

For better or for worse: Marital status transitions and sexual life in middle and later life

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Abstract

Marital status and marital status transitions have known implications for adults' mental and physical quality of life. Less attention has been paid, however, to the implications of marital status and transitions for sexual quality of life, particularly among the aging population. The present study analyzed three-wave longitudinal data from the National Survey of Midlife Development in the U.S. (1995–2014) in order to examine the effects of marital status/transitions on adults' frequency of sexual activity, sexual satisfaction, effort put into sexual life, and control over sexual life. Further, this study assessed whether the implications of marital status/transitions for adults' sexual quality of life varied according to (a) pre-transition reports of sexual quality of life, (b) gender, and/or (c) age. Multilevel lagged dependent variable models analyzed 2,869 observations drawn from 1,769 midlife and older adults over a two-decade span. Results indicated that the implications of marital status and marital status transitions for sexual life (a) were contingent upon baseline context across all four sexual quality of life outcomes, (b) varied by gender across three of the four sexual quality of life outcomes, and (c) varied only slightly by age concerning frequency of sexual activity. Overall, findings indicated that marital status transitions may be either beneficial or detrimental for adults' sexual

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lives, depending on prior context; marital status transitions were most beneficial for sexual quality of life when baseline reports of sexual life were poor. Moreover, women were less likely to reap the potential rewards of marital status transitions such as divorce and widowhood, reflecting stronger social and normative constraints upon unmarried women's sexuality, particularly for older women. We situate these findings within the growing literature concerning marital status transitions, the "graying of divorce," and sexual life among the aging population.

Keywords

Divorce, gender differences, marriage, sexuality, sexual life, widowhood

Marital status and marital status transitions are highly related to aspects of well-being throughout the life course. For instance, married persons report better physical health, greater psychological well-being, and higher life satisfaction than their unmarried counterparts overall (Waite & Das, 2010). An important yet understudied element of intimate relationships in middle and older age concerns sexuality. Here, too, marital status may prove important: Married older adults report more frequent sexual activity than the unmarried (e.g., Killinger et al., 2014). Changes to marital status may have unique implications for sexual life, as well. For instance, divorced adults repartner more frequently—and more quickly—than do the widowed (Brown et al., 2018). Moreover, marital status transitions may either reflect leaving a relationship (i.e., widowhood or divorce) or entering a new one (i.e., (re)marrying), and these different transitions may have unique consequences for adults' sexual lives.

Notably, the benefits of marriage for health and well-being are contingent upon marital quality: High-quality, supportive relationships provide benefits, whereas low-quality and straining relationships can cause greater harm than relationship cessation (e.g., Hawkins & Booth, 2005; Williams & Umberson, 2004). Thus, the impacts of transitions into and out of marriage may likewise be dependent upon prior context (Carr, 2004). The present study seeks to (1) examine the implications of various marital status transitions for midlife and older adults' sexual lives, (2) determine whether any such effects vary according to pre-transition context, and (3) explore variation in effects according to both age and gender.

Sex and the life course

Sex and well-being. Sexual activity can improve both relationship quality and individual well-being throughout adulthood (Galinsky & Waite, 2014; Liu et al., 2019). In a nationally representative sample of sexually active adults, 62.2% of men and 42.8% of women rated sexual health as highly important to their quality of life (Flynn et al., 2016). Sexual satisfaction has also been linked with fewer depressive symptoms among men (Davison et al., 2009), increased life satisfaction and psychological well-being among women (Davison et al., 2009; Stephenson & Meston, 2015), and better self-rated health across both genders (Flynn et al., 2016). Moreover, more frequent sexual activity is

associated with fewer depressive symptoms among middle-aged men (Nicolosi et al., 2004) and better cognition in older men and women (Wright & Jenks, 2016).

Sexual activity and sexual satisfaction have also been linked with better physical health among midlife and older adults, though this may be bidirectional and due in part to healthier adults being likelier to engage in sex into later life (Galinsky & Waite, 2014; Lindau & Gavrilova, 2010).

Sexual aspects of life. The present study analyzes four distinct measures of sexual quality of life, in order to offer a more holistic appraisal of the effects of marital status transitions. In addition to frequency of sexual activity and sexual satisfaction, we assess perceived control over sexual life as well as thought and effort put into sexual life. These latter two measures have received less research attention, yet may be of importance among the aging population. Although older adults perceive greater control than younger adults across many life domains, they report *less* control over their sexual lives (Forbes et al., 2017; Lachman & Firth, 2004). This may be a result of constraints placed upon older adults' sexuality, particularly among women and the unmarried (Waite & Das, 2010). Furthermore, the amount of thought and effort dedicated to sexual life may be reflective of changing preferences with age, which may also vary by marital status and gender (e.g., Lindau & Gravidova, 2010; Waite & Das, 2010). Focusing attention on these four distinct aspects of sexual life will offer a fuller picture of the consequences of different marital status transitions for midlife and older adults' sexual lives.

Sexuality, marital relationships, and the unmarried. Sexual life is important not only for individual well-being but also for relational well-being. Among married couples, sexual activity and sexual satisfaction have both been associated with better marital quality, as well as with marital stability (Galinsky & Waite, 2014; Yabiku & Gager, 2009; Yeh et al., 2006). Research has further established that the association between sexual satisfaction and marital satisfaction is bidirectional, with each influencing the other longitudinally (McNulty et al., 2016). However, much of this research has focused only on married or cohabiting couples. Yet sexual life may be important outside of marriage as well, including in later life. Overall, unmarried adults are less likely than the married to have an active sex life (Killinger et al., 2014). Further, while more than two-thirds of women in married or long-term relationships report at least monthly sexual activity, only one-third of women not in relationships report having at least monthly sexual activity (Addis et al., 2006). While women report less sexual activity than men across the life course, this difference is magnified among women not living with a partner (Lee et al., 2016).

