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Does Marriage Really Improve Sexual Satisfaction? Evidence From the Pairfam Data Set

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In light of the growing unmarried demographic, this study analyzed the extent and determinants of sexual satisfaction among seven relationship-status groups: married, never married, and those who are divorced/separated, where the latter two groups are further divided into single, living apart together (LAT), and cohabiting. In addition, the study measured the levels of sexual self-esteem, sexual communication, and sex frequency for the different relationship-status groups as predictors of sexual satisfaction. Finally, this study also analyzed sexual satisfaction while accounting for overall life satisfaction. Using the ninth wave of the Pairfam data set and analyzing the responses of 3,207 respondents in total, this study suggests that marriage is not a determinant for sexual satisfaction. In fact, it can even be a negative correlate when married respondents are compared to certain unmarried groups. The only exception is that of unmarried individuals who currently have no partner. Even this situation is shown to be dependent only on less frequent intercourse, not on a lack of sexual self-esteem and sexual communication. These conclusions challenge previous research as well as the explanations of earlier scholars. Several directions for future research are discussed in light of these findings.

Offman and Matheson (2005) defined sexual satisfaction as the affective response or feedback that informs individuals' rating of their sexual relationship and the extent to which sexual desires are met. Studies show that sexual satisfaction affects one's overall feeling of fulfillment in a relationship and improves one's satisfaction in marriage and life in general (Stephenson & Meston, 2015). Many scholars have, therefore, looked into both interpersonal and intrapersonal variables related to sexual satisfaction, such as sexual competence (the confidence and positive feelings enabling one to enjoy and get satisfaction from sex) (Pujols, Meston, & Seal, 2010), sexual preoccupation (thinking about sex most of the time) (Snell & Papini, 1989), and sexual depression (lack of happiness regarding one's sex life) (Ménard & Offman, 2009; Rostosky, Dekhtyar, Cupp, & Anderman, 2008).

Previous studies have argued that marriage provides a better ecosystem for sexual satisfaction (e.g., Stroope, McFarland, & Uecker, 2015; Waite & Joyner, 2001a) and that married couples are more sexually satisfied than singles are (Christopher & Sprecher, 2000; Regis, 2013). Waite and Gallagher (2000) further contended that married people feel more fulfilled and emotionally satisfied with their sex lives compared to cohabiting people. Others even argue that

believing in marital sex as part of a religious system increases sexual satisfaction (Hardy & Willoughby, 2017).

However, since the mid-1960s, the sexual revolution has contributed to a shift in sex practices: The number of sex partners the average person has in a lifetime has increased, and sex outside of marriage has gradually been destigmatized (Cherlin, 1992; Liu et al., 2015). This revolution occurred alongside broader social, legal, and scientific changes. The introduction of the pill, the rise of feminism, and the legalization of abortion in the 1970s all combined to advance more liberal attitudes toward sex (Joyce, Tan, & Zhang, 2013; Waite & Joyner, 2001a) and promoted a growing social approval of premarital sexual relations, divorce, and nonmarriage (Smith, 1994; Thornton, 1989). The arguments that married couples enjoy a higher level of sexual satisfaction stand out against the background of a growing number of individuals choosing to meet their sexual desires outside of marriage (Lesthaeghe, 2010; Lesthaeghe & Neidert, 2006). This discrepancy requires researchers to reevaluate the sexual benefits of marriage.

In addition, most previous studies that investigated sexual satisfaction did so by comparing various forms of behaviors and personality traits among groups that have been defined by very general definitions of marital status (e.g., married versus single). However, more recent studies call for focusing on differences between subgroups of relationship-status groups, such as living apart together (LAT) couples (Carter, Duncan, Stoilova, & Phillips,

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2016; Funk & Kobayashi, 2016). The latter group, which is especially neglected in research, was found to be associated with young, highly educated people, those with liberal attitudes, and those who have previously cohabited or been married (e.g., Liefbroer, Poortman, & Seltzer, 2015). Such couples intend to live together in the future but live apart now for practical reasons (e.g., military service, work) or, especially among older, divorced, and widowed people, because they want to maintain their independence. The argument is that LAT couples are not only more prevalent now but also that they are staying in this status for longer periods of time (Ayuso, 2019).

Cohabitation is considered a midpoint category. On one hand, cohabitation has moved closer to marriage both socially and legally, with laws providing cohabiting partners with rights that are similar to those granted to formal marriages in many places, such as the United States, Australia, and several European countries (Heaton & Forste, 2007; Martin, 2002; Perelli-Harris et al., 2014). On the other hand, cohabiting is close to singlehood because it is also based, at least in part, on the increasing frustration and disillusionment with the institution of marriage (Bramlett & Mosher, 2002; Cherlin, 2004; Zimmermann & Easterlin, 2006). Fear of marital commitment and aversion to the risk of divorce have also contributed to the number of couples choosing to cohabit for significant periods of time without getting married (Lewis, 2001; Morgan, 2000; Sweet & Bumpass, 1990).

Furthermore, some studies suggest that there are differences between those with a history of divorce and those who have never married in terms of their sexual satisfaction in current relationships (Dundon & Rellini, 2010; Hurlbert, 1993). Findings show that a history of divorce correlates with lower psychological well-being (Gove & Shin, 1989) and higher likelihood of infidelity (Atkins, Baucom, & Jacobson, 2001), which, in turn, might affect sexual satisfaction (Dundon & Rellini, 2010). Yet findings on the effect of divorce history are mixed and incomplete (e.g., see Stanley, Whitton, & Markman, 2004).

