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### The Anatomy of Marital Happiness

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### New Working Paper Series No. #355

#### Abstract:

Since 1972, the General Social Survey has periodically asked whether people are happy with Yes, Maybe or No type answers. Here I use a net "happiness" measure, which is percentage Yes less percentage No with Maybe treated as zero. Average happiness is around +20 on this scale for all respondents from 1972 to the last pre-pandemic survey (2018). However, there is a wide gap of around 30 points between married and unmarried respondents. This "marital premium" is this paper's subject. I describe how this premium varies across and within population groups. These include standard socio demographics (age, sex, race education, income) and more. I find little variety and thereby surface a notable regularity in US socio demography: there is a substantial marital premium for every group and sub-group I analyze, and this premium is usually close to the overall 30-point average. This holds not just for standard characteristics but also for those directly related to marriage like children and sex (and sex preference). I also find a "cohabitation premium", but it is much smaller (10 points) than the marital premium. The analysis is mainly visual, and there is inevitably some interesting variety across seventeen figures, such as a 5-point increase in recent years.

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# The Anatomy of Marital Happiness

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### Abstract

Since 1972, the General Social Survey has periodically asked whether people are happy with Yes, Maybe or No type answers. Here I use a net "happiness" measure, which is percentage Yes less percentage No with Maybe treated as zero. Average happiness is around +20 on this scale for all respondents from 1972 to the last pre-pandemic survey (2018). However, there is a wide gap of around 30 points between married and unmarried respondents. This "marital premium" is this paper's subject. I describe how this premium varies across and within population groups. These include standard socio demographics (age, sex, race education, income) and more. I find little variety and thereby surface a notable regularity in US socio demography: there is a substantial marital premium for every group and sub-group I analyze, and this premium is usually close to the overall 30-point average. This holds not just for standard characteristics but also for those directly related to marriage like children and sex (and sex preference). I also find a "cohabitation premium", but it is much smaller (10 points) than the marital premium. The analysis is mainly visual, and there is inevitably some interesting variety across seventeen figures, such as a 5-point increase in recent years.

Keywords: happiness, marriage, demographics, family, education, income, sex, sex preference JEL Classification: D10, D60, I31, J10, J12, J18, K360, Z13

### 1. Introduction

In Peltzman, 2023 I showed how a measure of "happiness" varied across common socio demographics. The most important empirically was marital status. Married people are far happier than unmarried. Here I explore that gap in detail. Mostly I want to know if and how marital happiness varies across groups within the society – e.g., is it similar for old and young? I also ask a similar question for two relatively recent variations on traditional marriage – cohabitation and gay marriage. I find that a large marital happiness premium pervades US social demography today and historically.

The paper is entirely descriptive statistics that summarize how happiness varies within and among various groups. Every relevant caveat about drawing causal inference from observational patterns applies here. For example, marriage can make people happy, but happier people find it easier to find a spouse (mutual causation); something else that is hard to measure– culture, expectations, etc. -makes people happy and also motivated to seek marriage (omitted variables) and so on. In addition, the descriptive statistics are about averages across many individuals in differing circumstances. The results do not have clear implications for any individual case or for public policy. There are many millions of happily unmarried and unhappily married individuals in our society.

The results do tell us about odds: if these people are married and those are not, the odds are that these are happier than those. The typical sample sizes I will analyze are usually large enough to state the odds fairly precisely. Accordingly, I will de-emphasize the usual significance tests and stress magnitudes: with noted exceptions, most any difference or change beyond 2 percentage points will be conventionally significant (different from zero with suitably low error risk) but only differences over, say, 5 percentage points are worth discussing and only double digit differences are truly important. Marriage is truly important. The next section is a short summary of how I measure happiness, how the measure has changed over time and its connection to marital status Then I explore two recent variations on conventional marriage: gay marriage and cohabitation. Analysis of traditional demographics such as age, education and so on follows that. The common goal is to ask if and how the marital premium varies across these diverse groups. Lastly, I summarize, ask, and try to answer some questions about potential sources of marital happiness such as children and sex. The presentation is mainly graphical with some tabular material in the main text and more, as backup to the graphs, in appendix tables and in footnotes.

### 2. Some Basic Facts

All data in the paper are from the General Social Survey (GSS),<sup>1</sup> which has been asking a random sample of US adults this identically worded question since its inception in 1972: "Taken all together, how would you say things are these days--would you say that you are very happy, pretty happy, or not too happy?" This long history of response to the same question within a broad social survey has motivated a large happiness research literature. Like much of this research, I will use "happiness" as convenient shorthand for summarized answers to this GSS question. I do not know how the answers correspond to underlying psychological wellbeing, much less how well being might be compared within and across groups.<sup>2</sup>

Table 1 summarizes answers to the happiness question since 1972, including sub-periods before and after 2000. I end with the 2018 survey to avoid complications from the COVID pandemic.<sup>3</sup> The table

<sup>&</sup>lt;sup>1</sup> Find out more about the GSS at <u>https://gss.norc.org/us/en/gss/about-the-gss.html</u>

<sup>&</sup>lt;sup>2</sup> For example, my happiness measure necessarily reflects the GSS scale in which "pretty happy" is half way between "very happy" and "not too happy." I do not know how one group's happiness compares to another's, or even how I might find out.

<sup>&</sup>lt;sup>3</sup> In addition to effects from social dislocation there are survey related complications. The pandemic accelerated a shift from in-person interviews to online methods. One problem, now under active study, is "mode sensitivity" whereby the respondent might answer the same question differently to a computer screen than a live person or over the phone.

Pospondonts who are:	Perc	Percentages by Period							
Respondents who are.	All Years	1972-2000	2001-2018	2000 v Before					
	(1)	(2)	(3)	(4)=(3)-(2)					
1. Нарру	33.8	34.5	32.4	-2.1					
2. ОК	54.7	54.6	54.9	0.3					
3. Sad	11.5	10.9	12.7	1.8					
4=1-3. Happy-Sad	22.3	23.7	19.7	-4.0					
Number of Respondents	53,928	36,131	17,797						

Table 1. Basic Facts about Happiness. 1972-2018

Source: General Social Survey. Variable happy. Data show percentages of respondents answering the question: Taken all together, how would you say things are these days - would you say that you are: 1. Very happy, 2. Pretty happy, or 3. Not too happy. For brevity I label Very happy as Happy, Pretty happy as OK and Not too happy as Sad.

