

Article

Masturbation Frequency and Sexual Function in Individuals with and without Sexual Partners

Sijia Huang ¹, Caoyuan Niu ² and Pekka Santtila ^{1,2,3,*}¹ Faculty of Arts and Sciences, NYU Shanghai, Shanghai 200122, China; sh5072@nyu.edu² School of Psychology and Cognitive Science, East China Normal University, Shanghai 200062, China; cn2250@nyu.edu³ NYU-ECNU Institute for Social Development, NYU Shanghai, Shanghai 200122, China

* Correspondence: pekka.santtila@nyu.edu

Abstract: The aim of this study was to investigate the association between masturbation frequency and sexual dysfunction among men and women, focusing on individuals with and without regular sexual partners, and to determine whether sexual compatibility (e.g., similar sexual desire levels and a match between desired behaviors and behaviors one's partner is willing to engage in) in the relationship affects masturbation frequency. Here, 12,271 Finnish men and women completed an online survey about masturbation frequency, sexual function, and sexual compatibility with their partner for those who were in a relationship. The results indicated that masturbation frequency was positively associated with overall sexual function for women. This was moderated by relationship status, meaning that more frequent masturbation was associated with better orgasmic function and sexual satisfaction in single women, whereas the opposite was true for women who were in a relationship. For men, more frequent masturbation was associated with better erectile function for single men, and better ejaculatory latency but worse orgasmic function, intercourse satisfaction, and more symptoms of delayed ejaculation for men who were in a relationship. Lower sexual compatibility and sexual dysfunctions in the partner were associated with more frequent masturbation in both sexes. The associations between masturbation frequency and sexual function vary for single and partnered individuals, and are, for the latter group, further affected by sexual compatibility.

Keywords: masturbation; sexual function; sexual compatibility; Finnish

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1. Introduction

Masturbation is a common sexual activity that most people engage in. There is a relative paucity of research into how masturbation frequency is related to individuals' sexual function and whether these associations vary between singles and those who have regular sexual partners. The present study investigated the association between masturbation frequency and sexual dysfunction, comparing the effects for men and women, as well as for individuals with and without partners. The study also examined whether sexual compatibility in the relationship affected masturbation frequency. We expected masturbation to be associated with better sexual function in singles and worse sexual function in those in relationships, especially when sexual compatibility was low.

1.1. Sexual Dysfunction

Sexual dysfunctions are a heterogeneous group of disorders typically characterized by a clinically significant disturbance in a person's ability to respond sexually or to experience sexual pleasure [1]. They include, among other things, premature (early) ejaculation, delayed ejaculation, and erectile disorder for men as well as arousal disorder and orgasmic disorder for women [1]. Previous research shows that sexual dysfunctions are highly prevalent globally, affecting 10% to 52% of men and 25% to 63% of women [2–5].

A number of factors contribute to sexual dysfunctions, including individual, relationship, cultural, and religious factors, as well as medical factors [1]. Increased age may be a common cause, since people's sexual response usually decreases as people grow older. Additionally, psychological distress, such as depression, anxiety, and post-traumatic stress disorder, and problems in the relationship are other central factors, leading to decreased libido and, thus, sexual dysfunctions [1,6]. For men, specifically, erectile disorder may be associated with biological factors (e.g., diabetes, cardiovascular disease, and lack of physical exercise) and substance use (e.g., smoking tobacco) [6,7]. For women, on the other hand, menopause and social-cultural factors (including restricted gender norms related to sexual desire and pleasure) are particularly predictive of female orgasmic disorder [1,5]. Sexual dysfunctions are often comorbid. Erectile disorder has been found to be related to premature ejaculation and male hypoactive sexual desire disorder, whereas female orgasmic disorder commonly co-occurs with sexual interest or arousal problems [8,9]. However, in most cases, the exact and conclusive causes of sexual dysfunctions are unknown [1]. Therefore, its complexity leaves room for further research and encourages us to take various factors into account. In the present study, we focused on how masturbation is related to sexual function.

1.2. Masturbation

Masturbation is defined as the manipulation of one's own genital organs, typically the penis or clitoris, for purposes of sexual gratification [10]. The act is usually accompanied by sexual fantasies or erotic literature, pictures, or videos and may also include the use of mechanical devices (e.g., a vibrator) or self-stimulation of other body parts, such as the anus or nipples. Masturbation can involve a person exploring their body alone, but can also happen in the presence of another person, known as mutual masturbation.

Masturbation is a common sexual behavior. A US-based sample revealed that 38% of women and 61% of men aged between 18 and 60 had engaged in masturbation over the preceding year [11]. A national survey conducted on the British general population aged 16 to 44 years reported 73% percent of men and 37% of women having masturbated in the past month [12]. A similar prevalence has been found in other regions, such as Australia and Portugal [13,14]. Somewhat lower frequencies have been found in, for example, China, where 13% of women and 35% of men reported any masturbation in the preceding year [15].

Given that masturbation is a common sexual behavior across the lifespan, it is crucial to understand its role in sexual functioning, sexual satisfaction, and its general impact on psychological well-being. Historically, masturbation has been prohibited and considered a sin in many religions and cultures [16,17]. As masturbation is a form of nonprocreative sex, it has been seen as a vice because of its sole focus on pleasure, and it has also been believed to weaken the body or trigger the loss of sexual potency [16,18]. Only in recent decades has a more objective perspective indicated that masturbation is an important pathway for adolescents to learn about their bodies and sexual responsiveness [19].

1.3. Desire Level and Sexual Compatibility with Partners

In general, people's sexual desire is linked to the frequency of masturbation, yet for people who are in a relationship, frequent masturbation could conceivably reduce their desire for partnered sex. However, individuals with a high sexual desire level may happily engage in partnered sex in addition to frequent masturbation. Two theoretical frameworks have been proposed to explain how masturbation relates to partnered sex. One is the compensatory model positing that masturbation is a substitute for unfulfilled desire for partnered sex [20,21]. A negative correlation between masturbation and partnered sex would be a consequence of this model. Another is the complementary model, which argues that masturbation enhances or accompanies partnered sex, even suggesting that partnered sex may have a positive impact on additional sexual activities, including masturbation [8,21]. A positive correlation between masturbation and partnered sex would follow from this model. Research has found support for both theoretical models. For

example, British men who engaged in a lower frequency of partnered sex revealed a higher prevalence of masturbation, supporting the compensatory function of masturbation [12]. On the contrary, in line with the complementary model, Carvalheira and Leal found that Portuguese women who masturbated took more initiatives in sexual activities, leading to a higher frequency of partnered sex [14]. Similar results were found among British women, as masturbation was reported more by those who also had a higher frequency of vaginal sex [12]. This implies that perhaps different models are prevalently at work for women and men. Indeed, Regnerus et al. suggested that masturbation might be a compensation for men who are not satisfied with their partnered sex, but it might be complementary for satisfied women or even lead them to want more partnered sex [22]. A generally high desire level (or even a personality trait such as openness to new experience) could also lead to both high levels of masturbation and partnered sex, resulting in a pattern of results compatible with the complementary model.