Therefore, this research looked to fill the gaps described. Using the ninth wave of the Pairfam data set allowed for analysis of sexual satisfaction among participants in seven different relationship statuses, an analysis which is much needed in light of the growing unmarried demographic. In addition, this study analyzed sexual variables that might influence sexual satisfaction—sexual self-esteem, sexual communication, and sex frequency—and showed how each of the relationship-status groups under investigation experiences them.

Differences in Sexual Satisfaction Among Different Relationship-Status Groups

Previous studies examined different marital-status groups (rather than different relationship-status groups)

and estimated their sexual satisfaction. Warehime and Bass (2008) separated the groups into two broad categories: married and never-married individuals. They contended that participants who had been married experienced more sexual satisfaction than members of the never-married group. Waite and Gallagher (2000) and Butzer and Campbell (2008) showed that both married men and married women tend to be more emotionally satisfied with sex when they are compared to cohabiting and single people. In their thorough literature review of earlier studies, Christopher and Sprecher (2000) found that married people experienced higher levels of physical pleasure and emotional satisfaction than those who are single or cohabiting.

The explanations that were given for these differences vary. Some researchers (Laumann, Gagnon, Michael, & Michaels, 1994; Treas & Giesen, 2000; Waite & Joyner, 2001a) suggested that cohabiting partners are less committed and have more liberal attitudes toward sexual behaviors in comparison to married people. They further argued that this trait, being less committed, makes cohabiting partners less motivated to invest in partner-pleasing skills and to build relationship-specific capital. This, in turn, decreases their chances of better sexual satisfaction.

In addition, studies have revealed that there is a negative association between nonexclusive sex and satisfaction (Pedersen & Blekesaune, 2003; Waite & Joyner, 2001a). Thus, the authors of these studies argue, unmarried people are more likely to have sex with different partners—sometimes contemporaneously—and, hence, are less likely to be satisfied. Later studies show that married individuals are more satisfied because they are less likely to worry about being rejected or unloved (Adamczyk & Bookwala, 2013). However, recent studies on cohabiting and LAT couples do not show less relationship commitment or more sexual infidelity than married couples (Carter et al., 2016; Lyssens-Danneboom & Mortelmans, 2015).

Other explanations for marriage's ostensible advantage focus on age and time spent in a relationship. Pedersen and Blekesaune (2003) showed that sexual satisfaction increases with age. They suggested that more time spent in marriage makes unions more stable, and this, in turn, increases sexual fulfillment. Casper and Bianchi (2002) argued that unmarried people are often younger and may not yet have a perspective that is informed by their life experiences. This, they suggested, may explain why singles report being less satisfied with sex.

Many researchers also sought to evaluate the experiences of men and women separately when examining relationship-status groups (Haavio-Mannila & Kontula, 1997; Laumann et al., 2006; Leal & Castilho, 1998; Moret, Glaser, Page, & Bageron, 1998). According to McNulty and Fisher (2008), men's sexual satisfaction and women's sexual satisfaction are determined by different sets of variables. For example, women's sexual satisfaction is shaped by expectations for a long-term relationship, while for men it is derived from the physical aspects of sex, such as sex frequency. Other

studies have shown that women in long-term and serious relationships attest to having a higher level of sexual satisfaction than men in long-term relationships (Pedersen & Blekesaune, 2003). Sprecher (2002) showed that the association between sexual satisfaction and the quality of the relationship in nonmarriage relationships is stronger for men than for women.

Given these explanations and findings, it is necessary to take a more nuanced approach to researching the roles that both gender and relationship status play in sexual satisfaction. This follows the results of previous studies, such as those of Warehime and Bass (2008) and Barrientos and Páez (2006), that urged further disaggregation of marital status by factoring in variables such as closeness and relationship commitment in order to explain differences in sexual satisfaction. Such disaggregation might shed light on the second demographic transition (SDT) (Van de Kaa, 1987); this transition, which began around the early 1960s, has been characterized by more people choosing to remain unmarried, forgoing having children, cohabiting with their partners outside of marriage, and raising their children as single parents. It seems that these trends took hold despite the aforementioned apparent benefits of marriage. Therefore, the main question this research raises is whether a more nuanced analysis, which can be conducted using the Pairfam data set, might explain the growing number of individuals who choose not to marry by measuring the level of sexual satisfaction of different relationship-status groups, estimating men and women separately. The main hypothesis was that marriage is no longer so advantageous compared to the growingly pervasive partnership alternatives.

Correlates of Sexual Satisfaction

To make this study complete, one must take into account different predictors of sexual satisfaction. The variables that are examined in the following sections are sexual self-esteem, sexual communication, and sex frequency. These variables are shown to be central in analyzing sexual satisfaction alongside more common factors found in the literature to be relevant in this regard, such as age (e.g., Pedersen & Blekesaune, 2003), gender (e.g., McNulty & Fisher, 2008), education (e.g., Liefbroer et al., 2015), and health (e.g., Bakhshayesh & Mortazavi, 2010). In addition, overall life satisfaction is considered in its effect on the particular realm of sexual satisfaction.

Sexual Self-Esteem

Sexual self-esteem is feeling capable of being involved in sexual practices with successful procedures and results (Warehime & Bass, 2008). Sexual self-esteem tends to differ with age and one's partner's sexual skills or interest, and it may vary for men and women and across cultures (Hakim, 2010). Studies also show that sexual self-esteem is

negatively affected by a variety of life experiences, including childhood sexual abuse (Van Bruggen, Runtz, & Kadlec, 2006), sexual victimization (Shapiro & Schwarz, 1997), physical disabilities (Mona et al., 2000), and health issues (Andrews, Abbey, & Halman, 1991; Volker & Harmon, 1998). A study by Oattes and Offman (2007) also found that sexual self-esteem is positively associated with general self-esteem.