The summary happiness measure I use throughout the paper is line 1.- line 3. shown in bold on line 4, i.e., the net difference between Happy and Sad. All percentages and sample sizes are calculated using the GSS weight variable wtssall. The sample here and throughout the paper is all respondents 25 and older.

	% Answers t	o Happiness	Married-Not
Responses & Period	Question by I	Marital Status	Married
Responses & Ferrou	Married	Not Married	
	(1)	(2)	(3)=(1)-(2)
I. All Years: 1972-2018			
1. Нарру	40.5	20.9	19.6
2. OK	52.0	60.0	-8.0
3. Sad	7.5	19.1	-11.6
4. Happy-Sad	33.0	1.8	31.2
Number Respondents	35,475	18,453	
II. 1972-2000			
1. Нарру	40.3	21.4	18.9
2. OK	52.1	60.4	-8.3
3. Sad	7.6	18.2	-10.6
4. Happy-Sad	32.7	3.2	29.4
Number Respondents	25,086	11,045	
III. After 2000			
1. Happy	41.1	20.2	20.8
2. OK	51.8	59.3	-7.4
3. Sad	/.1	20.5	-13.4
4. Happy-Sad	33.9	-0.3	34.2
Number Respondents	10,386	7,451	
IV. Change: After 2000 -			
Before			
1. Happy (III.1-II.1)	0.8	-1.2	1.9
2. OK ( 111.2-11.2)	-0.2	-1.1	0.9
3. Sad (III.3-II.3)	-0.5	2.3	-2.9
4. Happy-Sad (III.4-II.4)	1.3	-3.5	4.8

#### Table 2. The Marital Happiness Premium. 1972-2018 and Sub-periods

Source: GSS. Percentage of respondents answering the happiness question, as elaborated in the note to table 1, as indicated. For example, line I.1 shows that 40.5 per cent of married respondents answered Happy as did 20.9 per cent of the unmarried.

Column (4) shows the percentage point difference between the married and unmarried groups, and line 4 shows net happiness in bold. The marital premium is in bold in the shaded box in column (4). It is the difference in net happiness between the married (column (1) ) and unmarried (column (2)) groups. For example, over all years 1972-2018 (line 1.4), married respondents averaged 33 percentage

(Note to Table 2 Continued)

points more happy than sad v only 1.8 percentage points more for the unmarried. The difference between these percentages, 31.2 percentage points, is the marital happiness premium.

Panel IV. shows the change in the components of net happiness from the pre 2000 to the post 2000 period. The shaded box in the lower right cell indicates that the marital happiness premium rose 4.8 percentage points in the post 2000 period as compared to the 1972-2000 premium.

Number of respondents is weighted sum of actual respondents, using GSS weight wtssall.

### Fig. 1. Happiness. Adult Population by Marital Status. 1972-2018 & Sub-periods



Source: GSS. See Notes to tables 1 and 2. This shows average happiness (% Happy-%Sad) for the whole population 25 and older (dashed line at 22.34) and for married and unmarried individuals over the indicated periods. The height of each bar is happiness for married individuals. It consists of happiness for unmarried individuals (the light blue bar) plus a marital premium (red, numerical value above the bar), the additional happiness of married individuals.

– and the rest of the paper - uses a short shorthand of Happy, OK and Sad for very happy, pretty happy and not too happy. For the whole period and each sub-period over half the respondents answer OK (line 2). The rest divide around 3 to 1 in favor of Happy over Sad. The summary happiness measure I use throughout, as in Peltzman, 2023, is just the difference between the Happy and Sad percentages, which is on line 4. The long run population average of this measure in column (1) is 22.3. This means that of every 100 respondents around 22 more answered Happy (around 34) than Sad (about 12); I treat the neutral OK answer as zero.

My happiness measure increases when there are more happy people or fewer sad. However, because of the large OK group, happiness can increase in other ways – e.g., both happy and sad increase but the former is greater than the latter. The last three columns in table 1 show that happiness has decreased by around 4 points in the current millennium and that this comes from decreased happy (2.1 points) and increased Sad (1.8); OK is about unchanged. Overall, the population still leans happy with a mild falling off recently from just above 20 points to just below.

"Overall" conceals the great disparity due to marital status. The detail is in table 2 and summarized in Figure 1. Look at the Figure first. The dashed line in the background is the sample average of 22+ points. The bar heights show average happiness for married respondents. This is the sum of happiness for the unmarried (in light blue) and the marital premium (in red), which is the difference in happiness between the married and unmarried. The marital premium is the dominant feature of the Figure and the main concern of this paper. Think of happiness in the population as having two components: the happiness of the unmarried, a baseline that everyone shares, plus an extra amount available only to the married. At 30 points and up this marital premium is considerably larger than the sample average. It is the only reason that the average is well above zero, since the baseline unmarried happiness hovers near

3

zero. The marital premium is durable: it is near or above 30 points in the last millennium and this one (compare the two red bars to the right of the vertical).

More precisely, the shaded boxes in Table 2 (and Figure 1) show that the marital premium averaged 29.4 before 2000 and 34.2, or 4.8 points more, thereafter. Married people are also consistently both more happy and less sad – compare lines 1 and 3 of the top 3 panels of the table. Specifically, around twice as many married than unmarried are happy (roughly 40 v 20 per 100), and fewer than half as many married are sad (around 8 v 20). Panel IV in the table shows that both the happy and sad gaps have tended to widen recently, which underlies the recent increase in the marital premium.<sup>4</sup> Another durable feature is that the middle (OK) group is smaller (around 8 points) among the married. This does not directly affect my happiness measure, but it suggests that marriage may entail less uncertainty or equivocation about happiness<sup>5</sup>.

The rest of this paper describes the marital premium across groups within the population. I first discuss two kinds of coupled households that are evolving outside of traditionally defined marriage – cohabiting couples and married gays – then move on to the larger traditional groups such as age, gender, etc.