Marital status is not static in adulthood, however, and sexuality following marital dissolution may be of unique interest, particularly since sexual inactivity and dissatisfaction are related to relationship cessation (Yabiku & Gager, 2009; Yeh et al., 2006). For instance, a qualitative study of older women who remarried in later life shared common expressions of sexual dissatisfaction with their first marriages, alongside greater positivity about their sexual relationships with their new partners (Clarke, 2006). Yet, recent studies have also highlighted the social and family constraints placed upon older adults' sexuality outside of marriage, particularly for older women and widows

(Carr & Boerner, 2013; Waite & Das, 2010). Thus, although marriage may be associated with greater sexual activity and satisfaction overall, transitions out of sexually dissatisfying relationships may lead to potential improvements in sexual aspects of life for middle-aged and older adults. However, whether such marital status transitions were self-selected (e.g., divorce) or not (e.g., widowhood) may determine the extent to which older adults are able to pursue post-marriage sexuality unconstrained (Brown et al., 2018; Carr & Boerner, 2013). In other words, the effects of marital status transitions on sexual aspects of life may depend both on pre-transition sexual context and upon the nature of the transition itself.

Marital status transitions

Marital status transitions such as divorce and widowhood are common in middle and later life, with divorce being increasingly so. In fact, one of every four divorces in the U.S. in 2010 involved individuals aged 50 and older (Brown & Lin, 2012). Additionally, 34% of first marriages that end in later life are due to divorce (Brown et al., 2018). Indeed, divorce rates among adults aged 50 and older have continued to increase even as overall divorce rates have largely remained stable, a phenomenon known as “gray divorce” (Brown & Lin, 2012). Repartnering after “gray divorce” is fairly common as well, occurring for approximately 37% of divorced men and 22% of divorced women within 10 years post-divorce (Brown et al., 2019).

Widowhood is likewise a transition out of marriage that is common in later life, and which is often a traumatic experience with negative implications for well-being and mental health (Sasson & Umberson, 2013). Unlike divorce, widowhood is a highly gendered experience: Among older adults aged 65 and older, only 11.6% of men experience widowhood, compared with 34.2% of women (Roberts et al., 2018). Repartnership is less common after widowhood than divorce, as well, and engagement in dating activities following widowhood raises the risk of social and family conflict, particularly for older women (Brown et al., 2018; Carr & Boerner, 2013; Waite & Das, 2010). Yet even among men, the widowed are less likely to repartner than the divorced (Brown et al., 2012).

Because different marital status transitions affect men and women at different rates, and also typically occur at different ages (e.g., adults who experience divorce tend to be younger than those who are widowed), the implications of various marital status transitions for adults’ sexual lives may depend on gender, the type of transition, *and* the age at which the transition occurs. Moreover, marital histories provide crucial information when examining the consequences of marital status transitions. The divorce-stress-adjustment perspective, for instance, views marital dissolution as a process, the context of which may determine the extent and severity of stress symptoms experienced (Amato, 2000). Wheaton’s (1990) framework of role histories and life transitions further emphasizes that pre-transition context may determine whether a particular transition event is experienced as stressful at all—or even as a *positive* change. For example, individuals who experience high levels of pre-transition role strain report fewer negative mental health issues following a role transition (Wheaton, 1990). These frameworks suggest that the implications of marital status transitions for sexual aspects of life may be

contingent upon pre-transition context, with the cessation of sexually inactive or dissatisfying relationships potentially leading to improvements in sexual life following transitions.

Gender

There are differential constraints upon men's and women's sexual activity in middle and later life, particularly for those who lack a partner. Especially among older women, the absence of a partner acts as a strong constraint on sexual activity (Waite & Das, 2010). Men are more likely to have a current partner than women at all ages, largely due to the increased likelihood for women to be widowed with age (Waite & Das, 2010). Among those aged 50 and older who are widowed or divorced, men are also more likely than women to be partnered (Brown et al., 2018).

When comparing marital status transitions, older men are more likely to be divorced and older women are more likely to be widowed. For women aged 65 and over, marital dissolution inordinately occurs through spousal death (Brown et al., 2018). For men, however, more than half of later life marital dissolutions occur through divorce rather than widowhood. This proportion is greatest for men aged 50–64 (Brown et al., 2018). Research has also shown that men are more likely than women to repartner after both divorce and widowhood (Brown et al., 2018; Carr & Boerner, 2013). As previously noted, in the 10 years following a divorce after the age of 50, approximately 22% of women experienced a re-partnership through either cohabitation or remarriage as compared to 37% of men (Brown et al., 2019). Further, only about 5% of widows remarry, compared to 24% of widowers (Schimmele & Wu, 2016).

Qualitative research has suggested that men and women approach their sexual lives differently after entering widowhood. For instance, widowed women were likelier to report that they did not consider sex to be important to them and they did not think that they would form a new sexual relationship in their lifetime (Gott & Hinchliff, 2003). In addition, women tended to feel that they were still in a relationship with their late spouse. Interestingly, men who reported that sex was not important to them largely attributed this to health problems, and not having someone available (Gott & Hinchliff, 2003). However, many widows retain interest in dating, yet are less likely than widowers to translate that into actual dating behavior (Carr & Boerner, 2013). Thus, marriage may be more protective of sexual health for women than for men in midlife and later life, given the greater constraints upon unmarried women's sexuality in older age. This study therefore focuses on potential gender differences in the implications of multiple marital status transitions for sexual aspects of life among midlife and older adults.