Sexual self-esteem and sexual satisfaction are closely related and several studies suggest that lower sexual self-esteem negatively impacts sexual satisfaction (e.g., Mona et al., 2000; Schick, Calabrese, Rima, & Zucker, 2010). Hale and Strassberg (1990) designed an experiment to test the effects of low sexual self-esteem and showed that male participants' sexual arousal was significantly and negatively affected by poor sexual self-esteem.

Sexual Communication

Sexual communication (or sexual self-disclosure) is usually defined as the degree to which individuals can express their preferences regarding sex (e.g., kissing, oral sex, intercourse) (Byers & Demmons, 1999; MacNeil & Byers, 1997). Individuals with higher sexual communication skills are more likely to express their sexual desires and initiate their preferred behaviors (Oattes & Offman, 2007). A high level of sexual communication often means that individuals not only disclose their sexual preferences but also are assertive enough to ask their partners to fulfill their desires (Frederick, Lever, Gillespie, & Garcia, 2017).

Indeed, studies have demonstrated that sexual communication was positively correlated with sexual satisfaction (Byers & Demmons, 1999; Frederick et al., 2017; MacNeil & Byers, 1997). In fact, Ménard and Offman (2009) show that sexual communication—particularly the ability to ask for specific acts—is a mediator between sexual self-esteem and sexual satisfaction. Other studies have shown that higher sexual communication positively correlates with greater sexual satisfaction (Bridges, Lease, & Ellison, 2004), more orgasms experienced (Ferroni & Taffe, 1997), and a higher frequency of intercourse (Hurlbert, 1991). Studies have indicated that this is true for men and women alike (Haavio-Mannila & Kontula, 1997).

Sex Frequency

Sex frequency is measured directly by asking participants about how often they have sex with a partner in a certain timeframe (Warehime & Bass, 2008). Previous studies have reported contradictory evidence about sex frequency and pleasure (Laumann et al., 1994; Leal & Castilho, 1998; Pedersen & Blekesaune, 2003; Sprecher, 2002). Some studies (e.g., Waite & Joyner, 2001a) have shown that a higher number of orgasms and more frequent sex positively correlated with greater emotional and physical fulfillment during sex. However, others found that men and women differ in this

regard. McNulty and Fisher (2008), for example, reported that higher sex frequency was positively correlated with greater sexual satisfaction only for men. Others (Davidson & Hoffman, 1986) found a positive correlation between sex frequency and sexual fulfillment among women in college.

Life Satisfaction

Previous studies show that overall life satisfaction is positively correlated with satisfaction elsewhere in life, including sex (Oattes & Offman, 2007; Rice, Near, & Hunt, 1980). For example, in trying to establish the Extended Satisfaction With Life Scale (ESWLS), Alfonso, Allison, Rader, and Gorman (1996) reported a correlation of .46 between sex life satisfaction and general life satisfaction. The argument is that the general global feeling of well-being radiates into secondary aspects of life and vice versa.

This notion is particularly important when comparing different relationship-status groups. Many studies have reported a happiness gap between married persons and the never married and formerly married; these studies found that married persons are happier than unmarried ones (Laumann et al., 1994; Lee, Seccombe, & Shehan, 1991; Waite & Gallagher, 2000). Others (e.g., Schachner, Shaver, & Gillath, 2008) have observed that single individuals show higher levels of negative feelings such as loneliness, depression, and anxiety when compared to coupled individuals (Adamczyk & Bookwala, 2013; Waite & Gallagher, 2000). Earlier scholars further argued that when married individuals reach and achieve higher levels of intimacy, they have an even greater improvement in their mental health and emotional well-being (Gatzeva & Paik, 2011). In addition, studies examining attachment styles among singles and married persons found that coupled partners feel more secure (Adamczyk & Bookwala, 2013) and less fearful and anxious (Adamczyk & Bookwala, 2013; Bookwala, 2003), and they develop more positive behavioral tendencies, such as using contraception measures (Antičević, Jokić-Begić, & Britvić, 2017), than their single counterparts.

Although many argue that the happiness gap is inherent to the institution of marriage and that being married is what brings positive feelings, some researchers have contested this. Recent studies show that there is a phenomenon of selection into marriage; these studies found that happier people are more likely to marry (Mastekaasa, 1992). A longitudinal study found that the selection effect accounted for 0.3 points of the difference in life satisfaction between married and never-married persons on a 0 to 10 point scale (Stutzer & Frey, 2006). Others have argued that the external financial advantages of marriage, such as tax exemptions, policy incentives, and better credit, improve married persons' life satisfaction (Badger, 2015; Euromonitor, 2008). Other researchers have shown that social pressure, stigmatization, and discrimination against singles play a large role in creating the happiness gap (e.g., DePaulo, 2011; Greitemeyer, 2009). In one study, for example, 1,000

undergraduate students listed characteristics they associated with married and single individuals (DePaulo & Morris, 2006). Married individuals were more likely to be described as mature, happy, loving, and honest than their single counterparts. Conversely, singles were perceived as immature, insecure, self-centered, sad, and lonely. Moreover, living arrangements outside of marriage were considered less ideal. Finally, studies have found that singles are often defined by what they are not (e.g., married) or what they lack (e.g., a nuclear family or partner), thus creating a reality where singlehood is seen as a deviation from the norm (Hertel, Schütz, DePaulo, Morris, & Stucke, 2007; Stein, 1975). A wide variety of media and literature feeds into these negative images of singles, painting them as undesirable (Greitemeyer, 2009). No matter the reason(s), the fact that unmarried people's overall life-satisfaction level is lower on average has significant implications for estimating sexual satisfaction due to the aforementioned correlation between the two (Oattes & Offman, 2007; Rice et al., 1980).