<sup>&</sup>lt;sup>4</sup> Specifically, relative marital happiness increased around 2 points after 2000 (column3, line IV.1). This is complemented by a 3 point decline in relative marital sadness (line IV.3 column 3). Most of these changes are coming from fewer happy and more sad unmarried (column 2 panel IV).

<sup>&</sup>lt;sup>5</sup> The tentative tone here is deliberate. I cannot know how many unequivocally certain OK responses there are. The 8-point gap between unmarried and married OK answers is large enough to merit more study than I can give it here.

### 3. Non-traditional Households

#### A. Cohabiting Couples

Traditional marriage is declining. Cohabitation is increasing and acquiring more features associated with marriage. Figures 2 and 3 summarize these trends. Figure 2 shows that cohabitation is a small but growing share of US households (Figure 2A), while marriage is in long-run decline (Figure 2B; note the difference in scales between the two panels). Cohabitation was almost unknown in the 1970s. Since then it has grown continually – around 1.5 percentage points per decade – and recently accounts for around 7 percent of all households. Meanwhile married households have declined by 20 percentage points from around 80 to around to 60 percent of households– or 5 points per decade. Accordingly, increased cohabitation seems to have absorbed about 30 percent of the decline in marriage.

Figure 3 shows that cohabiting couples tend to be younger (panel B) and have children less frequently than married couples (panel A). Cohabiters are still predominately young, but cohabitation among those over 45 has increased 6 fold since the early years of our data compared to 4 fold for the young. Some of this ageing may reflect longer lasting relationships. Child rearing patterns have also converged. Cohabitation with children was rare in the 1970s<sup>6</sup> while a majority of marriages included children. However, panel A shows that the two percentages move in opposite directions and come together somewhere around the new millennium. Recently they have been declining in tandem. Marriage and cohabitation with children are now about equally common, but childlessness is now the norm for both.<sup>7</sup>

<sup>&</sup>lt;sup>6</sup> So rare that the sample often shows erratic year-to-year changes (including zeros in some years) that I have smoothed to show the underlying trend.

<sup>&</sup>lt;sup>7</sup> This needs qualification because cohabiters remain younger than married couples, who spread more evenly across the age distribution. Childless married households at older ages (empty nests) have always been common. (See the last section of the paper for more discussion). Though there has been substantial convergence, marriage with children is still more common than cohabitation with children at younger ages.

### Figure 2. Cohabiting Couple and Married Households as Percent of All Households. 1975-2018



Source: GSS variable hhtype1. Cohabitation is defined as a heterosexual adult couple with no other adults in the household. Note difference in scales for the two panels.

A. Cohabiting Couples

**B. Married Couples** 

### Figure 3. Cohabiting Couples with Children and by Age. 1975-2018 and Sub-Periods





### B. Percent Cohabiting by Age & Sub-Period



Source: GSS variable hhtype1. Panel A shows the percent of all married and all cohabiting couples with children in the household. The cohabiting percentage has been smoothed to remove often erratic year-to-year changes. These are especially prevalent in the early years, when cohabitation with children was rare. Panel B shows cohabiting households as a percentage of households within the indicated group for the specified time period. The first (blue) bar summarizes the data in Figure 2.A. The next two bars show cohabitation percentages of households classified by age of respondent.

If cohabitation is looking more like marriage demographically, is it also making participants happier? From Figure 4 the answer is Yes and No. Yes, cohabiting couples are happier than other non-married. No, they are not as happy as married couples. And No, that gap is not closing as cohabitation becomes more common. Something like a 10-20 rule is at work: cohabiting couples are consistently around 10 points happier than other non-marrieds but 20 points less happy than married couples.<sup>8</sup>

Finally, in Figure 5 I have a one-word answer for questions like: doesn't cohabitation mainly benefit (men, women)? No. The 10-20 rule roughly applies to both. In sum, cohabitation is and has been associated with more happiness than other non-marital arrangements for both genders, but not nearly by as much as marriage.

#### B. Married Gays

Gay marriage as we know it today is a recent innovation. It was not legal anywhere in the US until a Massachusetts court legalized it there in 2004. Then it spread gradually across states until the Supreme Court legalized gay marriage nationally in 2015. Eventually data will reveal the existence and size of any gay marital happiness premium. However, historical analyses of gay marriage face definitional problems rooted in this recent history. In this case, I can tell who is gay and who is married, but not precisely who is in a gay marriage. Hence, the odd title of this section.

I rely mainly on a GSS sub-sample of sexual practice available from 1989 on and summarized in Table 3. It consists of sexually active respondents who self-report the gender of sex partners in the last year. I match this with the respondent's gender to identify sexuality by practice. The sample is overwhelmingly heterosexual – 97 percent of over 20,000 respondents, with 2.4 percent exclusively homosexual and the rest bisexual (column (2) of Table 3). This is a typical breakdown for population

<sup>&</sup>lt;sup>8</sup> Appendix tables 2 and 3 have more detail on the numbers in Figure 3. There are fewer than 200 cohabiting couples in the GSS sample for the early (1975-87) period out of over 18,000 total households, which makes any inferences for this period risky. Even so, the 10-20 rule seems to hold even for this small sample.

Figure 4. Happiness Across Married, Cohabiting Couples and Other Non-Married. 1975-2018 and Sub-Periods



Source: General Social Survey. Cohabiting couples from GSS variable hhtype1. Cohabitation is defined as a heterosexual couple with no other adults in the household. Numbers above bars give their heights, which are mean happiness for the group and period

Figure 5. Happiness. Married, Cohabiting and Other Non-married. By Gender. 1975-2018.



See Note to Fig coh3. The bars to left of vertical are copied from first three bars in fig coh3

samples, but here it means tiny sample sizes for the homosexual population. This makes it hard to detect differences with any precision.

The last two columns of Table 3 show the self-reported marital status of this sample. The numbers for heterosexuals are similar to the larger samples – over 60 percent married. The marriage rates for homosexuals are considerably lower, but they seem too high as estimates of gay marriage rates. The time pattern is also wrong. These intuitions come from work by Carpenter (2020) and Carpenter et al (2021). Both provide estimates of marital take up by gays after legalization of gay marriage. Both studies imply that there was gay marriage before legalization, in the sense that some gays self-reported that status. These "baseline" marriage rates are about 10 percent or less,<sup>9</sup> not close to the 26 percent shown in column (4) of Table 3. Moreover, in my sample the married gay share stays in the mid-20s before and after legalization. However, gay marriage rates rose as legalization spread. Carpenter (2020) and Carpenter et al (2021) show substantial marital take up right after legalization – the marriage rate more than doubled in Massachusetts and increased by 46 percent (males) to 72 percent (females) across all legalizing states right after legalization. Large population samples confirm this pattern.<sup>10</sup> Accordingly, any reasonable measure of gay marriage has to increase in the post 2004 years, and this does not occur in my sample.