Study aims

The present study analyzes longitudinal data drawn from a national probability sample of midlife and older adults in order to assess the implications of marital status and marital status transitions for adults' sexual aspects of life, namely sexual frequency, satisfaction, control, and effort. Additionally, we aim to determine whether the effects of various marital status/transition groups vary according to pre-transition context, age, and/or

gender. Findings will contribute to the growing literature on relationship status and sexuality among the aging population.

Method

This study used data from the three waves of the National Survey of Midlife Development in the U.S. (MIDUS, 1995–2014). MIDUS began in 1995–1996 with a random digit dial probability sample of noninstitutionalized, English-speaking residents of the contiguous U.S. between the ages of 24 and 74 (Ryff et al., 2017). Follow-up surveys were administered in 2004–2006 (Wave 2) and in 2013–2014 (Wave 3). Data collection involved both phone interviews and self-administered questionnaires (SAQ; Ryff et al., 2017). Because items of interest for this study (e.g., questions concerning sexual aspects of life) were drawn from the SAQ, and because our focal predictors concerned marital status transitions from wave-to-wave, the analytic sample was restricted to participants who completed both the phone interview and the SAQ at two or more consecutive waves of MIDUS. A total of 1,769 participants responded at both Wave 1 and 2, with 1,100 of those participants responding again at Wave 3. Attrition in this sample from Wave 2 to Wave 3 was significantly associated with participants' age, income, self-rated health, educational attainment, employment status, and race, as well as with their frequency of sexual activity, sexual satisfaction, sexual effort, sexual control, and marital status/transition group. The final analytic sample included 2,869 observations from 1,769 individuals over the 19-year study period.

Measures

Sexual aspects of life. Participants were asked a series of questions concerning their current sexual activity and other sexual aspects of life. Respondents who refused to answer these questions were set to missing. In accordance with our analytic strategy, these four measures were used as outcome variables in our models, with the previous wave's values on the outcome serving as a lagged predictor. Lagged values of the outcomes were mean-centered for analysis.

Frequency of sexual activity. Participants were asked "Over the past 6 months, on average, how often have you had sex with someone?" and responded on a scale ranging from 1 (*never or not at all*) to 6 (*two or more times a week*).

Sexual satisfaction. Participants were asked "How would you rate the sexual aspect of your life these days?" and responded on a scale ranging from 0 (*worst possible situation*) to 10 (*best possible situation*).

Sexual effort. Participants were asked to report "How much thought and effort do you put into the sexual aspect of your life these days?" on a scale ranging from 0 (*no thought or effort*) to 10 (*very much thought and effort*).

Sexual control. Participants were also asked to report “How would you rate the amount of control you have over the sexual aspect of your life these days?” on a scale ranging from 0 (*no control at all*) to 10 (*very much control*).

Predictors

Marital status transitions. Participants were asked at each wave to report their current marital status. Response options included *married*, *divorced/separated*, *widowed*, and *never married*. In order to measure marital status transitions across waves, a series of seven dichotomous indicators were created for *consistently married* (reference), *consistently divorced/separated*, *consistently widowed*, *consistently never married*, *newly divorced/separated*, *newly widowed*, and *newly married*.

Gender. A dichotomous indicator of female gender (reference = male) was included in all models.

Age. Age was measured as a continuous variable, in years, and was mean-centered for analysis.

Covariates. To account for potential confounding, all models controlled for demographic characteristics such as race (White, Black, other race), Hispanic ethnicity (yes/no), educational attainment (less than high school degree, high school degree, some college, college degree, education beyond college), parental status (yes/no), and employment status (employed, not employed, retired), as these have been linked with both marital status and various well-being outcomes (Brown et al., 2019; Brown & Lin, 2012; Lindau & Gavrilova, 2010). Further, models were adjusted for contextual factors and resources such as income, social integration,¹ neuroticism,² and self-rated health, as these factors may determine participants’ opportunities for initiating new relationships following transitions, as well as their capacity to engage in sexual activity (Brown et al., 2018; Galinsky & Waite, 2014; Lindau & Gavrilova, 2010; McNulty et al., 2016). Lastly, models were adjusted for data collection wave, to account for any potential period effects. All time-varying covariates were measured at baseline, in keeping with a lagged dependent variable (LDV) modeling approach (Wilkins, 2018).

Analytic strategy and missing data

The majority of cases included in the analytic sample (82%) had valid data on all measures included in our analyses. The item with the greatest missingness was income, for which 7.5% of cases were missing data. Missing data diagnostics did not reveal any clear patterns of item-missingness. Therefore, missing data were addressed using multiple imputation by chained equations (Royston, 2005). A total of 10 complete data sets were generated for analysis. The outcome measures were included in the imputation equations, and the imputed versions of the outcome measures were used in the final analysis (Johnson & Young, 2011).

Multilevel LDV models were estimated to account for the nesting of observations within individuals. LDV models regress an outcome at follow-up on a series of predictors measured at baseline, including the baseline value of the outcome itself. This controls for stability in outcome measures over time and allows for coefficients to be interpreted in terms of change from one timepoint to another. An autoregressive error structure was examined, to reduce potential for negative bias in coefficients in multilevel lagged models (Wilkins, 2018). However, these autoregressive error terms were not significant, nor did they reveal any impact on findings; therefore, they were excluded from the final analysis.