Sexual relationship quality beyond only frequency may also impact masturbation. It has been found that the frequency of masturbation depends on how content the person is with the quality of their social sex, rather than the absolute frequency of sex [22]. Additionally, in Goldey et al.'s research differentiating between solitary and partnered sexual pleasure, participants reported similar definitions of pleasure [23]. However, they understood those sexual activities differently in that autonomy—being able to experience sex according to their own preferences—was considered crucial in solo sex. On the other hand, trust, bond, and closeness to the partner—which may decide if their partner is attractive and if they could discuss sex openly with their partner—were emphasized in conceptualizing partnered sexual pleasure [23]. Other incompatibility issues may be related to masturbation frequency as well. For example, the right amount of foreplay and the partner's willingness to meet the other's sexual preferences and needs seem especially crucial in partnered sex. Taken together, masturbation may have both positive and negative impacts on people's sexual satisfaction, depending on the desire level and sexual compatibility between partners.

1.4. Desensitization

In addition to mere influences on the frequency of different sexual activities, masturbation may have impacts on sexual function. One potential impact is desensitization, where very frequent masturbation may make the sexual organs less sensitive to sexual stimulation. Additionally, if one constantly masturbates in a specific way, this specific masturbatory pattern may not be easily replicated during partnered sex. In fact, in a study investigating the relationship between male masturbation and erectile disorder, it was found that very frequent and idiosyncratic masturbation was associated with erectile dysfunction and coital anejaculation [24]. In another study looking at a Chinese sample, compared with men who reported no masturbatory behavior, 25% of the sample who masturbated reported a gradual extension of ejaculation time [25]. This means that repeated masturbation may result in less responsiveness towards stimulation, which therefore results in more intensive stimulation being required to reach ejaculation. This may be beneficial in delaying fast ejaculation, but it may instead result in delayed ejaculation problems. A similar process could make reaching orgasm during partnered sex more difficult for women as well.

1.5. Lowering Orgasmic Threshold

Contrary to the idea that very frequent masturbation may lead to desensitization, we suggest that for individuals who have had consistent difficulties reaching orgasm, masturbation may function to lower their threshold for reaching orgasm. We suggest that this may happen because the individual gains an improved understanding of how their body reacts to sexual pleasure and through the brain circuitry responsible for orgasm being reinforced making reaching the orgasmic threshold easier over time. Orgasmic latency refers to the time needed from the start of sexual stimulation to orgasm, which is closely related to orgasmic function. A study found that women having orgasmic difficulties during

partnered sex had longer orgasmic latencies than women without orgasmic difficulties [26]. Hence, masturbation practice may shorten orgasmic latency and improve orgasmic function. In support of this, evidence has shown that masturbation had positive effects on orgasmic experience during partnered sex for women if these two types of activities shared alignment, namely, if they used similar stimulation [27]. This means that partnered sex corresponding with masturbation techniques can improve orgasmic capacity, which essentially optimizes arousal, orgasmic likelihood, and overall sexual satisfaction for women. However, reasons for masturbating seemed to moderate its effects. Women who cited “sexual pleasure” as their primary reason for masturbation indicate better orgasmic satisfaction, whereas those who cited “to decrease sexual tension” or “to overcome anxiety” as their primary reasons for masturbation reported more orgasmic difficulty [28]. This suggests that it is important to understand people’s motivations behind their masturbatory behaviors and their real unmet needs. Different motives for sexual activities may incur positive or negative consequences.

1.6. Interoceptive Awareness Increases

In men with premature ejaculation, a lack of interoceptive awareness has been suggested as one possible contributing factor [29]. Interoceptive awareness refers to “the ability to identify, access, understand, and respond appropriately to the patterns of internal signals” [30] (p. 3) [31]. During masturbation, the person has the possibility to proceed at their own pace and regulate the amount of sexual stimulation. Additionally, they can turn their focus inwards to their bodily reactions as opposed to attending to their partner. These factors may contribute to increased interoceptive awareness of the cues that precede orgasm and may provide the opportunity for enhanced control over orgasm. This suggests yet another pathway through which frequent masturbation, specifically in men, could be expected to result in longer orgasmic latency during partnered sex.

Despite the findings discussed above, many aspects of masturbation need further research. The associations between masturbation frequency and specific sexual dysfunctions are largely unknown. There is limited research on masturbation and its impacts on ejaculation and erectile function. Beyond that, it is not clear whether masturbation plays a different role for those who are in a relationship and for those who are not in a long-term sexual relationship. People’s perceptions and practices might change when masturbation happens in a different social context (e.g., when there is regular access to a sexual partner and when there is not). Therefore, it is vital to address the contribution of masturbation in human sexuality.

1.7. Current Study

In the light of previous studies, the present study aimed to investigate the influence of masturbation on sexual function. We hypothesized that masturbation would show mixed impacts in both sexes. Specifically, for men, we expected masturbation to lead to fewer premature ejaculation problems through desensitization, resulting in improvements of ejaculatory control and raising awareness of interoceptive cues. However, if masturbation involves too much stimulation, it might contribute to delayed ejaculation and erectile problems during intercourse. Desensitization and excessive stimulation may make maintaining erection during partnered sex difficult. Additionally, we expected that a higher frequency of masturbation would lead to a decreased level of desire and less enjoyable intercourse, which, in turn, could result in erectile difficulties. For women, we predicted that masturbation would enhance their ability to achieve orgasm, since masturbation may give them a better understanding of their body, helping them know how to reach orgasm, and what they learn can be implemented during partnered sex. Additionally, masturbation gives them a chance to practice orgasm and activate related brain circuits, which leads to a lower threshold of achieving orgasm in the future. However, specific masturbatory behaviors might cause difficulties in adjustment during intercourse. It may trigger desensitization as well and result in possible sexual dysfunctions. Furthermore, for those who are in a

relationship, sexual incompatibility may occur, where dissatisfaction in the relationship may lead to more masturbation as a displacement.