So what is going on here? We cannot know for sure, but a reasonable guess is that some of the marriages reported by practicing homosexuals are heterosexual marriages that remain legally undissolved. The increased marital take-up after legalization suggests that the share of actual gay marriages among marriages reported by gays has been increasing of late. But we cannot know this for

<sup>&</sup>lt;sup>9</sup> They are under 10 percent for Massachusetts before 2004 (Carpenter, 2020) and around 10 percent across the other legalizing states before legalization (Carpenter et al, 2021)

<sup>&</sup>lt;sup>10</sup> For example data from the Census' American Community Survey tabulated in the online appendix to Badgett et al (2021) show that the proportion of gay couples that were married doubled – from roughly one to two thirds – in just the six years surrounding the 2015 supreme court decision (2012 – 2018)

	A	LL	mar	ried
	(1)	(2)	(3)	(4)
Sex Practice by Gender	number	%	number	% col(1)
A. Both Genders	23,491	100.0	14,634	62.3
1. exclusively heterosexual	22,789	97.0	14,448	63.4
2. exclusively homosexual	566	2.4	148	26.2
3. bisexual	137	0.6	39	28.5
B. Males	11,142	100.0	6,871	61.7
1. exclusively heterosexual	10,777	96.7	6,780	62.9
2. exclusively homosexual	299	2.7	71	23.7
3. bisexual	67	0.6	21	31.3
C. Females	12,349	100.0	7,763	62.9
1. exclusively heterosexual	12,012	97.3	7,668	63.8
2. exclusively homosexual	267	2.2	77	28.8
3. bisexual	70	0.6	18	25.7
D. Both Genders after 2003	10,611	100.0	6,397	60.3
1. exclusively heterosexual	10,263	96.7	6,307	61.5
2. exclusively homosexual	273	2.6	70	25.6
3. bisexual	75	0.7	20	26.7

## Table 3. Sexual Practice Sample. Gender, Marital Status and Type of Practice.1989-2018 and Sub-period

Source: GSS. Data are cross-tabs of gender and type of sex practice. Practice comes from GSS variable sexsex, which records answers to the question: Have your sex partners in the last 12 months been: 1. Exclusively male, 2. Both male and female or 3. Exclusively female? The question is part of a sub-sample that surveys sexual activity.

Exclusively heterosexual means that a male respondent answered 3, or a female respondent answered 1.

Bisexual means respondent answered 2.

Exclusively homosexual means that a male respondent answered 1 or a female respondent answered 3.

Columns (3) and (4) show data for respondents reporting that they are married. e.g., first entry in col (4) means that 62.3 per cent of the adult sexually active population is married.

Sample sizes are sums of GSS weight wtssall.

sure either. Accordingly, marital happiness data within this group of married gays needs to be approached cautiously.

Since the exact meaning of marriage among gays is uncertain, I first (Table 4) look at happiness comparisons without regard to marital status. The bottom panel of the table also has data for another sub-sample classified by self-reported sexual orientation. The main finding is (column (5)) a persistent, small happiness differential favoring heterosexuals. Samples are too small to be confident about any one of these differences (column (6) and note). However, it is hard to ignore how persistent and consistent the differential is across time periods, genders and samples. As a group heterosexuals seem to be around 5 points happier than homosexuals.

The mathematical reason for this differential is the lower marriage rate for homosexuals. This is clear in Figures 6 and 7, which show happiness by self-reported marital status for gays and straights. As in Figure 1 each bar height shows the happiness of married individuals as the sum of the happiness of the unmarried (light blue) plus the marital premium (red). Figure 6 shows the entire available period (1988-2018). Figure 7 breaks this down into the years before and after Massachusetts legalized gay marriage. Both figures show that, *within marital status*, gays are at least as happy as straights. In fact, most gays (married males, unmarried of both genders) tend to be happier than straights of the same marital status.<sup>11</sup>

Unmarried homosexuals are happier than unmarried heterosexuals (light blue bars). This difference is significant statistically and meaningful - around 10 points in any comparison in either figure 6 or 7. A plausible reason is that there are latent marriages within the unmarried homosexual group. The substantial marital take up by gays right after legalization (Carpenter 2020; Carpenter et al 2021)

<sup>&</sup>lt;sup>11</sup> However, the small sample sizes limit statistical confidence in some of these differences. Appendix Table A4 has the underlying data and related significance tests

Sample, Gender &	Hetero	sexual	Homo	sexual	Hetero-	
Period	Ν	mean	Ν	Mean	Homo	prob
	(1)	(2)	(3)	(4)	(5)=(1)-(3)	(6)
Sex Practice sample						
A. 1988-2018						
all	21,880	25.8	542	21.2	4.6	*
male	10,408	24.6	290	21.1	3.5	
female	11,472	27.0	263	21.3	5.7	
B. Before 2004						
all	12,128	27.3	274	24.6	2.7	
male	5,772	27.1	163	25.1	2.0	
female	6,356	27.5	111	23.9	3.5	
C. 2004-2018						
all	9,752	24.1	268	17.7	6.4	*
male	4,636	21.5	127	15.9	5.5	
female	5,116	26.4	142	19.2	7.2	
Sexual Orientation						
sample. 2008-2018						
all	9,161	18.6	155	12.6	6.0	
male	4,198	16.7	81	7.5	9.3	
female	4,963	20.1	74	18.3	1.9	

## Table 4. Happiness by Sex Practice or Orientation and Gender.1989-2018 and Sub-periods

Table gives mean happiness for the indicated group. Also, see note to Table 1

The sex practice sample is described and summarized in Table 3

The sexual orientation sample is from GSS variable sexornt. Beginning 2008, a sub-sample has been asked: Which of the following best describes you: 1. Gay, lesbian or homosexual, 2. Bisexual, 3.Heterosexual, or straight. Heterosexual means that the respondent answered 3 and homosexual means an answer of 1. I ignore bisexuals, who are, however, a larger share of this sample than the sex practice sample. Specifically, this sample is 96.5 percent heterosexual 1.6 percent homosexual and 1.9 percent bisexual. As compared to the sex practice sample for a similar period (panel D, table 3), the heterosexual/non-heterosexual breakdown is nearly identical, but the bisexual share is over twice as large.