Research Objectives

In light of these studies, the main question this research examined is whether marriage is still advantageous compared to the growingly pervasive partnership alternatives. In addition, this research investigated how the seven relationship-status groups under investigation differed in their sexual self-esteem, sexual communication, and sex frequency and what how these groups' overall life satisfaction levels affected their sexual satisfaction. A secondary-level question addressed here relates to previous studies' contradictory findings regarding the association between sex frequency and sexual satisfaction among men and women.

Method

Data

Data for this study came from the ninth wave of the German Research Foundation (DFG)-funded Panel Analysis of Intimate Relationships and Family Dynamics (Pairfam) study (Brüderl et al., 2018; Huinink et al., 2011). The Pairfam project began collecting a wide range of data on an annual basis for three age cohorts, starting in 2008–2009 with a sample of 12,400 participants; these participants were adolescents, young adults, and people in middle adulthood. This current study, however, included only individuals who were older than 30, because 30 is close to the mean age of first marriage in Germany (CIA, 2017). Beginning around the age of 30, there is a growing internal and external expectation of being married, and thus the social contexts of being married or unmarried begin to diverge more quickly (Kislev, 2018; note that with younger ages, the results presented here are even stronger). The respective age cohort available in the ninth wave of the Pairfam data

set had a minimum age of 32 and a maximum age of 46, with an average age of 39.3, and a total number of 3,207 respondents.

Participants

Seven subgroups are examined here: married (cohabiting only) individuals who comprise the largest group of the sample (57.4%); never-married single (14%); never-married LAT (4.3%), and never-married who cohabited (13.1%); divorced/separated single (5.3%), divorced/separated who LAT with a new partner (2.7%), and divorced/separated who currently cohabited with a new partner (3.3%). Other available groups (noncohabiting married people and widowed individuals) are excluded here because these subgroups are very small in number in the Pairfam data set.

The sample included more women than men who reported being married (57.6%) as well as divorced/separated (all three groups: 64.5% divorced/separated and single, 79.8% divorced/separated and LAT, and 63.5% divorced/separated and cohabiting), but more men who reported being never married and single (60.7%). In terms of age, respondents who were never married and LAT tended to be the youngest ($M = 36.85$ years), followed by those never married and cohabiting ($M = 37.03$), and never married singles ($M = 37.79$ years). Married respondents were 40 years old on average. Divorced/separated respondents were the oldest

in the sample in all three groups (single, LAT, and cohabiting), averaging above 41.5 years (see Table 1 for the sample's sociodemographic characteristics).

Measures

In light of the moderating effects of several variables on sexual satisfaction found in the literature mentioned, the analysis that follows used several demographic and socioeconomic variables, including gender, age, years of schooling, and subjective health assessment, with response options ranging from 1 (*Bad*) to 5 (*Very good*). Gender was expected to play a significant role in moderating the association between relationship status and sexual satisfaction; hence, Tables 2 and 3 also distinguish between men and women.

The main dependent variable under examination was the level of sexual satisfaction. This variable was measured using a 0 (*Very dissatisfied*) to 10 (*Very satisfied*) scale and stems from the question "How satisfied are you with your sex life?" Sexual satisfaction was analyzed together with its correlation with three sexual variables. The three variables were sexual communication, sexual self-esteem, and sex frequency.

Based on Pairfam data designations, sexual communication was a constructed variable composed of the answers to the following questions: "If I want something different during sex, I say or show it" and "Generally speaking, I can express my sexual needs and desires well," based on the scale of Plies, Nickel, and Schmidt (1999) ($r = 0.76$;

Table 1. Characteristics of Relationship Status Groups ($N = 3,207$)

Characteristics	Married	Never Married, Single	Never Married, LAT	Never Married, Cohabiting	Divorced/ Separated, Single	Divorced/ Separated, LAT	Divorced/ Separated, Cohabiting
<i>N</i>	2,009	489	149	458	186	94	115
% total	57.4%	14%	4.3%	13.1%	5.3%	2.7%	3.3%
% female	57.6%	39.3%	48.3%	50.0%	64.5%	79.8%	63.5%
Mean age	40.00 (0.11)	37.79 (0.23)	36.85 (0.39)	37.03 (0.22)	41.59 (0.32)	41.53 (0.46)	40.73 (0.45)
Subjective health (1–5)	3.65 (0.02)	3.39 (0.05)	3.52 (0.08)	3.73 (0.04)	3.26 (0.08)	3.39 (0.09)	3.60 (0.09)
Years of education	13.90 (0.07)	13.46 (0.13)	13.74 (0.25)	14.01 (0.14)	12.52 (0.20)	13.32 (0.31)	13.22 (0.27)
Number of children	1.72 (0.02)	0.18 (0.02)	0.32 (0.05)	0.84 (0.04)	1.18 (0.08)	1.10 (0.10)	1.29 (0.10)
Life satisfaction (0–10)	7.83 (0.03)	6.61 (0.09)	7.30 (0.14)	7.57 (0.06)	6.73 (0.14)	7.35 (0.16)	7.56 (0.16)
Sexual satisfaction (0–10)	6.21 (0.06)	4.41 (0.14)	7.24 (0.19)	6.01 (0.12)	4.52 (0.25)	7.01 (0.32)	6.60 (0.27)
Sexual factors							
Sexual communication (1–5)	3.48 (0.02)	3.62 (0.05)	3.82 (0.08)	3.47 (0.05)	3.71 (0.07)	3.85 (0.10)	3.77 (0.10)
Sexual self-esteem (1–5)	3.45 (0.02)	3.65 (0.05)	3.81 (0.07)	3.40 (0.04)	3.68 (0.06)	3.96 (0.08)	3.69 (0.09)
Sex frequency (0–7)	3.21 (0.06)	1.73 (0.11)	4.05 (0.19)	3.30 (0.10)	2.01 (0.17)	4.44 (0.22)	3.84 (0.20)

Note. Standard errors in parentheses. LAT = living apart together.