2. Materials and Methods

2.1. Participants

The present work was based on a sample consisting of 12,271 Finnish twins and their siblings between 18 and 49 years of age (men, $n = 4322$, $M = 29.26$ years, $SD = 6.68$ and women $n = 7949$, $M = 28.92$ years, $SD = 6.80$). The twins were part of the Genetics of Sex and Aggression Sample and were identified from the Central Population Registry of Finland. The participants came from two separate data collections. The first one was conducted in 2005 ($n = 3163$, men $n = 1175$, women $n = 1988$) and the second one in 2006 ($n = 9108$, men $n = 3147$, women $n = 5961$). The details of the procedures of the two data collections can be found in Johansson et al. [32].

The following instruments were available for participants from both data collections: the Female Sexual Function Index (FSFI), ejaculation-related questions, the Childhood Trauma Questionnaire (CTQ), and the International Index of Erectile Function (IIEF). The following instrument was only available for the second data collection: Sexual Incompatibility with Partner. This means that the analyses involving the sexual incompatibility questions included 9108 participants, whereas all the other analyses included the complete (male and/or female) sample.

All included participants had responded to the question regarding frequency of masturbation as well as demographic and relationship status questions.

2.2. Instruments

2.2.1. Background Information

Participants reported their background information, including their age, gender, and relationship status (single or has a sexual partner).

2.2.2. Masturbation Frequency

Individuals were asked how frequently they engaged in masturbation using an eight-point scale taken from the Derogatis Sexual Function Inventory [33], where “0” was “not at all”, “1” was “less than once per month”, “2” was “1–2 times per month”, “3” was “once per week”, “4” was “2–3 times per week”, “5” was “4–6 times per week”, “6” was “once per day”, “7” was “2–3 times per day”, and “8” was “more than 4 times per day”. Masturbation frequency is included in the Drive subcategory of the Derogatis Sexual Function Inventory, which has an internal consistency of 0.60 and a test–retest reliability coefficient of 0.77 [33].

2.2.3. Sexual Dysfunctions

For men, we used the International Index of Erectile Function Questionnaire (IIEF) to measure their erectile function. The IIEF is a 15-item questionnaire which offers sensitive, specific, and reliable measures for detecting the relevant domains of male sexual function, including erectile function, orgasmic function, sexual desire, intercourse satisfaction, and overall satisfaction [34]. For the total score, Cronbach’s alpha values have been 0.91 and higher, and the test–retest reliability coefficient was 0.82 [34]. Linguistic validation of the instruments has been conducted in Finnish, and it is proven to have adequate sensitivity and specificity [34]. In this study, Cronbach’s alpha of the IIEF was 0.77.

Next, we asked a series of ejaculation-related questions to measure the participants’ delayed and/or premature ejaculation problems. Currently, there is no single gold standard for diagnosing delayed ejaculation [35]. We adopted questions from the Checklist for Early Ejaculation Symptoms and created a summary variable testing overall indicators of delayed ejaculation [36]. As a premature ejaculation diagnostic tool, the Checklist for Early Ejaculation Symptoms has a 0.75 Cronbach’s alpha for patients before medical treatment (0.89 at present), and 0.88 for controls [36]. Participants reported how fast they typically ejaculated after intercourse, how many penetrations they attempted prior to ejaculation,

how often they ejaculated earlier than they wanted, how often they hastened or postponed ejaculation, if they thought they ejaculated too soon or too late, if they were worried about ejaculating too early or too late, their ability to control ejaculation, their frequency of faking ejaculation, and how much foreplay preceded the intercourse. The overall indication of delayed ejaculation was accompanied by five additional components, where participants reported that they “never ejaculated” in the “how fast” and/or “how many penetration attempts” items, they always ejaculated “too soon” and/or “too late” in their opinion, and/or they “almost always pretended that they ejaculated during intercourses”.

For women, we used the Female Sexual Function Index (FSFI), containing the subscales of Desire, Arousal, Lubrication, Orgasm, Satisfaction, and Pain to measure female sexual function. According to Rosen et al. [37], the FSFI has shown high reliability and consistency in each of the individual domains, with test–retest reliability coefficients ranging from 0.79 to 0.86, and Cronbach’s alpha values of 0.82 and higher [37]. In this study, Cronbach’s alpha of the FSFI total score was 0.78. It is effective in assessing female sexual function in both clinical and nonclinical samples.

2.2.4. Incompatibility in the Sexual Relationship

For those who are currently in a relationship, we used items in Compatibility with Partner to measure if they were experiencing any problems (Yes or No) in their partnered sexual experiences [38]. Questions included: “No sexual problems”, “Too little foreplay prior to intercourse”, “Too much foreplay prior to intercourse”, “Partner is more interested in sex”, “You are more interested in sex (due to a technical mistake, this item was only presented to male participants)”, “During sex, you feel that your partner cannot do things ‘the right way’”, “During sex, your partner feels that you cannot do things ‘the right way’”, “Your partner has sexual needs or preferences that you do not want to satisfy”, “You have sexual needs or preferences that your partner does not want to satisfy”, “You feel that your partner is not attractive enough”, “You cannot discuss sex openly with your partner”, “Your partner has sexual function problems (e.g., erection and/or premature ejaculation for female participants whose partner is male; pain during intercourse and/or problems with lubrication for male participants whose partner is female)”, and “Other problems”.

All questions were translated into Finnish and then back-translated into English.

2.3. Analyses

The analyses proceeded in three stages: First, we examined the age and masturbation frequency differences between men and women, as well as the differences in relationship status. Second, we tested how masturbation frequency was related to sexual function in men and in women, and we also examined if it affected those who were in a relationship and those who were not differently. Third, we investigated if perceived sexual incompatibility influenced masturbation frequency for those who had a partner.