To address our research questions, we estimated a series of interaction terms. First, interactions were tested between baseline values of each outcome and the marital status/transition groups, in order to examine whether the effects of transitions on sexual aspects of life were contingent upon pre-transition context. Second, interactions were tested between the marital status/transition groups and gender, in order to examine whether the effects of transitions on sexual aspects of life differed for men and women. Lastly, interactions were tested between the marital status/transition groups and individuals' age, in order to examine whether the effects of transitions varied across the age range. Significant interactions were retained in the final models, while nonsignificant interactions were excluded.

Results

Descriptive results

Descriptive statistics for the variables of interest are reported in Table 1. Information on all other covariates is reported in Online Supplemental Table 1. Overall, the majority of participants (60%) were consistently married, with the second most frequent category being consistently divorced/separated (12%). Among marital status transitions, becoming newly widowed (4%), newly divorced/separated (5%), and newly married (6%) were all similarly likely. Being consistently widowed (5%) and consistently never married (7%) were also similarly common. Across the four sexual aspects of life outcomes, slight decline over time was apparent. For instance, the average frequency of sexual activity at baseline was between "once a month" and "two or three times a month" ($M = 3.60$), whereas at follow-up the average dropped to between "less often than once a month" and "once a month" ($M = 2.89$). Likewise, participants' reports of sexual satisfaction ($M = 5.48$ at baseline, 4.75 at follow-up), sexual effort ($M = 5.64$ at baseline, 4.86 at follow-up), and sexual control ($M = 6.39$ at baseline, 5.66 at follow-up) showed consistent if modest declines, while remaining approximately at the midpoint on the 0–10 scale range. While modest, these declines were all statistically significant ($p < .001$).

Analytic results

Table 2 presents the final results of our multilevel LDV models concerning marital status/transitions and sexual aspects of life among midlife and older adults. Across all

Table 1. Descriptive statistics for variables of interest ($N = 2,869$ obs. from 1,769 individuals).

Variables	Mean (SD) or %
Outcome variables at follow-up	
Frequency of sexual activity	2.89 (1.87)
Sexual satisfaction	4.75 (3.13)
Sexual effort	4.86 (3.11)
Sexual control	5.66 (3.30)
Baseline values of outcomes	
Frequency of sexual activity	3.60 (1.88)
Sexual satisfaction	5.48 (3.03)
Sexual effort	5.64 (2.90)
Sexual control	6.39 (3.00)
Marital status/transition groups	
Consistently married	60.06%
Consistently divorced/separated	12.22%
Consistently widowed	5.21%
Consistently never married	7.04%
Newly divorced/separated	4.33%
Newly widowed	4.83%
Newly married	6.31%
Covariates of interest	
Female	54.62%
Age (at baseline)	50.89 (12.80)

Note. SD = standard deviation.

four models, baseline values of sexual aspects of life were positive and highly significant predictors of values at follow-up among consistently married persons ($B = 0.53$ for sexual activity, $B = 0.49$ for sexual satisfaction, $B = 0.44$ for sexual effort, and $B = 0.44$ for sexual control; all $p < .001$). As concerns sexual activity, newly divorced/separated ($B = 0.47$, $p < .05$) and newly married men ($B = 0.38$, $p < .05$) reported significantly greater frequency of sexual activity at follow-up than consistently married men, when baseline frequency of sexual activity was average. Additionally, interaction terms between baseline frequency of sexual activity and consistently divorced/separated status ($B = -0.15$, $p < .01$), consistently widowed status ($B = -0.18$, $p < .05$), newly divorced/separated status ($B = -0.41$, $p < .001$), newly widowed status ($B = -0.46$, $p < .001$), and newly married status ($B = -0.42$, $p < .001$) were all negative and significant (see Online Supplemental Figure 1). In other words, consistently married individuals had comparatively more frequent sexual activity than other status/transition groups at follow-up when baseline frequency was above average, but had comparatively *less* frequent sexual activity at follow-up when baseline frequency was below average. Significant interactions were also found between female gender and the consistently divorced/separated status ($B = -0.63$, $p < .01$), never married status ($B = -0.65$, $p < .01$), newly divorced/separated status ($B = -1.04$, $p < .001$), and newly widowed status ($B = -0.94$, $p < .01$), all of which were negative (see Online Supplemental Figure 2). Among those four status/transition groups, women reported significantly less frequent sexual activity at follow-up

Table 2. Marital transitions and sexual aspects of life among middle-aged and older adults ($N = 2,869$ obs. from 1,769 individuals).