Table 2. Coefficients of Sexual Variables and Life Satisfaction by Relationship Status

Variable	Sexual Communication			Sexual Self-esteem			Sex Frequency			Life Satisfaction		
	All	Men	Women	All	Men	Women	All	Men	Women	All	Men	Women
Individual characteristics												
Female												
Age	0.07* (0.03)	-0.01** (0.00)	-0.01** (0.00)	-0.07* (0.03)	-0.00 (0.00)	-0.01 (0.00)	-0.02*** (0.05)	-0.02*** (0.05)	-0.03*** (0.01)	0.19*** (0.05)	-0.03*** (0.01)	-0.02* (0.01)
Subjective health	0.07*** (0.02)	0.08** (0.03)	0.07** (0.03)	0.07*** (0.02)	0.07*** (0.02)	0.08*** (0.02)	0.10*** (0.03)	0.061*** (0.03)	0.11** (0.04)	0.61*** (0.04)	0.61*** (0.04)	0.60*** (0.04)
Years of education	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.00 (0.01)	0.01 (0.01)	-0.01 (0.01)	-0.05*** (0.01)	-0.02*** (0.01)	-0.03*** (0.01)	0.02* (0.01)	0.02 (0.01)	0.02 (0.01)
Number of children, if any	-0.01 (0.02)	0.01 (0.03)	-0.03 (0.02)	0.02 (0.02)	0.06* (0.02)	-0.02 (0.02)	0.03 (0.03)	-0.01 (0.03)	0.03 (0.03)	-0.01 (0.03)	-0.00 (0.04)	-0.02 (0.03)
Relationship status ^a												
Never married, single	0.11 (0.06)	0.19* (0.08)	0.07 (0.09)	0.22*** (0.05)	0.22** (0.07)	0.25** (0.08)	-1.48*** (0.08)	-1.47*** (0.11)	-1.46*** (0.12)	-1.07*** (0.08)	-1.04*** (0.12)	-1.12*** (0.12)
Never married, LAT	0.30*** (0.09)	0.38** (0.12)	0.25 (0.13)	0.36*** (0.08)	0.34** (0.10)	0.42*** (0.12)	0.82*** (0.13)	0.91*** (0.18)	0.72*** (0.18)	-0.51*** (0.13)	-0.34 (0.18)	-0.70*** (0.18)
Never married, cohabiting	-0.05 (0.05)	0.05 (0.07)	-0.13 (0.08)	-0.06 (0.05)	0.04 (0.07)	-0.17* (0.07)	0.05 (0.08)	0.18 (0.11)	-0.07 (0.11)	-0.36*** (0.08)	-0.36** (0.12)	-0.38*** (0.11)
Divorced/separated, single	0.25** (0.08)	0.39*** (0.12)	0.17 (0.10)	0.28*** (0.07)	0.26* (0.11)	0.31*** (0.09)	-1.16*** (0.11)	-1.11*** (0.18)	-1.19*** (0.14)	-0.83*** (0.11)	-1.31*** (0.19)	-0.57*** (0.14)
Divorced/separated, LAT	0.37*** (0.10)	0.45* (0.21)	0.34** (0.12)	0.57*** (0.09)	0.01 (0.18)	0.71*** (0.11)	1.29*** (0.15)	1.46*** (0.32)	1.23*** (0.17)	-0.33* (0.15)	-0.01 (0.34)	-0.42* (0.17)
Divorced/separated, cohabiting	0.29*** (0.09)	0.34* (0.14)	0.25* (0.12)	0.26** (0.08)	0.29* (0.12)	0.24* (0.12)	0.65*** (0.13)	1.03*** (0.21)	0.40* (0.17)	-0.23 (0.14)	-0.06 (0.23)	-0.33 (0.18)
Constant	3.73*** (0.17)	3.50*** (0.24)	3.98*** (0.24)	3.45*** (0.16)	3.27*** (0.22)	3.61*** (0.22)	4.39*** (0.24)	4.10*** (0.36)	4.64*** (0.36)	6.07*** (0.25)	6.25*** (0.38)	6.14*** (0.34)
N	2984	1372	1612	2833	1299	1534	3102	1431	1671	3493	1575	1918
F	7.16***	4.34***	3.83***	10.23***	3.27***	9.78***	77.16***	44.70***	40.74***	83.27***	46.32***	45.85***
R ²	0.03	0.03	0.02	0.04	0.02	0.06	0.22	0.24	0.20	0.21	0.23	0.19

Note. Standard errors in parentheses; coefficients are not standardized. LAT = living apart together.