The analyses were conducted using the descriptive analysis, independent samples *t*-test, Pearson correlations, and linear regression functions of SPSS for Mac (Version 27). We did not take into account the dependence of responses of members of the same family in these analyses.

3. Results

3.1. Age, Gender, and Relationship Status

An independent sample *t*-test was conducted to compare differences in age between men and women. Men ($M = 29.26$, $SD = 6.68$, $n = 4321$) were older than women ($M = 28.92$, $SD = 6.80$, $n = 7947$), $t(9007.73) = 2.69$, $p = 0.007$, two-tailed). We also found that as people grew older, they masturbated less ($r(12268) = -0.158$, $p = 0.000$). This applied to both sexes: men, $r(4322) = -0.269$, $p = 0.000$; women, $r(7947) = -0.133$, $p = 0.000$. A comparison of the confidence intervals of the correlations suggests that the age-related decline was steeper in men (95% CI $[-0.080, -0.065]$) compared with women (95% CI $[-0.033, -0.024]$).

Two other independent samples *t*-tests were conducted to compare differences in masturbation frequency between men and women, as well as differences between those who had (vs. did not have) a sexual partner. The results showed that men ($M = 3.18$, $SD = 1.80$, $n = 4322$) masturbated more than women ($M = 1.62$, $SD = 1.45$, $n = 7949$) ($t(7418.13) = 48.98$, $p = 0.000$, two-tailed), and those who did not have a sexual partner ($M = 3.09$, $SD = 1.94$, $n = 2108$) masturbated more than those who had a partner ($M = 2.04$, $SD = 1.66$, $n = 6792$) ($t(3129.39) = 22.38$, $p = 0.000$, two-tailed). In sum, age, gender, and relationship status all influenced masturbation frequency.

3.2. Masturbation and Sexual Function in Women

According to Wiegel et al. [39], an FSFI total score of 26.55 provides the optimal cutoff for differentiating between women with and without female sexual dysfunction. In this sample, 51.5% of women revealed an FSFI score lower than 26.55, suggesting some sort of sexual dysfunction.

A series of Pearson correlations were computed to analyze how masturbation frequency related to women's sexual function, and how it differently affected women who had (vs. did not have) a sexual partner. As shown in Table 1, more frequent masturbation was associated with better function in the domains of sexual desire and arousal, and it led to fewer dysfunctions overall. However, more frequent masturbation was associated with better orgasmic function in single women only, whereas it correlated with worse orgasmic function for women who were in a relationship. A similar discrepancy was also found in the subscale of satisfaction, where more frequent masturbation was associated with higher satisfaction among single women, but lower satisfaction among women who had a partner. A series of linear regressions were further conducted to investigate if masturbation was associated with the sexual function of those who had a sexual partner and those who did not differently. As highlighted in bold in Table 1, we found differences in Arousal, with 95% CI [0.123, 0.276] for those who did not have a partner and 95% CI [0.022, 0.062] for those who did have a partner; Lubrication, with 95% CI [0.011, 0.080] for those who did not have a partner and 95% CI [−0.008, 0.005] for those who did have a partner; Orgasm, with 95% CI [0.002, 0.112] for those who did not have a partner and 95% CI [−0.034, −0.004] for those who did have a partner; Satisfaction, with 95% CI [0.015, 0.221] for those who did not have a partner and 95% CI [−0.105, −0.060] for those who did have a partner; and the total score, with 95% CI [1.240, 2.092] for those who did not have a partner and 95% CI [0.059, 0.197] for those who did have a partner. In sum, more frequent masturbation was associated with better ability to reach orgasm and higher sexual satisfaction in single women. In contrast, for women who had a partner, more frequent masturbation was associated with a negative impact on their orgasmic function and sexual satisfaction.

Next, we analyzed how sexual incompatibility influenced women's masturbation frequency. Here, 21.9% reported that there were no problems in their relationships; 42.0% selected too little foreplay; 1.96% selected too much foreplay; 35.9% selected that their partners were more interested in sex; 16.8% said that they felt that their partners cannot do things "the right way"; 4.24% said that their partners felt that they cannot do things "the right way"; 11.6% reported that their partners had sexual needs or preferences that they did not want to satisfy; 4.47% of the women reported that they had sexual needs or preferences that their partner did not want to satisfy; 4.42% said that they felt that the partner was not attractive enough; 15.7% selected that they cannot discuss sex openly in the relationship; 3.75% of the women said that their partner had problems with his erection and 15.6% had problems with premature ejaculation; 20.4% said that there were other problems in the relationship.

Table 1. Correlations between Age, Masturbation Frequency, FSFI_Desire, FSFI_Arousal, FSFI_Lubrication, FSFI_Orgasm, FSFI_Satisfaction, FSFI_Pain, and FSFI_Total for women who have a partner (in the below diagonal) and women who do not have a partner (in the above diagonal).

HasPner\NoPner	Age	MasFre ^a	FSFI_Des ^b	FSFI_Aro ^c	FSFI_Lub ^d	FSFI_Org ^e	FSFI_Satis ^f	FSFI_Pain ^g	FSFI_Total ^h
Age	1	0.078	−0.074	0.064	0.047	0.238 **	0.008	0.111 *	0.088
MasFre	−0.116 **	1	0.399 **	0.261 **	0.138 *	0.110 *	0.118 *	0.115 *	0.364 **
FSFI_Des	−191 **	0.296 **	1	0.511 **	0.211 **	−0.006	0.327 **	0.176 **	0.495 **
FSFI_Aro	−0.022	0.062 **	0.468 **	1	0.456 **	0.314 **	0.489 **	0.345 **	0.817 **
FSFI_Lub	−0.022	−0.006	0.066 **	0.265 **	1	0.185 **	0.362 **	0.177 **	0.566 **
FSFI_Org	0.105 **	−0.037 *	0.125 **	0.457 **	0.120 **	1	0.133 *	0.083	0.387 **
FSFI_Satis	−0.091 **	−0.109 **	0.298 **	0.540 **	0.135 **	0.334 **	1	0.435 **	0.781 **
FSFI_Pain	0.084 **	0.000	0.156 **	0.287 **	0.045 **	0.139 **	0.223 **	1	0.675 **
FSFI_Total	−0.049 **	0.055 **	0.590 **	0.838 **	0.303 **	0.572 **	0.741 **	0.534 **	1