N= weighted number of respondents.

Column (6) indicates the risk of rejecting the null against the estimated happiness difference in column (5). \*=10 percent or less. All the rest have risk > 10 percent and none have risk as low as the conventional standard of 5 percent or less risk.



Figure 6. Happiness by Sexual Practice and Marital Status. 1988-2018

Bar height shows happiness for married individuals within indicated group. This is subdivided into happiness for unmarried individuals (light blue) and the marital premium (dark red with numerical value shown above the bar), which is the extra happiness associated with marriage. See notes to tables 1-sp1 for definitions and sources

### Figure 7. Happiness by Sexual Practice and Marital Status. 1988-2003 and 2004-2018





This figure shows same data as figure 6 for sub-periods, before and after 2004, when Massachusetts became the first state with legal gay marriage. Legalization then spread gradually until 2015, when a supreme court decision legalized gay marriage nationally.

provides one hint.<sup>12</sup> My data largely pre-date legalization. Accordingly, we know there are latent marriages and thus the potential for an "all but married" happiness premium lurking within the unmarried homosexual group.

There is also a substantial actual marital premium among homosexuals (the dark red bars). And this tends to be roughly similar to heterosexuals.<sup>13</sup> Indeed, when you add a substantial marital premium to the larger baseline (unmarried) happiness for homosexuals the tendency seems to be – the samples are too small to say more - greater total happiness for some married homosexuals (males) than straights.

So, if unmarried and married gays are both no less happy than their straight counterparts the only way (mathematically) that overall happiness can be less for gays than straights is that their share of generally happier married is smaller.<sup>14</sup>

Two aspects of these findings seem noteworthy. One is the size of the gay marital premium, which is comparable to the straight marital premium. This is striking in light of the different meaning of marriage for these two groups. For the heterosexuals marriage had and has a clear social and legal definition. The married homosexual group here is heterogeneous. It includes extra-legal gay marriages, legally binding heterosexual marriages that conflict with one partner's current practice, and a few legally sanctioned marriages. However, the heterogeneity does not seem to have diluted the gay marital premium very much<sup>15</sup>.

<sup>&</sup>lt;sup>12</sup> He estimates (2020, Table 2) all of the lesbian marriages over half the gay male marriages occurring after the Massachusetts legalization were replacing unmarried partnerships.

<sup>&</sup>lt;sup>13</sup> Homosexual females after 2003 are a partial exception. Their marital premium is 18 points – still substantial but well below the 35 points for straight females.

<sup>&</sup>lt;sup>14</sup> Average happiness for the group = unmarried happiness + (share of group married) x (marital premium). The first term – unmarried happiness – is larger for homosexuals. If the marital premium is similar, this leaves only a smaller married share as a reason for the smaller average happiness for homosexuals. See note 17 below for more elaboration.

<sup>&</sup>lt;sup>15</sup> The gay and straight premiums are about the same for males and smaller for females, so the overall average does favor straights. However, the sample sizes are too small to be sufficiently confident in any of these differences.

Perhaps even more striking is the similarity in gay happiness across time. Think back to the first period, before 2004: there was less social acceptance of homosexuality generally and no legal acceptance of gay marriage. Practicing gay males were at considerable risk from an HIV-AIDS epidemic. All of these negatives faded in the post 2004 period. Surely, happiness among homosexuals should be higher after 2004. But it isn't. Homosexual happiness in the two periods is about the same overall (Table 4) or when broken down by marital status (Figure 7). The missing gain in happiness for homosexuals in the latter period deserves more attention than I can give it.<sup>16</sup>

Many puzzles about gay happiness will resolve as adaptation to recent legal changes proceeds.

However, the recent upsurge in gay marital take-up implies that average gay and straight happiness will also converge.<sup>17</sup>

The common element so far has been the substantial marital premiums observed across a variety of empirically atypical situations. The next section shows how the premium varies in more numerous and more traditional groupings.

<sup>&</sup>lt;sup>16</sup> It also does not sit well with a large literature that finds greater psychological well-being for homosexuals from increased social acceptance and legalized gay marriage. See Karney et al (2024).

<sup>&</sup>lt;sup>17</sup> This is implied by the formula in fn 14 above. The current gap of around 5 points reflects two opposing forces. The dominant force is the current large gap in marriage rates: 26 percent for gays v 63 percent for straights (Table 3 column 4). This is somewhat offset by the greater happiness among unmarried homosexuals, which reflects, in part, latent marriages. To get a sense of magnitudes, If the marital premium is around 30 and unmarried happiness is 0 we would have population average happiness of 19 for straights (a baseline of 0 + .63 marriage rate x 30 premium) for married. The gay marriage rate is only .26. If that were the only difference between gays and straights, average gay happiness would be around 8, or 11 less than straights. The straight advantage in the marital premium would only widen this gap. But the actual difference is more like 5, because gay unmarried happiness is well above 0, due in part to the historically all but married gays Recent evidence of substantial gay marriage take-up after legalization will have two effects on the preceding back of the envelope calculations, both pointing to convergence. First, the gay marriage rate will increase. Second, the gay and straight marital premiums will converge, as latent marriages become actual marriages.

### 4. More Traditional Groups

This section describes the marital premium across gender, age, race, education and income groups Overall happiness differences within these categories (Peltzman, 2023) vary from relatively little (age, gender) to meaningful (race and education) to considerable (income). Here I ask about any similar variety in the marital premium. There is also a time dimension. Overall happiness declined modestly in the new millennium, but as seen in Section 2, the marital premium rose modestly. Accordingly, I will also describe how the various marital premiums have changed over time.