	Sexual activity		Sexual satisfaction		Sexual effort		Sexual control	
	B (SE)		B (SE)		B (SE)		B (SE)	
Predictors of interest								
Baseline value of outcome ^a	0.53*** (.02)		0.49*** (.03)		0.44*** (.03)		0.44*** (.03)	
Divorced/separated ^b	0.03 (.15)		-0.27 (.28)		-0.11 (.28)		0.40* (.18)	
Widowed ^b	0.02 (.39)		-0.49 (.65)		-0.21 (.62)		0.69* (.28)	
Never married ^b	-0.02 (.20)		-0.17 (.38)		-0.16 (.31)		0.09 (.28)	
Newly divorced/separated ^b	0.47* (.22)		0.77† (.40)		0.97* (.40)		0.62* (.28)	
Newly widowed ^b	0.19 (.32)		-1.11* (.50)		0.14 (.46)		0.42 (.31)	
Newly married ^b	0.38* (.18)		0.67* (.31)		0.50 (.31)		0.14 (.25)	
Female ^c	0.05 (.07)		0.02 (.15)		-0.31* (.14)		0.47*** (.13)	
Age ^a	-0.04*** (.00)		-0.04*** (.01)		-0.05*** (.01)		-0.04*** (.01)	
Interactions with baseline values of outcome								
Baseline Outcome ^a × Divorced/Separated ^b	-0.15** (.05)		-0.19*** (.05)		-0.12* (.05)		-0.14* (.05)	
Baseline Outcome ^a × Widowed ^b	-0.18* (.09)		-0.12 (.09)		-0.09 (.08)		-0.12 (.08)	
Baseline Outcome ^a × Never Married ^b	-0.11† (.06)		-0.15* (.08)		-0.10 (.07)		-0.01 (.08)	
Baseline Outcome ^a × Newly Divorced/Separated ^b	-0.41*** (.08)		-0.38*** (.08)		-0.21* (.09)		-0.17† (.10)	
Baseline Outcome ^a × Newly Widowed ^b	-0.46*** (.08)		-0.19* (.08)		-0.24** (.08)		-0.24** (.09)	
Baseline Outcome ^a × Newly Married ^b	-0.42*** (.06)		-0.24*** (.07)		-0.28*** (.08)		-0.14† (.08)	
Interactions with female gender								
Female ^c × Divorced/Separated ^b	-0.63** (.19)		-0.45 (.35)		-0.98** (.35)		—	
Female ^c × Widowed ^b	-0.49 (.36)		-0.11 (.68)		-0.88 (.69)		—	
Female ^c × Never Married ^b	-0.65** (.21)		-0.63 (.41)		-1.08** (.41)		—	
Female ^c × Newly Divorced/Separated ^b	-1.04*** (.28)		-1.50*** (.52)		-1.75** (.52)		—	
Female ^c × Newly Widowed ^b	-0.94** (.30)		-0.40 (.59)		-1.81** (.54)		—	
Female ^c × Newly Married ^b	0.09 (.23)		-0.01 (.43)		-0.13 (.42)		—	

(continued)

Table 2. (continued)

	Sexual activity		Sexual satisfaction		Sexual effort		Sexual control	
	B	(SE)	B	(SE)	B	(SE)	B	(SE)
Interactions with age								
Age ^a × Divorced/Separated ^b	0.02*	(.01)	—	—	—	—	—	—
Age ^a × Widowed ^b	0.01	(.01)	—	—	—	—	—	—
Age ^a × Never Married ^b	0.02 [†]	(.01)	—	—	—	—	—	—
Age ^a × Newly Divorced/Separated ^b	-0.00	(.01)	—	—	—	—	—	—
Age ^a × Newly Widowed ^b	-0.03 [†]	(.02)	—	—	—	—	—	—
Age ^a × Newly Married ^b	-0.01	(.01)	—	—	—	—	—	—
Model fit								
Level 2 variance	0.00	(.00)	0.00	(.00)	0.00	(.00)	0.00	(.00)
Level 1 variance	1.92 ^{***}	(.05)	6.93 ^{***}	(.19)	6.64 ^{***}	(.18)	6.93 ^{***}	(.19)
F: df	53.87 ^{***}	42	30.29 ^{***}	36	34.73 ^{***}	36	21.89 ^{***}	30

Note: Truncated results are shown. All models controlled for race (White, Black, other race), Hispanic ethnicity (yes/no), education (less than HS degree, HS degree, some college, college degree, education beyond college), social integration, neuroticism, parental status (yes/no), employment status (employed, not employed, retired), income (standardized), self-rated health, and data collection wave. All time-varying covariates were measured at baseline, in keeping with LDV modeling. HS = high school; LDV = lagged dependent variable; SE = standard error.

^aMean-centered variable.

^bReference group is consistently married.

^cReference group is male.

[†]p < .10; *p < .05; **p < .01; ***p < .001.

than men of the same status, accounting for baseline frequency of sexual activity. Lastly, a significant interaction was detected between age and consistently divorced/separated status ($B = 0.02, p < .05$), which, combined with the significant and negative main effect of age ($B = -0.04, p < .001$), indicates a weaker negative association between age and frequency of sexual activity among the consistently divorced/separated than among the consistently married.

The model concerning sexual satisfaction found that, compared to consistently married men, newly widowed men reported significantly lower sexual satisfaction ($B = -1.11, p < .05$), while newly married men reported significantly higher sexual satisfaction ($B = 0.67, p < .05$), at average levels of baseline sexual satisfaction. Interaction terms between baseline sexual satisfaction and consistently divorced/separated status ($B = -0.19, p < .001$), never married status ($B = -0.15, p < .05$), newly divorced/separated status ($B = -0.38, p < .001$), newly widowed status ($B = -0.19, p < .05$), and newly married status ($B = -0.24, p < .001$) were all negative and significant (see Online Supplemental Figure 3). That is, consistently married persons reported comparatively greater sexual satisfaction at follow-up when baseline sexual satisfaction was above average, but reported comparatively *lower* sexual satisfaction at follow-up when baseline satisfaction was below average. Interactions between the marital status/transition groups and gender also revealed that newly divorced/separated women reported significantly lower sexual satisfaction at follow-up compared with newly divorced/separated men ($B = -1.50, p < .01$), accounting for baseline sexual satisfaction. The significant negative association of age with sexual satisfaction ($B = -0.04, p < .001$) did not vary by marital status/transition group.