Note. **—Correlation is significant at the 0.01 level (2-tailed). *—Correlation is significant at the 0.05 level (2-tailed). ^a—MasFre: The frequency of masturbation. The higher the number is, the more frequent the masturbation. ^b—FSFI_Des: The subscale of Desire in the Female Sexual Function Index (FSFI). The higher the number is, the fewer sexual dysfunctions one has. ^c—FSFI_Aro: The subscale of Arousal in the FSFI. The higher the number is, the fewer sexual dysfunctions one has. ^d—FSFI_Lub: The subscale of Lubrication in the FSFI. The higher the number is, the fewer sexual dysfunctions one has. ^e—FSFI_Org: The subscale of Orgasm in the FSFI. The higher the number is, the fewer sexual dysfunctions one has. ^f—FSFI_Satis: The subscale of Satisfaction in the FSFI. The higher the number is, the fewer sexual dysfunctions one has. ^g—FSFI_Pain: The subscale of Pain in the FSFI. The higher the number is, the fewer sexual dysfunctions one has. ^h—FSFI_Total: The total score of the FSFI. The higher the number is, the fewer sexual dysfunctions one has.

As shown in Table 2, more frequent masturbation was associated with too little foreplay, the partner or the women themselves felt that they cannot do sex “the right way”, the women had sexual needs or preferences that their partner did not want to satisfy, the partner was not attractive enough, the women could not discuss sex openly with their partner, there were problems with the partner’s erection, and other problems in the relationship. This means that these types of relationship problems were associated with higher masturbation frequency. On the other hand, lower masturbation frequency was related to fewer relationship problems and whether the women’s partners wanted sex more than they did. In sum, sexual incompatibility was associated with increased levels of masturbation.

Table 2. Correlations between Age, Masturbation Frequency, and Relationship Problems for women who have a partner.

	Age	MasFre ^a	None ^b	LitFor ^c	MuFor ^d	PtnM ^e	PCTD ^f	YCTD ^g	DTW ^h	PDTW ⁱ	PNA ^j	NoT ^k	PtnEF ^l	PtnPE ^m	OP ⁿ
Age	1														
MasFre	−0.116 **	1													
None	−0.009	−0.055 **	1												
LitFor	−0.042 **	0.071 **	−0.435 **	1											
MuFor	−0.014	0.019	−0.071 **	−0.052 **	1										
PtnM	0.043 **	−0.114 **	−0.384 **	0.035 *	0.028	1									
PCTD	0.014	0.133 **	−0.228	0.223 **	0.031 *	0.080 **	1								
YCTD	−0.009	0.036 *	−0.111 *	0.069 **	0.004	0.079 **	0.220 **	1							
DTW	0.016	−0.005	−0.190 **	0.102 **	0.038 *	0.213 **	0.071 **	0.172 **	1						
PDTW	0.001	0.124 **	−0.114 **	0.143 **	−0.006	−0.079 **	0.216 **	0.061 **	0.055 **	1					
PNA	0.023	0.060 **	−0.103 **	0.060 **	0.043 **	0.111 **	0.170 **	0.067 **	0.063 **	0.063 **	1				
NoT	0.041 **	0.080 **	−0.221 **	0.151 **	0.027	0.042 **	0.246 **	0.122 **	0.049 **	0.105 **	0.113 **	1			
PtnEF	0.084 **	0.061 **	−0.093 **	0.001	−0.001	−0.053 **	0.082 **	0.025	−0.007	0.040 **	0.065 **	0.023	1		
PtnPE	0.016	0.014	−0.217 **	0.143 **	0.023	0.010	0.150 **	0.043 **	0.032 *	0.075 **	0.026	0.093 **	0.071 **	1	
OP	−0.057 **	0.130 **	−0.245 **	0.015	0.012	−0.033 *	0.090 **	0.031 *	−0.007	0.078 **	0.074 **	0.052 **	0.037 *	−0.065 **	1

Note. **—Correlation is significant at the 0.01 level (2-tailed). *—Correlation is significant at the 0.05 level (2-tailed). ^a—MasFre: The frequency of masturbation. The higher the number is, the more frequent the masturbation.

^b—None: What kinds of sexual problems are present in your current relationship? OPTION: NONE. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ^c—LitFor: OPTION: Too little foreplay prior to intercourse. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ^d—MuFor: OPTION: Too much foreplay prior to intercourse. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ^e—PtnM: OPTION: Your partner is more interested in sex than you. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ^f—PCTD: OPTION: During sex, you feel that your partner cannot do things “the right way”. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ^g—YCTD: OPTION: During sex, your partner feels that you cannot do things “the right way”. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ^h—DTW: OPTION: Your partner has sexual needs or preferences that you do not want to satisfy. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ⁱ—PDTW: OPTION: You have sexual needs or preferences that your partner does not want to satisfy. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ^j—PNA: OPTION: You feel that your partner is not attractive enough. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ^k—NoT: OPTION: You cannot discuss sex openly with your partner. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ^l—PtnEF: OPTION: Your partner has problems with his erection. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ^m—PtnPE: OPTION: Your partner has problems with premature ejaculation. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ⁿ—OP: OPTION: Other problems. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected.

3.3. Masturbation and Sexual Function in Men

The IIEF classifies the severity of erectile dysfunction (ED) into five categories stratified by score [40]. Here, 77.9% of the male participants revealed no ED, whose scores were from 26 to 30; 6.6% reported mild ED, scoring 22–25; 1.7% reported mild to moderate ED, scoring 17–21; 6% reported moderate ED, scoring 11–16; 7.8% reported severe ED, scoring 6–10.

Similar analyses were conducted among men as among women. As shown in Table 3, Pearson correlations revealed that more frequent masturbation was associated with worse orgasmic function, less sexual desire, less intercourse satisfaction, less overall satisfaction, and higher indications of delayed ejaculation for all men. However, more frequent masturbation was associated with better erectile function among those men who did not have a sexual partner, while it was associated with more sexual orgasm problems, lower sexual desire, and lower intercourse satisfaction, as well as lower overall satisfaction, among those who had a partner. Additionally, a series of linear regressions were conducted to check if masturbation frequency affected the erectile function of those who had a sexual partner and those who did not differently. As highlighted in bold in Table 3, it was found that there was a significant difference in Erectile Function, with 95% CI [0.127, 0.956] for those who did not have a sexual partner and 95% CI [−0.020, 0.084] for those who did have a partner, meaning that more frequent masturbation is associated with better erectile function in single men only.

