual partners, in part because of men's greater interest in casual sex (e.g., Schmitt, 2005). According to Eastwick et al. (2019), passion peaks in the early stages of a relationship, and feelings of intimacy and emotional bonding peak in later stages. For single individuals who are satisfied with being single and who still have sexual activity with partners, it could be that it is the drive for passion that is satisfying to them, and that they may not have a desire for emotional bonding with a partner.

LGBT+ men and women are likely to undergo a new socialization process when coming out as gay (Alonzo & Buttitta, 2019). We found that LGBT+ men were more satisfied with being single than heterosexual men, but there was no difference between LGBT+ women and heterosexual women. LGBT+ men may have a larger pool of other men to have sexual interactions with, and in the gay sub-culture there is likely to be a higher acceptance of sex for the sake of pleasure and of not having to legitimize sex with love than in the heterosexual majority culture (Abramson & Pinkerton, 2002; Matsick et al., 2021).

Limitations

Some limitations of this study must be addressed. The sample is supposedly representative of Norway's Internet-using population but compared to the Norwegian population there is an overrepresentation of respondents with higher education. This may hinder the generalizability of the results. A more detailed description of this has been outlined elsewhere (Træen et al., 2021a, b; Træen & Thuen, 2021; Træen & Fischer, 2021). Another limitation is the single question measure of satisfaction with singlehood, as well as satisfaction with their sexual life/current level of sexual activity. However, we chose single questions rather than scales in an effort to maximize response rates and reduce participant burden. This is generally accepted and widely used in the field of sex research, as they may capture the construct to a satisfactory degree (Gardner et al., 1998). In addition, the cross-sectional nature of this study makes it impossible to draw conclusions about cause and effect. Furthermore, the low number of LGBT+ persons in the study also represents a limitation, and the statistics should thus be interpreted with caution.

Conclusions

Single individuals in Norway are generally satisfied with their singlehood. How satisfied people are with their singlehood is, however, dependent of age, gender, and sexual orientation. These results have some important implications. For one, it is time to put more emphasis on the sex-life of single individuals and try to capture single individual's sexuality in its diversity instead of something that is in contrast to sexuality in partnered individuals, both in research, preventive and clinical work. Especially, an increased focus is needed on how to be generally and sexually satisfied as single individuals in society. More emphasis should be put on singlehood in sex education. This is also linked to focus more on other ways to live one's (sex) life than in monogamous couple relationships, and thereby

combating the partnership myth. Lastly, future research should examine singlehood in the context of mental health.

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Declarations

Conflicts of interest The authors have no relevant financial or non-financial interest to disclose.

Ethics Approval This study was performed in line with the principles of the Declaration of Helsinki. All ethical guidelines develop for market- and poll organization surveys are guaranteed.

Data and Code availability The data for the study is currently available only to researchers invited to participate in the research team.

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