#### A. Gender

Is the marital premium different for husbands than wives? No. Figure 8 follows the format of Figure 1: the solid red portion of each bar shows the marital premium. Each bar's total height is the total happiness of married individuals – the marital premium plus the happiness of the unmarried. Married females tend to be slightly happier (around 3 points) than married males, but this is almost entirely due to slightly higher baseline unmarried happiness (light blue bars) for females<sup>18</sup> The marital premiums are strikingly similar across genders. They are always within one point of each other. Accordingly, we have a one-word answer to questions about whether men or women get more happiness benefits from marriage. No.

#### B. Age

Household living patterns undergo significant change over the life cycle. Traditional married households evolve from concerns about career and children at young ages to empty nests and retirement later on. How do such different circumstances affect marital happiness? The answer seems to be "not much." Figure 9 shows happiness and the marital premium by age. Panel A has averages for

<sup>&</sup>lt;sup>18</sup> Specifically, for the whole sample the gender difference is 3.0 for married and 3.2 for unmarried. See appendix Table A5 for further detail and significance tests

### Figure 8. Happiness by Gender and Marital Status. 1972-2018 & Sub-periods



See Note to Table1. Data show average total happiness for married individuals (bar height\*) and the marital premium (red bar and numerical vale above the red bar) over unmarried (height of light blue bar) for males and females. \* For the negative light blue bar (Males, 2001-18 = -1.3) bar height overstates total happiness by that amount.

### Figure 9. Happiness by Age and Marital Status. 1972-2018

### A. Sub-periods and Age Groups



B. Years of Age, 25-80



Panel A shows total happiness (bar height\*) of married individuals under or over 45 years old for indicated time periods. Total height = happiness for unmarried (light blue) + marital premium (red, numerical value shown above the bar). \* For the negative light blue bar at 45+, 2001-18 (= -1.8) bar height overstates total happiness by that amount.

Panel B is smoothed representation of data averaged around individual years of age from 25 to 80\*\* (x-axis). Thin green and blue lines are for married and unmarried individuals respectively. Thick red line is the marital premium, which is the difference between the green and blue lines. \*\*ages 80+ are combined due to few respondents over 80.

those on either side of 45 and a breakdown by period. All of the marital premiums in panel A are a few points on either side of 30. A slight (around 3 point) early period advantage for over 45s does not persist into this millennium.<sup>19 20</sup>

Figure 9B shows how happiness evolves over the life cycle. This reinforces the lack of any strong age differences in the marital premium. There are some age patterns in the parts of the premium. Panel B shows these components as the thin green (married) and blue (not married) lines. A strand of literature emphasizes a U-shape in the age- happiness nexus whereby happiness first falls with age and then rises.<sup>21</sup> We do see evidence of this in panel B, mainly for the unmarried where there is around a 10 to 15 point swing on either side of the trough in the mid-50s. There is a shallower U for the married. All this translates into an inverted U for the marital premium (thick red line), which rises until age 50 or 55 and then falls gradually. However, keep these details in perspective. The larger message is one of stability across vast age differences. The average marital premium across all ages is 32.1. The premium is within 5 points of this at every age from 26 to 80<sup>22</sup>. So consider the 80-year-old grandparents of a 26-year-old newlywed. Their average marital premiums are nearly the same: 29.8 for the grandparents and 27.3 for the grandchildren.

<sup>&</sup>lt;sup>19</sup> Part of this disappearance of the over 45 advantage may be a cohort effect. Cohort effects in age related data address questions of how individuals change as they get older. Figure 9A shows "period" data, which answers questions about comparative happiness of old and young within a given period. This cohort v period distinction is potentially relevant here because those over 45 after 2000 were under 45 in the previous period – and they were 3 points less happy than the older people of that era. Some of that 3 point shortfall may have carried over as they aged into the new millennium

<sup>&</sup>lt;sup>20</sup> There is also a period-related issue about generally decreasing happiness among the old in recent years. I discuss this more fully in Peltzman (2023). In Figure 9A this is visible in happiness among unmarried (the light blue bars), which was greater for those over 45 prior to 2000, but has become smaller (even negative) since.
<sup>21</sup> See for example Blanchflower (2021).

<sup>&</sup>lt;sup>22</sup> The peak premium is 36.5 at ages 56 through 60. The lowest value is 26.8 at age 25, or 10 below the peak. The lowest premium at old age is 29.8 at age 80, or just 2 below the average. (As noted in the Figure, age is top coded at 80 and so averages everyone 90 and under. There are too few respondents past age 80 for reliable estimates in the 80-90 age range).

#### C. Race

Fifty years ago, there was a substantial racial difference in happiness, on the same order as the marital premium (Peltzman, 2023). A large difference endures, but it has been narrowing steadily. At the same time, while marriage rates have declined for both races the decline has been steeper for blacks. Figure 10 shows these basic facts about marriage and happiness by race. Each panel shows averages by race across each of the five decades in our sample (the red and blue lines) and the racial differences (the light green bars). Marriage rates (panel A.) have been falling steadily for each race, but the racial gap has visibly widened. In the 1970's 64 of every 100 black adults was married, as were 81, or 26 percent more, whites. By the 2010, these figures had fallen to 35 and 61, or 74 percent more married whites than blacks per 100. At the same time (panel B), the happiness differential narrowed from 29 points in the 1970's to 15 points in the 2010's. These are substantial and inexorable changes. They raise substantial questions: how much of the racial happiness difference can be attributed to the lower black marriage rate? Why has the happiness difference declined while the marriage rate difference has widened? Does that imply a reduced black marital premium?