Influences of masturbation on ejaculatory function were investigated through Pearson correlations as well. As shown in Table 4, masturbation frequency had no significant impact on single men’s ejaculation. However, for those who were in a sexual relationship, more frequent masturbation was associated with more symptoms of delayed ejaculation, more penetrations prior to ejaculating during intercourse, and more frequent feelings that one has ejaculated too late. A series of linear regressions were further conducted to check if masturbation frequency affected the ejaculation problems of those who had a sexual partner and those who did not differently. The results indicated that there were no significant differences in any of the domains.

Table 3. Correlations between Age, Masturbation Frequency, IIEF_Erectile Function, IIEF_Orgasm Function, IIEF_Sexual Desire, IIEF_Intercourse Satisfaction, and IIEF_Overall Satisfaction for men who have a partner (in the below diagonal) and men who do not have a partner (in the above diagonal).

HasPner\NoPner	Age	MasFre ^a	IIEF_EF ^b	IIEF_Org ^c	IIEF_Des ^d	IIEF_InterSatis ^e	IIEF_OverSatis ^f
Age	1	−0.012	0.073	0.071	0.023	−0.045	0.110
MasFre	−0.154 **	1	0.161 *	−0.029	−0.183 **	0.052	−0.084
IIEF_EF	0.015	0.027	1	0.199 **	−0.005	0.530 **	0.365 **
IIEF_Org	0.050 *	−0.045 *	0.311 **	1	0.041	0.206 **	0.217 **
IIEF_Des	0.079 **	−0.110 **	0.056 *	0.048 *	1	−0.033	0.041
IIEF_InterSatis	−0.115 **	−0.075 **	0.171 **	0.158 **	0.022	1	0.360 **
IIEF_OverSatis	−0.107 **	−0.214 **	0.184 **	0.158 **	0.057 **	0.394 **	1

Note. **—Correlation is significant at the 0.01 level (2-tailed). *—Correlation is significant at the 0.05 level (2-tailed). ^a—MasFre: The frequency of masturbation. The higher the number is, the more frequently they masturbate. ^b—IIEF_EF: The subscale of Erectile Function in the International Index of Erectile Function Questionnaire-5 (IIEF). The higher the number is, the fewer erectile dysfunctions one has. ^c—IIEF_Org: The subscale of Orgasmic Function in the IIEF. The higher the number is, the fewer sexual dysfunctions one has. ^d—IIEF_Des: The subscale of Sexual Desire in the IIEF. The higher the number is, the fewer sexual dysfunctions one has. ^e—IIEF_InterSatis: The subscale of Intercourse Satisfaction in the IIEF. The higher the number is, the fewer sexual dysfunctions one has. ^f—IIEF_OverSatis: The subscale of Overall Satisfaction in the IIEF. The higher the number is, the fewer sexual dysfunctions one has.

Table 4. Correlations between Age, Masturbation Frequency, Overall Indication for Delayed Ejaculation, and Ejaculation Problems in men who have a partner (in the below diagonal) and men who do not have a partner (in the above diagonal).

HasPner\NoPner	Age	MasFre ^a	IndDE ^b	Fast ^c	Penetr ^d	EarEJ ^e	Triedfs ^f	Cap ^g	TooEL ^h	WorEL ⁱ	Pret ^j	More1 ^k	Forep ^l
Age	1	−0.066	−0.020	0.029	−0.016	−0.030	0.043	0.075	0.088	−0.065	0.033	0.039	0.080
MasFre	−0.151 **	1	0.094	0.102	0.053	−0.076	0.025	0.022	0.033	0.052	−0.007	−0.006	0.048
IndED	−0.034	0.059 **	1	0.392 **	0.517 **	−0.109	0.320 **	−0.234 **	0.428 **	0.092	0.205 *	−0.182 *	−0.061
Fast	−0.114 **	0.041	0.148 **	1	0.451 **	−0.371 **	0.308 **	0.143 **	0.538 **	−0.300 **	0.117 **	−0.111	0.127 **
Penetr	−0.045	0.073 **	0.203 **	0.276 **	1	−0.248 **	0.198 **	0.041	0.404 **	−0.169 **	0.114	−0.026	0.004
EarEJ	0.014	−0.030	0.017	−0.154 **	−0.228 **	1	−0.164 **	−0.146 **	−0.283 **	0.244 **	−0.012	0.109	0.028
Triedfs	−0.029	0.026	0.183 **	0.161 **	0.086 **	−0.090 **	1	−0.059	0.490 **	−0.165 **	0.107	−0.115	−0.091
Cap	0.062 **	0.032	−0.075 **	0.315 **	0.096 **	−0.076 **	0.052	1	0.181 **	−0.286 **	−0.075	0.128 **	0.104
TooEL	−0.003	0.061 **	0.179 **	0.430 **	0.226 **	−0.164 **	0.404 **	0.365 **	1	−0.286 **	0.119 **	−0.078	0.011
WorEL	−0.042	0.028	0.070 **	−0.254 **	−0.172 **	0.185 **	−0.286 **	−0.320 **	−0.416 **	1	0.040	−0.012	0.061
Pret	−0.013	0.017	0.074 **	−0.033	−0.120 **	0.146 **	0.090 **	0.010	0.001	0.087 **	1	0.004	−0.079
More1	−0.039	0.034	−0.019	−0.006	−0.060 **	0.135 **	−0.019	0.015	−0.026	0.017	0.150 **	1	0.145 **
Forep	−0.047	0.038	0.014	0.151 **	0.082 **	−0.045	−0.004	0.043	0.089 **	−0.082 **	−0.011	0.110 **	1