^aReference category: married.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 3. *Sexual and Relationship Predictors of Sexual Satisfaction*

Variables	Model 1			Model 2			Model 3		
	All	Men	Women	All	Men	Women	All	Men	Women
Individual characteristics									
Female	0.30** (0.09)			0.27*** (0.08)			0.21** (0.08)		
Age	-0.03** (0.01)	-0.02 (0.01)	-0.03* (0.01)	-0.00 (0.01)	-0.01 (0.01)	0.00 (0.01)	0.00 (0.01)	-0.00 (0.01)	0.01 (0.01)
Subjective health	0.36*** (0.05)	0.38*** (0.07)	0.35*** (0.07)	0.19*** (0.04)	0.20** (0.06)	0.18** (0.06)	-0.00 (0.04)	0.02 (0.07)	-0.02 (0.06)
Years of education	-0.06*** (0.02)	-0.05* (0.02)	-0.07** (0.02)	0.00 (0.01)	0.01 (0.02)	0.00 (0.02)	-0.01 (0.01)	-0.00 (0.02)	-0.01 (0.02)
Number of children, if any	-0.01 (0.05)	0.03 (0.08)	-0.05 (0.06)	-0.04 (0.04)	-0.02 (0.06)	-0.05 (0.05)	-0.04 (0.04)	-0.02 (0.06)	-0.04 (0.05)
Relationship status ^a									
Never married, single	-1.74*** (0.16)	-1.84*** (0.22)	-1.49*** (0.23)	-0.72*** (0.14)	-0.87*** (0.20)	-0.49* (0.21)	-0.36* (0.14)	-0.52* (0.20)	-0.12 (0.21)
Never married, LAT	0.98*** (0.24)	1.05** (0.33)	0.94** (0.34)	-0.03 (0.20)	-0.14 (0.28)	0.07 (0.29)	0.18 (0.20)	-0.00 (0.28)	0.36 (0.28)
Never married, cohabiting	-0.29* (0.14)	-0.05 (0.21)	-0.51* (0.20)	-0.26* (0.12)	-0.25 (0.18)	-0.28 (0.18)	-0.16 (0.12)	-0.15 (0.17)	-0.18 (0.17)
Divorced/separated, single	-1.60*** (0.21)	-1.56*** (0.34)	-1.62*** (0.27)	-0.67*** (0.18)	-0.72* (0.29)	-0.65** (0.24)	-0.37* (0.18)	-0.33 (0.29)	-0.42 (0.23)
Divorced/separated, LAT	0.82** (0.28)	1.43* (0.60)	0.64* (0.32)	-0.65** (0.24)	0.28 (0.50)	-0.91*** (0.27)	-0.46* (0.23)	0.38 (0.49)	-0.69** (0.26)
Divorced/separated, cohabiting	0.39 (0.25)	1.08** (0.40)	-0.07 (0.32)	-0.38 (0.22)	0.04 (0.34)	-0.69* (0.28)	-0.29 (0.21)	0.10 (0.33)	-0.57* (0.27)
Sexual communication				0.43*** (0.06)	0.39*** (0.09)	0.45*** (0.07)	0.36*** (0.05)	0.33*** (0.08)	0.38*** (0.07)
Sexual self-esteem				0.40*** (0.06)	0.35*** (0.10)	0.43*** (0.08)	0.36*** (0.06)	0.31** (0.10)	0.40*** (0.08)
Sex frequency				0.87*** (0.03)	0.91*** (0.05)	0.84*** (0.04)	0.84*** (0.03)	0.88*** (0.05)	0.81*** (0.04)
Life satisfaction							0.35*** (0.03)	0.34*** (0.04)	0.36*** (0.04)
Constant	6.50*** (0.46)	6.08*** (0.68)	7.27*** (0.63)	-0.18 (0.44)	0.37 (0.65)	-0.21 (0.60)	-1.81*** (0.45)	-1.41* (0.67)	-1.78** (0.60)
<i>N</i>	3,207	1,474	1,733	2,807	1,290	1,517	2,805	1,288	1,517
<i>F</i>	33.2***	21.7***	14.4***	133.6***	69.7***	74.2***	143.4***	73.2***	80.4***
<i>R</i> ²	0.10	0.13	0.08	0.40	0.42	0.39	0.44	0.45	0.43
ΔR^2 (<i>M2</i> - <i>M1</i> ; <i>M3</i> - <i>M2</i>)				0.30***	0.29***	0.31***	0.03***	0.03***	0.04***

Note. Standard errors in parentheses; coefficients are not standardized. LAT = living apart together.

^aReference category: married.

p* < .05; *p* < .01; ****p* < .001.

p < .01). These two items were combined by the survey’s team to create a scale ranging from 1 (*Not at all*) to 5 (*Absolutely*) with half-point levels. Similarly, sexual self-esteem was a constructed variable composed of the following two items: “I am a very good sex partner” and “In general, I can fulfill the sexual needs and desires of my partner very well.” This item is a new development made by the Pairfam survey team (*r* = 0.71; *p* < .01).

Sex frequency was based on the number of times respondents self-reported having intercourse in the three months preceding the survey and was rated on a 0 to 7 scale ranging from 0 (*I have never had sex*) to 3 (*2–3 times a month*) to 7 (*Daily*).

Finally, to present another test in which life satisfaction was accounted for, life satisfaction was measured

using the following question: “I would like to ask about your general satisfaction with life. All in all, how satisfied are you with your life at the moment?” This item was rated on a scale ranging from 0 (*Very dissatisfied*) to 10 (*Very satisfied*).

Analyses

While Table 1 presents descriptive statistics, Table 2 estimates the associations between sexual correlates—sexual communication, sexual self-esteem, and sex frequency—and relationship status, using married individuals as a reference group. A separate regression equation was computed for the

overall sample, men, and women for each of the sexual correlates.

Table 3 presents a multiple hierarchical regression to examine the associations between sexual satisfaction as an outcome and relationship status as a predictor. Step 1 used gender, age, subjective health, years of education, and number of children as control variables. As described, the main independent variable, relationship status, was categorical and had seven categories. The married group was used as a reference group. Regressions were run separately for men, women, and the overall sample. Step 2 tested the impact of the three sexual variables on sexual satisfaction beyond the effects of step 1. Step 3 estimated how life satisfaction serves as a moderating variable. All estimations herein were conducted with the Stata software, Version 15.1.