Figure 11 has answers to these questions. It shows six sets of happiness numbers, first for all the available years (left of the solid vertical) and then for each decade from the 1970's on (separated by the dashed verticals). Each set of six bars includes three for each race: the overall happiness of married individuals (grey) and its two constituents, the baseline unmarried happiness (light blue) and the marital premium (red). For the whole period and for each decade married (grey) and unmarried blacks (light blue) are less happy than whites. However, both differences narrow considerably over the decades. By

### Figure 10. Marriage Rates and Happiness by Race and Decade. 1970's – 2010's

### A. Percent Married



### **B. Happiness**

happiness\_white
happiness black

15

2010's

16

2000's

white black gap (points)

The blue and red lines in each panel show averages (dots) of the indicated variable by race (over all GSS surveys in the indicated decade, beginning 1972 and ending 2018. The light green bars and numbers show the gap between whites and blacks for each decade. In panel A. this gap is the percentage excess of the white over black marriage rate. For example, in the 2010's the white marriage rate (60.85 percent) exceeded the black marriage rate (35.06 percent) by 73.6% ((60.85-35.06)/35.06). Panel B shows gap in points on the happiness scale

### Figure 11. Happiness, Marital Status and Race by Decade. 1970's-2010's



Data are averages over all GSS surveys in the indicated period: all survey years 1972-2018 to the left of the solid vertical line and each decade to the right, separated by the dashed verticals. Each time period has 6 bars, 3 for each race. Each racial triplet begins with the total happiness of married individuals (gray), which equals the sum of happiness for the unmarried (light blue) plus the marital premium (the difference between happiness for married and unmarried).

contrast, marital premium differences are smaller and less consistent. They switch from a larger white premium before 2000 to a larger black premium thereafter.<sup>23</sup>

Caveats about selection (fewer but sturdier black marriages?) need retelling. However, the arithmetic of the narrowing racial happiness gap is clear. Almost all of it is due to the substantial narrowing of the baseline unmarried gap while the role of marriage has been relatively small and even conflicted: declining black marriage rates have hindered racial convergence, but the shift to a larger black marital premium has promoted it.<sup>24</sup>

In sum, there remains a sizeable, if narrowing, racial gap in happiness. There is no such gap in the marital premium either historically or at present. If anything, blacks have moved past parity on this measure in recent years. Accordingly, further progress in narrowing the racial happiness gap is likely to depend on narrowing the difference in marriage rates.<sup>25</sup>

#### D. Education

Economists and others have studied the link between education and marriage, often through the lens of "assortative mating," aka homogamy. Contextually this is marriage between similarly educated partners. Two broad questions are whether homogamy is increasing and whether it affects outcomes. The outcome I am interested in here is marital happiness. Overall happiness increases

<sup>&</sup>lt;sup>23</sup> For the entire sample period the white (black) marital premium averages 29.9 (27.9), or 2 points more for whites. For the three pre-2000 decades, this gap is around 4 points; for the post-2000 decades, the gap favors blacks by 7 points. Details are in appendix table A8.

<sup>&</sup>lt;sup>24</sup> See appendix table A9 for a breakdown of the total racial happiness differential and its change into the three components: baseline (unmarried happiness), marital premiums and marriage rates

<sup>&</sup>lt;sup>25</sup> This conclusion comes from the formulae in the note to appendix table A9 and substituting "white" for period 1 and "black" for period 2 and "white-black" for the delta. More precisely: the 2010's gap is 14.9. The baseline component (the gap in unmarried happiness) is 7.5 points. The black marital premium actually exceeds the white premium and this already is contributing 1.8 points to narrowing the gap. The racial happiness gap would narrow 9.2 points if there were no marriage rate differential. These calculations do not imply policies, but they do suggest that further reduction of the racial happiness gap will be more likely if marriage differentials begin converging rather than continue to diverge.

meaningfully with education, roughly 10 points each for graduating high school and college (Peltzman, 2023). Here I ask if this gain differs between married and unmarried individuals and whether assortative mating matters.

. First, some background: educational attainment has increased substantially over my sample period. In the 1970s, around 38 percent of adults failed to graduate high school compared to only 14 percent in the 2010s. College graduates increased from 15 percent of adults to 33 percent in the same period.<sup>26</sup> College graduates also show a much slower decline in marriage rates over this period. Specifically, I distinguish four attainment groups: less than high school, high school graduates, some college education and college graduates (including postgraduate education). In the 1970s, marriage rates were similar for all these groups, ranging between 76 and 83 percent of adults. By the 2010s, these rates had declined by 26 to 30 percentage points for all but the college graduates. Their marriage rate had declined only 12 percentage points. The marriage rate for college graduates now exceeds any other group by over 10 percentage points.

Figures 12 A and B show marriage and happiness across these education groups.<sup>27</sup> Figure 12A covers the whole period while 12B compares recent years with the last century. More education is associated with more happiness across all education groups and time periods– for married (light gray bars) as well as unmarried (light blue bars) individuals. There is also a substantial marital premium (red bars) for any slice of these data. The premium tends to shrink somewhat with increased education, because the happiness gain from education is greater for unmarried individuals. This is most obvious at the extremes: high school dropouts v college graduates. For the whole period, married college graduates are 14 points happier than the high school dropouts (40 v 26). However, the corresponding

<sup>&</sup>lt;sup>26</sup> Most of the increase occurred in the last century. For example, mean years of education increased by 1.7 years from the 1970s to the 1990s and by only .5 from the 1990s to the 2010s.

<sup>&</sup>lt;sup>27</sup> Appendix Table A10 provides underlying detail.

### Figure 12A. Happiness and Marital Status by Education. 1972-2018



Averages over all years for indicated education group as derived from GSS variable educ, which gives years of education completed. <HS Grad: <12 years; HS Grad: 12 years; Some College:13-15 years; College+: 16 or more years. Value of marital premium is shown above the red marital premium bar.

### Figure 12B. Happiness and Marital Status by Education. Before and After 2000.

### A. 1972-2000



B. 2001-2018



See note to Figure 12A.

unmarried differential is 20 points (13 v -7). Those extra 6 points show in the 6-point lower marital premium for college graduates.

Figure 12B shows that this pattern is consistent over time, even though the high school dropout group has shrunk and college graduation has become common.<sup>28</sup> Overall, there is good news and bad news in the two figures. For married high school dropouts, the good news is the outsized marital premium – 39 points in figure 12B, up from 30 in figure 12A. The bad news is its obverse: the 14-point happiness deficit for unmarried high school dropouts (the first light blue bar in Figure 12B). This is among the largest deficits for any group analyzed in this paper, and it has increased substantially (corresponding bar in figure 12A). For unmarried college graduates the good news is that they are reasonably happy – more so than any less educated unmarried. <sup>29</sup> The obverse bad news for the married college graduates is their smaller marital premium.