The model analyzing effort put into sexual aspects of life revealed that only newly divorced/separated men reported significantly higher effort at follow-up than consistently married men ($B = 0.97, p < .05$), at average levels of baseline effort. Interaction terms between baseline values of sexual effort and consistently divorced/separated status ($B = -0.12, p < .05$), newly divorced/separated status ($B = -0.21, p < .05$), newly widowed status ($B = -0.24, p < .01$), and newly married status ($B = -0.28, p < .001$) were all negative and significant (see Online Supplemental Figure 4). Once again, the consistently married reported comparatively greater sexual effort at follow-up when baseline effort was above average, but reported comparatively *lower* sexual effort at follow-up when baseline effort was below average. Additionally, the main effect for female gender ($B = -0.31, p < .05$) revealed that consistently married women reported lower levels of sexual effort at follow-up compared with consistently married men, accounting for baseline effort. Moreover, significant interaction terms between female gender and consistently divorced/separated status ($B = -0.98, p < .01$), never married status ($B = -1.08, p < .01$), newly divorced/separated status ($B = -1.75, p < .01$), and newly widowed status ($B = -1.81, p < .01$) revealed similar trends across multiple marital status/transition groups: Women reported lower sexual effort at follow-up compared with men, accounting for baseline sexual effort, and these gaps were larger than among the consistently married (see Online Supplemental Figure 5). The significant negative association between age and sexual effort ($B = -0.05, p < .001$) did not vary by marital status/transition group.

Lastly, the model concerning control over sexual aspects of life revealed that consistently divorced/separated ($B = 0.40, p < .05$), consistently widowed ($B = 0.69, p < .05$), and newly divorced/separated ($B = 0.62, p < .05$) participants reported higher levels of control at follow-up than the consistently married at average levels of baseline control. Further, interaction terms between baseline values of sexual control and consistently divorced/separated status ($B = -0.14, p < .05$) and newly widowed status ($B = -0.24, p < .01$) were both negative and significant (see Online Supplemental Figure 6). In line with the other three outcomes, the consistently married reported comparatively greater control over sexual aspects of life at follow-up when baseline values of control were above average, yet reported comparatively lower control over sexual aspects of life when baseline values were below average. Additionally, women reported significantly greater control over sexual aspects of life at follow-up than men irrespective of marital status/transition group ($B = 0.47, p < .001$), accounting for baseline levels of control. The significant negative association between age and control over sexual aspects of life did not vary by marital status/transition group either ($B = -0.04, p < .001$).

Discussion

The present study utilized longitudinal data from a national sample of adults in midlife and older age to examine the implications of marital status and marital status transitions for adults' sexual aspects of life. Results indicated that the context of one's sexual life prior to a marital status transition was an important factor in that transition's consequences for sexual life afterward. Indeed, various marital status transitions may be either beneficial *or* detrimental for adults' sexual lives, depending on prior context. Additionally, findings revealed clear gender differences, with the implications of marital status transitions differing for men and women concerning three of the four sexual aspects of life examined. Lastly, although various marital status transitions typically occur at different points in the life course, the effects of marital status transitions on sexual aspects of life were largely consistent across the age range. Overall, this study highlights the importance of examining marital status transitions within context and over time, and reveals heterogeneity in the impacts of various marital status transitions on adults' sexual activity, satisfaction, control, and effort.

Marital status transitions

As anticipated, marital status transitions had implications for adults' sexual aspects of life, and these implications were dependent upon pre-transition sexual life. These findings were consistent with prior literature (e.g., Carr, 2004; Wheaton, 1990) and suggest that transitions into—or out of—marriage may improve sexual life among midlife and older adults, if their sexual lives previously were unsatisfactory. Conversely, transitioning out of any marital status that previously provided a satisfactory sex life may have adverse consequences. These findings underscore the importance of pre-transition context and suggest that context may matter as much as, or more than, the transition itself. While marriage provides a variety of benefits across the life course, including for sexual activity and satisfaction (e.g., Waite & Das, 2010), the benefits of marriage are

contingent upon quality (e.g., Hawkins & Booth, 2005; Lawrence et al., 2018; Williams & Umberson, 2004). Therefore, there is no uniform trajectory of unmarried/married status or transition groups. This highlights the importance of analyzing longitudinal data and incorporating marital histories into research on sexuality and repartnering among the aging population (e.g., Brown et al., 2019). Indeed, even unchosen and often traumatic transitions such as widowhood may lead to growth and improvement in sexual life, depending on context.

Our results can be linked to Amato's (2000) divorce-stress-adjustment framework, as well as Wheaton's (1990) role histories and life transitions perspective, which together suggest that the context and quality of a marriage prior to dissolution/transition determine the extent to which individuals experience a divorce or similar transition as stressful, or as a relief. Our findings are also consistent with previous research concerning sexual life in particular, including one recent study finding that low sexual satisfaction during marriage leads to sexual exploration and learning after divorce (Morrissey Stahl et al., 2018).