Results

Descriptive Statistics

The sociodemographic characteristics of the sample population are presented in Table 1. In addition, mean scores of sexual satisfaction, sexual communication, sexual self-esteem, and sex frequency are presented for each group. Finally, Table 1 shows the levels of life satisfaction by group membership.

How Sexual Variables Differ Among Different Relationship-Status Groups

Table 2 shows that married individuals tended to score lower than most of the other groups on sexual communication, sexual self-esteem, and sex frequency, as is evident from the significant positive associations among the three sexual variables and almost every relationship status used for the study. Never-married cohabitants are the group to whom married individuals' scores were the most similar, and never-married cohabiting women, on average, tended to score lower than married individuals in sexual self-esteem ($\beta = -0.17$). Divorced/separated cohabitants, on the other hand, scored higher on all sexual variables compared to married individuals. Overall, divorced/separated cohabitants had greater sexual communication ($\beta = 0.29$), greater sexual self-esteem ($\beta = 0.29$), and more frequent sex ($\beta = 0.65$).

LAT individuals, both never married and divorced/separated, again showed the greatest disparateness from married individuals across all three sexual variables. Never-married LAT individuals, overall, reported greater sexual communication ($\beta = 0.30$), higher sexual self-esteem ($\beta = 0.36$), and more frequent sex ($\beta = 0.82$) compared to married individuals. Divorced/separated LAT individuals also reported greater sexual communication ($\beta = 0.37$), higher sexual self-esteem ($\beta = 0.57$), and more frequent sex ($\beta = 1.29$) compared to married

individuals overall. Furthermore, divorced/separated LAT men reported a similar pattern of results for sexual communication ($\beta = 0.45$) and sex frequency ($\beta = 1.46$), but not for sexual self-esteem, which is nonsignificant. Divorced/separated LAT women reported greater sexual communication ($\beta = 0.34$), higher sexual self-esteem ($\beta = 0.71$), and more frequent sex ($\beta = 1.23$).

In comparison to single individuals, married individuals tended to have worse sexual communication and sexual competency but tended to have higher sex frequency than singles overall (never-married singles overall, $\beta = -1.48$; divorced/separated singles, $\beta = -1.16$), as well as higher sex frequency among single men (never-married single men, $\beta = -1.47$; divorced/separated single men, $\beta = -1.11$) and single women (never-married single women, $\beta = -1.46$; divorced/separated single women, $\beta = -1.19$). Finally, as previous studies have reported, married individuals showed the highest levels of life satisfaction.

Statistical Analysis of Sexual Satisfaction Among Seven Relationship-Status Groups

Table 3 presents a multiple hierarchical regression with three stepwise models. The first model in Table 3 (step 1) shows that those reporting LAT status presented higher sexual satisfaction than married individuals. In the never-married LAT group, there was a significant and positive overall association with sexual satisfaction ($\beta = 0.98$). This association also appeared when examining sexual satisfaction for never-married LAT men ($\beta = 1.05$) as well as never-married LAT women ($\beta = 0.94$). Similarly, there were significant and positive associations between sexual satisfaction and being divorced/separated LAT.

In addition, those who were single tended to report lower sexual satisfaction than married individuals. Overall, there was a strong negative association with sexual satisfaction for those who were never married and single ($\beta = -1.74$). This association also appeared when examining only never-married single men ($\beta = -1.84$) as well as never-married single women ($\beta = -1.49$). Furthermore, divorced/separated singles also tended to report lower sexual satisfaction overall ($\beta = -1.60$), and this association also appears when examining divorced/separated single men ($\beta = -1.56$) as well as divorced/separated single women ($\beta = -1.62$). Finally, never-married cohabiting women tended to report lower sexual satisfaction ($\beta = -0.51$), while the results were not significant for never-married cohabiting women. Note that the variance accounted for by most control variables was negligible (less than 1% each), while the variance accounted for by subjective health in the overall sample was 1.7%, (1.8% for men and 1.7% for women).

The next model (step 2) shows how lower levels in sexual communication and self-esteem among the married group are important in that the sexual satisfaction gap between the married group and other groups shrinks and is even reversed among the divorced and LAT group when they are accounted for. The change in variance accounted

for (ΔR^2) is equal to 30% overall, 29% for men and 31% for women, which are all statistically significant. Married couples attain similar levels to other groups and even higher levels than the divorced and LAT group after accounting for the lower levels they show in sexual self-esteem and sexual communication.

Note that sex frequency is a major contributor for sexual satisfaction. In the overall sample, the variance accounted for by sexual communication, sexual self-esteem, and sex frequency was 2%, 1.3%, and 22.2%, respectively. These results address a secondary-level question that was raised previously regarding the effect of sex frequency. The results clearly show that sex frequency significantly correlates with sexual satisfaction for men and women alike. The variance accounted for by sex frequency was 22.9% for men and 21.5% for women.

The next model (step 3) shows the effect of life satisfaction as a moderating factor. This model shows a sexual satisfaction gap reduction and, in some cases, a gap elimination when accounting for life satisfaction. The change in variance accounted for (ΔR^2) is equal to 3.48% overall, 3% for men and 4% for women, which are all statistically significant. These findings provide a measure of external influences on life satisfaction and, in turn, have an impact on sexual satisfaction.

Including life satisfaction in this equation made the difference between the married group and the never-married and cohabiting group nonsignificant. In addition, the difference between the married group and the divorced/separated and single group was weaker overall and nonsignificant when measuring men and women separately. Note that by accounting for life satisfaction, subjective health also became nonsignificant, while all sexual variables remained statistically significant in this model. In the overall sample, the variance accounted for by sexual communication, sexual self-esteem, and sex frequency was 1.5%, 1.2%, and 21.9%, respectively.