Note. **—Correlation is significant at the 0.01 level (2-tailed). *—Correlation is significant at the 0.05 level (2-tailed). ^a—MasFre: The frequency of masturbation. The higher the number is, the more frequently they masturbate. ^b—IndDE: Overall Indicators of Delayed Ejaculation. The higher the number is, the more indication of delayed ejaculation one has. ^c—Fast: How fast have you typically ejaculated after intercourse (vaginal or anal) has commenced (in the last 2 years)? The lower the number is, the quicker one ejaculates. ^d—Penetr: How many penetrations have you typically managed to perform prior to ejaculating during intercourse? The higher the number is, the more penetrations one has performed. ^e—EarEJ: In what proportion of situations have you unwillingly ejaculated prior to the commencement of the intercourse? The higher the number is, the more situations that one has ejaculated earlier than wanted. ^f—Triedfs: How often have you tried to hasten or postpone ejaculation? The higher the number is, the more frequently that one has tried to hasten, while the lower the number is, the more frequently that one has tried to postpone ejaculation. ^g—Cap: In what proportion of intercourses have you felt that you can decide when you are going to ejaculate? The higher the number is, the more capable one feels in controlling the ejaculation. ^h—TooEL: How often have you, in your own opinion, ejaculated too soon or too late? The higher the number is, the more frequently that one feels he ejaculated too late, while the lower the number is, the more frequently that one feels he ejaculated too soon. ⁱ—WorEL: In what proportion of intercourses have you been worried about ejaculating too early or too late? The higher the number is, the more times that one is worried. ^j—Pret: In what proportion of intercourses have you pretended that you have ejaculated? The higher the number is, the more time that one has pretended. ^k—More1: In what proportion of sexual interactions have you received more than one ejaculation? The higher the number is, the more times that one has received more than one ejaculation. ^l—Forep: How much foreplay (e.g., oral sex) has typically preceded the actual intercourse? The higher the number is, the longer foreplay that has typically preceded the actual intercourse.

Lastly, we analyzed how sexual incompatibility was associated with men’s masturbation frequency. Here, 25.9% reported that there were no problems in their relationships; 28.2% selected too little foreplay; 2.46% selected too much foreplay; 11.7% selected that their partners were more interested in sex; 42.4% reported that they were more interested

in sex; 12.2% said that they felt that their partners cannot do things “the right way”; 7.38% said that their partners felt that they cannot do things “the right way”; 1.37% reported that their partners had sexual needs or preferences that they did not want to satisfy; 24.3% of the men reported that they had sexual needs or preferences that their partner did not want to satisfy; 5.15% said that they felt that the partner was not attractive enough; 12.3% selected that they cannot discuss sex openly in the relationship; 12.9% of the men said that their partner had functional problems (e.g., pain during intercourse and/or problems with lubrication); 11.0% said that there were other problems in the relationship.

Similar to the results found among women, as shown in Table 5, more frequent masturbation was associated with more relationship problems, including that the participants felt that they are more interested in sex, their partner cannot do things “the right way”, they have sexual needs or preferences that their partner does not want to satisfy, their partner is not attractive enough, they cannot discuss sex openly with their partner, their partner has functional problems, and other problems.

Table 5. Correlations between Age, Masturbation Frequency, and Relationship Problems for men who have a partner.

	Age	MasFre ^a	None ^b	LitFor ^c	MuFor ^d	PtnM ^e	YouM ^f	PCTD ^g	YCTD ^h	DTW ⁱ	PDTW ^j	PNA ^k	NoT ^l	PtnF ^m	OP ⁿ	
Age	1															
MasFre	−0.154**	1														
None	−0.038	−0.136**	1													
LitFor	−0.025	0.042	−0.354**	1												
MuFor	−0.016	0.036	−0.086**	−0.013	1											
PtnM	−0.040	0.004	−0.192**	0.045*	0.024	1										
YouM	0.095**	0.097**	−0.485**	0.128**	0.032	−0.197**	1									
PCTD	−0.031	0.121**	−0.219**	0.154**	0.043	0.061**	0.073**	1								
YCTD	−0.030	0.039	−0.155**	0.168**	0.043	0.086**	0.086**	0.218**	1							
DTW	−0.012	0.006	−0.069*	0.021	0.067**	0.146**	−0.047*	0.064**	0.116**	1						
PDTW	0.024	0.151**	−0.326**	0.145**	0.056*	−0.039	0.267**	0.199**	0.093**	0.025	1					
PNA	0.030	0.075**	−0.137**	0.025	−0.006	0.129**	−0.066**	0.210**	0.048*	0.092**	0.014	1				
NoT	0.044*	0.103**	−0.205**	0.079**	0.056*	0.009	0.110**	0.192**	0.088**	−0.002	0.101**	0.067**	1			
PtnF	−0.042	0.080**	−0.222**	0.074**	0.078**	−0.072**	0.208**	0.078**	0.059**	0.034	0.112**	0.009	0.027	1		
OP	−0.013	0.072**	−0.188**	0.050*	0.054*	−0.007	0.024	0.041	0.109**	0.003	0.040	0.012	0.071**	0.019	1	

Note. **—Correlation is significant at the 0.01 level (2-tailed). *—Correlation is significant at the 0.05 level (2-tailed). ^a—MasFre: The frequency of masturbation. The higher the number is, the more frequent the masturbation. ^b—None: What kinds of sexual problems are present in your current relationship? OPTION: NONE. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ^c—LitFor: OPTION: Too little foreplay prior to intercourse. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ^d—MuFor: OPTION: Too much foreplay prior to intercourse. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ^e—PtnM: OPTION: Your partner is more interested in sex than you. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ^f—YouM: OPTION: You are more interested in sex than your partner. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ^g—PCTD: OPTION: During sex, you feel that your partner cannot do things “the right way”. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ^h—YCTD: OPTION: During sex, your partner feels that you cannot do things “the right way”. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ⁱ—DTW: OPTION: Your partner has sexual needs or preferences that you do not want to satisfy. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ^j—PDTW: OPTION: You have sexual needs or preferences that your partner does not want to satisfy. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ^k—PNA: OPTION: You feel that your partner is not attractive enough. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ^l—NoT: OPTION: You cannot discuss sex openly with your partner. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ^m—PtnF: OPTION: Your partner has functional problems (e.g., pain during intercourse, problems with lubrication). Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected. ⁿ—OP: OPTION: Other problems. Value 1 indicates that this option was selected, whereas value 0 indicates that this option was not selected.

4. Discussion

The present study found that masturbation frequency was positively associated with overall sexual function for women. Further, more frequent masturbation was associated with better orgasmic function and sexual satisfaction in single women, whereas the opposite was true for women who were in a relationship. For men, however, more frequent masturbation was associated with overall worse sexual satisfaction. Interestingly, different effects were also found for those who were single and for those who were in a relationship. In sum, more frequent masturbation was associated with better erectile function for single men, and better ejaculatory latency but worse orgasmic function, intercourse satisfaction, and more symptoms of delayed ejaculation for men who were in a relationship. Moreover, lower sexual compatibility, along with sexual dysfunctions in the partner, was associated with more frequent masturbation in both sexes.