Despite the heterogeneity of trajectories within each marital status/transition group, there were still important overall differences found between the marital status/transition groups. For instance, previous research has shown that transitioning out of marriage through divorce, but not widowhood, can often lead to improvements in well-being (Williams & Umberson, 2004). Likewise, we found evidence that the newly divorced/separated experienced more frequent sexual activity, greater control over sexual life, and dedicated more thought and effort to sexual aspects of life compared with their consistently married counterparts, given average pre-transition reports. In contrast, the newly widowed did not display such positive changes, and reported significantly lower sexual satisfaction than the consistently married, given average pre-transition values. Entering into marriage also led to more frequent sexual activity and greater sexual satisfaction compared to the consistently married, given average pre-transition values. Thus, although pre-transition context was key across all marital status/transition groups and across all four outcomes, the various marital status transitions themselves had distinct implications for adults' sexual lives.

These results may be explained in part by unintentional/intentional selection into different marital status/transition groups. For instance, given that divorce is more self-selected than widowhood, individuals who experience a divorce are faster to date and remarry than individuals who experience the death of a spouse (Brown & Wright, 2017; James & Shafer, 2012). Individuals may choose divorce to provide themselves the opportunity for a better future partner and/or relationship, and therefore may be more likely to have an improved sex life compared to widowed individuals (Brown & Wright, 2017). Moreover, widowed women may also still feel a sense of attachment to their deceased spouse and consequently not find it important to maintain an active sexual life because they do not want to repartner (Gott & Hinchliff, 2003). Even those widows and widowers who do wish to repartner and engage in sexual activities may face social constraints and disapproval from loved ones, and to a greater extent than the divorced do (Brown et al., 2018; Carr & Boerner, 2013; Waite & Das, 2010). Thus, the present findings indicate that although the precise implications of marital status transitions such as divorce and widowhood for adults' sexual aspects of life are contingent upon pre-

transition context, there are also normative constraints surrounding dating and sexual behavior following spousal bereavement that may not hold as strongly after divorce or separation.

Gender

Our findings also revealed a number of gender differences, in keeping with both prior research and our expectations (e.g., Brown et al., 2018, 2019; Carr & Boerner, 2013; Waite & Das, 2010). Not only are there compositional differences among marital status/transition groups (e.g., women are more likely than men to be widowed, as well as less likely than men to repartner after widowhood and divorce; see Brown et al., 2018; Schimmele & Wu, 2016), but we also found evidence of differential effects of marital status transitions on men's and women's sexual aspects of life. In particular, sexual activity demonstrated significant gender differences across all marital status/transition groups except the consistently married, newly married, and consistently widowed; sexual effort exhibited gender differences across all marital status/transition groups except the newly married and consistently widowed; and a clear gender difference occurred only among the newly divorced/separated concerning sexual satisfaction. In all of these cases, men displayed higher reports concerning their sexual aspects of life than did women. These results suggest that unmarried women may have fewer opportunities to pursue their sexual lives and desires than men do. This coheres with previous research claiming that women's sexuality is more socially confined than men's, particularly in later life, and especially after divorce and widowhood (Lee et al., 2016; Waite & Das, 2010). Indeed, the largest gender differences were among the newly widowed and the newly divorced/separated, across outcomes. The lack of gender differences found among the consistently widowed may be due to those who retain interest in pursuing sexual activity repartnering or remarrying over time (e.g., Brown et al., 2019; Carr & Boerner, 2013; Gott & Hinchliff, 2003).

Interestingly, the exception to this trend was control over sexual aspects of life: Women reported significantly *greater* control over sexual aspects of life than men did, and this effect was consistent across all marital status/transition groups. However, this apparent reversal may actually highlight rather than undermine the gender inequality noted above: "Control" in this context—wherein women are less sexually active, less sexually satisfied, and put less effort into their sexual life, across most marital status/transition groups—may reflect the perceived capacity to *abstain from* unwanted sexual activity, rather than the capacity to *engage in* desired sexual activity. Whether this is due to a lesser desire for sexual activity among (particularly older) women (Gott & Hinchliff, 2003; Kasif & Band-Winterstein, 2017; Lindau & Gavrilova, 2010) or in response to normative constraints and perceived disapproval (Carr & Boerner, 2013; Waite & Das, 2010), these findings are consistent with the perspective that older unmarried women have fewer opportunities to pursue their sexuality compared to their male counterparts (Flynn et al., 2016; Stephenson & Meston, 2015; Wright & Jenks, 2016). However, it is possible that—despite gender disadvantages concerning other aspects of sexual life—older women's greater sense of control over sexual life may provide benefits all its own for psychological and even physical well-being (e.g., Lachman & Firth, 2004).

Overall, the results of this study tell a consistent story concerning marital status transitions and gender among midlife and older adults: Across a variety of outcomes, unmarried women—and particularly those who transition *out of* marriage—are at a clear disadvantage compared with men when it comes to sexual aspects of life. Although women do report a greater sense of control over their sexual lives, this may reflect differing expectations and gendered norms, rather than a greater ability to meet one's sexual needs or desires. Our results underscore the social constraints and stigma of sex outside of marriage that differentially affect midlife and older women. Moreover, they temper the possibility of improvement in sexual life after marital dissolution among the aging population, as such benefits may be contingent not only on pre-transition context but on (male) gender as well.

Age

Age has known associations with sexuality and sexual activity (Lindau & Gavrilova, 2010; Waite & Das, 2010), as well as with the typical timing of various marital status transitions (Brown et al., 2018; Kreider & Ellis, 2011; Roberts et al., 2018). Although we anticipated that age of transition would be an important factor to consider when examining sexual aspects of life in the context of marital status transitions, we found only minimal age-based variation in effects. In our analysis, we found only one small yet significant age interaction, such that the overall decline in sexual activity with age was slower among the consistently divorced/separated than among the consistently married. While the precise reason for this finding is unclear, it is possible that it reflects greater ease in obtaining new sexual partners in the absence of a committed relationship such as (re)marriage. No other effects of interest varied according to age, indicating that marital status/transition group, pre-transition context, and gender had consistent implications across the age range.