Discussion

This study had five main questions:

1. What is the level of sexual satisfaction in different relationship-status groups?
2. How do the seven relationship-status groups under investigation differ in their sexual self-esteem?
3. How do the seven relationship-status groups differ in their sexual communication?
4. How do the seven relationship-status groups differ in their sex frequency?
5. What is the effect of overall life satisfaction on sexual satisfaction for the seven groups?

The findings show that married people reported lower rates of sexual self-esteem and sexual communication

skills than most groups. In terms of sexual communication, only never-married cohabiting people were comparable to married people for both genders, while never-married single and LAT women and divorced/separated and single women were also comparable to married women. In terms of sexual self-esteem, divorced/separated LAT and never-married cohabiting men were comparable to married men, while only never-married cohabiting women showed lower rates than married women.

Moreover, the findings indicate that marriage per se is not beneficial for sexual satisfaction. In fact, the base model in [Table 3](#) shows that married couples score relatively low in this regard. Nonpartnered singles scored lower than the married group in terms of sexual satisfaction, but the main reason that they were less sexually satisfied than married couples was sex frequency, which was naturally lower for nonpartnered singles than for couples. Therefore, it seems that it is not marriage that is beneficial to sexual satisfaction but rather having a partner. With the exception of divorced LATs, once one has a partner, marriage is not a contributor.

It seems that previous studies arguing in favor of marriage should be more nuanced in several ways. First, they unjustifiably blend the groups of unmarried people together. By combining singles with other unmarried groups, they inaccurately show that marriage is advantageous for sexual satisfaction. Second, these studies should have isolated LAT singles. This group is more than just an exception. This group, which has rarely been studied, demonstrates that it is not necessarily the nuptial system that makes the difference in terms of sexual satisfaction, it is partnership. Third, several of the previous studies measured sexual satisfaction without some major mediators such as sex frequency and overall life satisfaction. The detailed and rich data of the Pairfam survey show that even singles who have never been married are more likely to report higher levels of sexual self-esteem and sexual communication and that it is mostly the availability of sex that makes them less satisfied sexually. Again, this has implications for the nuptial system in general. Marriage is not beneficial to sexual satisfaction in and of itself (e.g., the value of commitment, the willingness to adapt) but due to the fact that couples are more likely to have a sex partner in reach.

Step 2 in the multiple hierarchical regression presented in [Table 3](#) is important in this respect because it shows how the relatively lower scores on sexual self-esteem and sexual communication are significant for married couples. Accounting for these variables, married couples attain similar levels to other groups. In fact, married couples even show higher levels than other groups after accounting for the relatively lower levels of sexual self-esteem and sexual communication, as presented in [Table 2](#). However, this is partly due to the overall advantages that they have in life due to their married status, as step 3 in the multiple hierarchical regression presented in [Table 3](#) shows.

Indeed, it is important to account for life satisfaction, because satisfaction in different life realms is interrelated

(Oattes & Offman, 2007; Rice et al., 1980). Particularly in comparing relationship-status groups, married couples enjoy many external financial, legal, and social advantages, such as social acceptability (DePaulo, 2011; Greitemeyer, 2009), access to a partner's health insurance, and credit preferences (Badger, 2015; Euromonitor, 2008), in addition to being self-selected into marriage (Mastekaasa, 1992). This makes for a broader sense of global satisfaction, which may indirectly and externally increase reports of sexual satisfaction. However, when the overall life satisfaction of the respondents is accounted for, the gap in life satisfaction between married and single people is reduced. Thus, the findings here emphasize the need to further examine sexual satisfaction in future research. Such examination should show the effect of other variables than the ones presented here to the overall sexual satisfaction of different relationship-status groups.

Several questions remain for future quantitative and qualitative studies. First, future studies should ask why married people show lower levels of sexual self-esteem and sexual communication. One possibility is that sexual self-esteem and sexual communication levels work in reverse: People with lower sexual self-esteem and sexual communication are more likely to marry. They might want to feel safer and cover for their lower levels in these two realms and, thus, are self-selected into marriage. The second possibility is that the length of their relationship emphasizes a diminishing marginal effect, as several longitudinal studies show in researching other effects of marriage over time (e.g., Lucas, Clark, Georgellis, & Diener, 2003).

It is also important to understand why men and women experience sexual satisfaction differently. There are several plausible explanations for this: differences in attachment styles (Adamczyk & Bookwala, 2013), differing tendencies in self-reporting (Koss & Gidycz, 1985; Taylor, Rosen, & Leiblum, 1994), and social acceptability (Geer & Robertson, 2005). All of these explanations should be investigated in future studies.

Finally, some limitations of this study should be discussed. First, the data set at hand did not allow for accounting for many factors associated with relationship status, such as sexual exclusivity and number of previous sex partners. Second, this study measured sexual satisfaction and other sexual variables without tying them to specific relationships. It is possible that asking someone to assess these variables in connection with a specific partner at a certain period of time will yield somewhat different results. Third, given the heterogeneity of the LAT population (dating, permanent living apart), it is important to further examine the intragroup nuances of this population. Fourth, causality cannot be established here. Experimental studies, together with more in-depth interviews, should be conducted to further establish the conclusions here. Fifth, the study design was cross-sectional rather than longitudinal. Sixth, the results might be different for older

or younger age cohorts. Finally, the results here also require further research into the nuances that exist between different relationship-status groups. In this sense, the current study did not capture in full the life circumstances that surround each group (e.g., travel distance for LAT couples, the length of partnerships). These considerations should be accounted for in future studies.

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