For sexually active single women, the effects of masturbation seemed to follow the complementary model in that more frequent masturbation tended to be associated with their sexual function and satisfaction towards partnered sex [20,21]. One possibility is that masturbation may have lowered the orgasmic threshold, as the women would have gained a better idea of how their body reacts to sexual stimulation and the brain circuitry underlying the orgasmic response would have been repeatedly activated, making reaching orgasm easier during partnered sex. Since single women were not in a formal relationship, it is more likely that they would have casual partners in partnered sex. Having sex with a person one does not know well may involve increased performance anxiety in addition to that person not having experience in stimulating the woman in question. In addition, single women who masturbate may prioritize sexual pleasure during casual sex (as opposed to other motivations, such as looking for a permanent relationship). During sex, single women feel less pressure to compromise and please their (male) partner. Under these circumstances previous masturbatory experience may be especially valuable. They may share information about what kind of sex they prefer and need with their (male) partner, which may facilitate more communication. They may also choose men who are motivated to satisfy their sexual wishes. All in all, being able to truly pursue and receive what they want may increase their satisfaction and improve their sexual function.

On the other hand, the masturbation of women who are in a relationship may be more likely to follow the compensatory model [20,21]. Illustrated by the negative association between masturbation frequency and sexual satisfaction, masturbation may have primarily served a compensatory function for women in a relationship that they engaged in due to an unsatisfied sex life with their partner. This may be related to desensitization, in that the sexual organs are less responsive to stimulation. Or, perhaps women masturbate in a specific way that is difficult to replicate during partnered sex. Furthermore, sexual incompatibility may particularly happen when women were not happy with the quality of their relationship [22,23]. Complaints such as “cannot discuss sex openly” indicate a low level of intimacy in the relationship, which may make it difficult for the women to explicitly express their feelings during sex. As such, it may have resulted in too little foreplay and a sense that they or their partner cannot do things “the right way”. Our results also suggested that a lack of open communication between partners about sex was associated with the participants reporting that their partner was not able to pleasure them sexually (i.e., the incompatibility variable “Cannot discuss sex openly” was positively related with “Partner cannot do things the right way”). Expressing sexual wishes clearly may be challenging, and the results suggest that this lack of open communication may lead some women to seek pleasure in masturbation in order to fulfill their desire.

In contrast, more frequent masturbation had overall negative associations with men’s desire levels and sexual satisfaction. However, among single men, there was a positive effect on erectile function, whereas there was no association with ejaculatory function. For men who were in a relationship, on the other hand, more frequent masturbation was not associated with erectile function overall, but was related to better ejaculation function (more penetrations) while also associated with more indicators of delayed ejaculation.

Desensitization may play a part, in that frequent masturbation may make the sexual organs less sensitive and responsive to stimulation [24,25]. In other words, frequent masturbation can heighten the orgasmic threshold. This may both have the positive effect of increasing the number of penetrations, since they may need more penetrations to stimulate the sexual organs prior to orgasm. However, it may also have the negative effect of increasing symptoms of delayed ejaculation because less responsiveness to stimulation may make ejaculation difficult. In addition, frequent masturbation may influence the ejaculation function by improving interoceptive awareness [29]. During frequent masturbation, men can focus more on how their body responds to the sexual stimulation and how they feel. After frequent practice, they can identify internal sensations that cue ejaculation which will allow more control over ejaculation during partnered sex. In sum, single men seemed to benefit from masturbation, resulting in better erectile function, whereas more frequent masturbation in a relationship seemed to be linked with worse sexual function and satisfaction.

Last but not the least, for both sexes, sexual incompatibility was associated with increased levels of masturbation. One possible explanation is that unsatisfied partnered sex incurs more frequent masturbation. At the same time, increasing masturbation may trigger further sexual function problems that create more negative effects on partnered sex. Considering masturbation as a displacement of partnered sex may not resolve sexual incompatibility issues. This finding is in line with Långström and Hanson's study about hypersexuality, where high rates of masturbation and impersonal sex were associated with negative traits in life, such as tobacco smoking, substance abuse, and general dissatisfaction in life [41]. In other words, dissatisfaction in a relationship may be related to higher masturbation frequency. Even so, it is paramount that couples are able to discuss openly what sex each of them prefers and needs in their relationship.

Strengths and Limitations

Our study has a large sample size that was representative of the general Finnish population. Additionally, we had measures for participants' masturbation frequency, sexual dysfunctions, and incompatibility in the sexual relationship. When possible, we used the latest scales that have been widely used, and where their reliability and validity were manifested by many previous studies [34,36,37]. Nevertheless, the study has a few limitations. First, masturbatory behavior was merely measured by the frequency of masturbation. We did not ask about participants' exact practices during their masturbation, so whether idiosyncratic techniques in masturbation influence sexual function was unknown. We also did not assess whether participants engaged in masturbation on their own or if they experienced mutual masturbation with their partner. Future research should investigate the impact of specific masturbation behaviors, rather than only measure frequency. Secondly, the analyses were based on correlations between variables. Therefore, no conclusions can be made for causations, which means that the etiology of sexual dysfunctions requires further longitudinal studies on the same participants over years. Causational studies are of vital importance because this field is understudied. Further findings about etiology could provide insights for clinical treatment.

5. Conclusions

The effects of masturbation on people's sexual function are complex. Our results suggest that masturbation frequency was positively associated with overall sexual function for women, and especially associated with better orgasmic function and sexual satisfaction in single women. However, the opposite was true for women who were in a relationship. For men, on the other hand, more frequent masturbation was associated with better erectile function for single men, and better ejaculatory latency but worse orgasmic function, intercourse satisfaction, and more symptoms of delayed ejaculation for men who were in a relationship. Lower sexual compatibility, along with sexual dysfunctions in the partner,

was associated with more frequent masturbation in both sexes. Future research about idiosyncratic masturbation and causational studies are warranted.

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Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Ethics Committee of the Abo Akademi University (There is no decision number for this approval).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

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