However, despite the lack of statistical moderation, we note that age remains important as a contextual factor concerning marital status/transitions and sexual aspects of life among the aging population. For instance, there are age differences in when different transitions typically occur in the life course. Divorce is more common at younger ages, with the median age of divorce from a first marriage being about 30 years old (Kreider & Ellis, 2011). However, divorce has recently become a more common experience in midlife and later life. Namely, research has shown that among adults aged 50 and older, divorce has doubled in frequency since 1990 (Brown & Lin, 2012). Conversely, widowhood is typically experienced among older age groups, with the median age of widowhood for both men and women being approximately 72 years old (Kreider & Ellis, 2011).

Our data showed similar patterns of age stratification across marital status/transition groups. Namely, the consistently and newly widowed ($M = 74.36$ and $M = 71.43$, respectively) were the oldest, whereas the never married ($M = 52.95$), newly married ($M = 51.51$), and newly divorced ($M = 52.36$) were the youngest. The consistently married ($M = 59.89$) and consistently divorced ($M = 61.10$) fell in the middle. These differences may be attributed to normative timing of life events (e.g., Elliot & Simmons, 2011). Indeed, one cannot be widowed unless already married. Thus, age remains an important

contextual factor to consider when examining marital status transitions and their implications for sexual well-being.

Implications for relationship research

The use of four distinct measures concerning sexual aspects of life is a strength of this study. Overall, findings revealed similar trends across these four measures, with a few notable exceptions. However, because reports were given contemporaneously, we were unable to fully explore the ways in which these four aspects of sexual life are intertwined in individuals' and couples' lived experience. For instance, sexual satisfaction is likely dependent to some extent on the frequency of sexual activity, as well as on perceived control over one's sexual activity and the degree to which one *desires* sexual intimacy, and dedicates thought and effort to it (e.g., Gott & Hinchliff, 2003; McNulty et al., 2016; Waite & Das, 2010). Similarities in findings across the four measures may therefore imply a complex intertwining of these factors within relationships. For instance, newly divorced men in particular may dedicate more thought and effort to sexual life, and therefore engage in more frequent sexual activity, leading in turn to improved sexual satisfaction and sense of control over their sexual life. Our findings suggest that this is particularly true when divorce follows a sexually inactive or unsatisfying marriage. The newly widowed, in contrast—particularly if their relationship with a spouse was sexually active and fulfilling prior to loss—may withdraw from sexual and romantic relationships entirely, at least for a period, leading to declines across all four measures in this study (see, e.g., Gott & Hinchliff, 2003).

Additionally, this study examines data on the individual level and lacks information from participants' sexual partners. Because sexual intimacy and activity depend upon one's partner, and not only on oneself, a dyadic or relational perspective might offer a more complete picture of how sexual life changes following marital status transitions in adulthood. For instance, we were unable to determine in this study whether participants repartner following a transition or engage in sexual activity with multiple non-committed partners. Although both may lead to similar changes in the measures of sexual life analyzed here, they imply very different post-transition sexual lives.

Limitations and directions for future research

This study retains a number of limitations worth noting. First, due to both the age of the sample and the approximately 9-year gaps between data collection waves, attrition was an issue in the longitudinal MIDUS data. Moreover, attrition was associated with both the marital status/transition groups and with the sexual aspects of life outcome measures. While this underscores the importance of marital status and sexual life for health and longevity, it also raises the risk of potential bias. Future studies should incorporate longitudinal data gathered at shorter intervals, in order to minimize attrition and confirm the validity of results presented here. Second, the 8–10 year lags between data collection waves posed an additional problem, namely that marital status transitions may have occurred at any point during the nearly decade-long span between surveys. It is further possible that some participants underwent multiple transitions between waves (e.g.,

divorcing and remarrying), which could not be detected in these data. Again, analysis of longitudinal data gathered at shorter intervals would ensure that even shorter-term impacts of marital status transitions are detected, and that the potential for multiple transitions between waves is minimized. Lastly, the outcome measures concerning sexual aspects of life were all single-item self-reports. Given the social constraints and stigma concerning sexual behaviors among aging adults—particularly among unmarried women—it is possible that certain respondents underreport (or overreport) their sexual activity, satisfaction, effort, and control. Future research utilizing more objective data concerning sexual behaviors, perhaps from daily diary data, will be better suited to assessing measurement error concerning midlife and older adults' sexual lives.


Conclusion

Despite these limitations, the present study contributes to the growing body of literature concerning marital status transitions and sexuality among the aging population. Sexual life is an important component of well-being throughout the life course, including later life. Our findings revealed the implications of various marital status transitions for sexual aspects of life and highlight the importance of pre-transition context for post-transition outcomes (e.g., Wheaton, 1990). Moreover, the implications of marital status transitions for sexual life outcomes were clearly gendered and underscore the continued power of social and normative constraints on sexuality that women face in midlife and later life.

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Open research statement

As part of IARR's encouragement of open research practices, the authors have provided the following information: This research was not pre-registered. The data used in the research are available. The data can be obtained at: <https://www.icpsr.umich.edu/icpsrweb/ICPSR/series/203>. The materials used in the research are not available.

Supplemental material

Supplemental material for this article is available online.

Notes

1. Keyes (1998).
2. Lachman and Weaver (1997).

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