#### 1. Educational Assortative Mating

Is marital happiness different when couples do or do not share the same level of education? No and maybe. The No part is the last line of panel A Table 5, which shows happiness in marriages classified by educational assortativity. My definition of assortative mating here is that the respondent and spouse come from the same education group, as defined in Figure 12. By this definition a bit over half (column 4) of marriages are assortative.<sup>30</sup> Assortative marriages have, on average, roughly the same happiness

<sup>&</sup>lt;sup>28</sup> The only notable wrinkle is that high school dropouts are similar to high school graduates before 2000 and uniquely different from all other groups after 2000.

<sup>&</sup>lt;sup>29</sup> For example, 24 points more so than high school dropouts. This is the difference between the last light blue bar in Figure 12B (+10) and the first (-14).

<sup>&</sup>lt;sup>30</sup> There is no accepted definition. For example, some analysts worry about motives to assortativity v random sorting (Eika etal, 2019). When groups' population shares grow or decline a measure like mine will grow or decline even if all couples married on first sight: if there are more college grads in the world than there used to be then both you and your first sighting are more likely to be college grads. Is that kind of assortativity the same as, say, choosing to go to college (or a college) in search of a mate? My measure also may be too crude. For example, the "some college" group spans just three years between high school and college graduates. This group will overlap socially with the other two. It seems overly restrictive to classify all marriages across these groups as non-

A. Are Assortatively Married Couples Happier?												
		Not Ass	ortatively	Assort	atively	Happiness						
		Ma	rried	Mar	Difference:							
	Number	% of		% of		Assortative -						
Education Group	in Group	group	Happiness	group	Happiness	Not						
	(1)	(2)	(3)	(4)	(5)	(6)=(5)-(3)						
Less than HS Grad	7,214	39.6	28.2	60.4	24.6	-3.6						
HS Grad	10,760	47.9	31.4	52.1	32.9	1.5						
Some College	7,388	67.2	32.5	32.8	36.9	4.4						
College Grads +	8,682	39.5	36.5	60.5	41.6	5.1						
All Groups	34,044	48.2 32.3		51.8	34.0	1.7						
B. For Non-Ass	ortative M	arriages (N	IAM), Does	Direction M	atter?							
	Marry	ing Up	Marryin	ig Down								
Respondents in	% of		% of		Difference:							
NAM who are:	Group	Happiness	Group	Happiness	Up-Down							
	(1)	(2)	(3)	(4)	(5)							
Less than HS Grad	100	28.2	0	nm	nm							
HS Grad	60.9	35.1	39.1	25.6	9.5							
Some College	34.5	39.3	65.5	29.0	10.3							
College Grads +	0	nm	100	36.5	nm							
All Groups		33.5		31.2	2.3							

## Table 5. Educational Assortative Mating and Marital Happiness.1972-2018

Source: GSS variables educ (years of education) and speduc (spouse's years of education) Sample is married respondents with own and spouse's education. See text for definition of education groups and assortative mating.

Panel A shows mean happiness for assortatively and non-assortatively married within each education group. Last line is for the total of all respondents.

Col 1 number (weighted to show frequency in a random population sample) in each education group.

Col 2, 4: percentage of education group that is not assortatively mated or is assortatively mated respectively (col 2 + col 4=100)

Col 3, 5: average happiness scores for group in columns 2 and 4.

Col 6 = col5-col3. All differences are significantly different from zero at p<.05, except the 1.5 for HS graduates.

Panel B columns 2 and 4 show mean happiness for non-assortatively married (NAM) respondents classified according to whether their spouse is in a more or less educated group than the respondent (respondent married "up" or "down").

#### (Note to Table 5 Continued)

This distinction is meaningful (nm=not meaningful) only for the middle two groups (HS grads and Some College), since NAM's in the lowest group (Less than HS grad) can only marry up, and NAM's in the College Grad + group can only marry down. Columns 1 and 3 show the percentage breakdown of NAM's by direction of marriage.

Col 5 shows the difference between happiness scores for NAM's marrying up v down for the two groups where this can be calculated. (all entries in column 5 are significantly different from zero)

The last line of panel B shows data for all respondents who married up or down respectively (i.e., a weighted average of the 3 groups in each of column 2 and 4 and their difference in column 5.

as the non-assortative marriages (Table 5, last line in panel A, column 6). There is enough precision in the data to imply some advantage to assortativity, but it is not meaningful – less than 2 points.<sup>31</sup>

The Maybe aspect is in the variation around this small average difference. Assortative marriages are happier for the most educated but sadder for the least educated. By definition, the non-assortative spouses in these groups are, respectively, less or more educated than the survey respondent. The hint here is that "marrying up" to a more educated spouse raises happiness while marrying down reduces happiness. Panel B of Table 5 pursues this. It includes the middle groups (high school graduates and some college) where non-assortative marriages can go in either direction. Indeed, there is a meaningful happiness differential (column 5 of panel B) – around 10 points – between those who marry up v those who marry down within these two groups. But, there is a zero sum aspect here: for every respondent who has married up the spouse has married down and vice versa. So one group's 10-point gain is the other's 10-point loss. The last line of panel B confirms this zero sum intuition. Across all non-assortative marriages, spouses marrying up or down are about (within around 2 points) as happy.<sup>32</sup> So, homogamy can affect the distribution of happiness within a match. However, the dominant fact is the lack of happiness synergies to assortative matches. This means that any differences will wash out in the aggregate.<sup>33</sup>

assortative. Indeed the some college group has the lowest assortativity by my measure and the highest share of intermarriage with adjacent groups in this sample.

There is no overall trend in my assortativity measure (data not shown here). It hovers around 50 percent from the 1970s forward. This is consistent with Eike et al (2019) who show flat trends in various measures of educational assortativity over a similar period as my sample. However, consistent with the random mating model above, the increased population share of college grads and decreased share of less than high school grads is reflected in assortativity trends in the same direction for these groups

<sup>&</sup>lt;sup>31</sup> This negative result is broadly consistent with a literature on assortativity and other measures of psychological well-being that does not find any consistent assortativity advantages (Schwartz, 2013)

<sup>&</sup>lt;sup>32</sup> Essentially the partners in these marriages borrow happiness from each other's group. The high school graduate who marries the college graduate is happier than classmates in part because college graduates are happier; the college graduate spouse, who is marrying down here, tends to be sadder than classmates are in part because he or she shares the lower happiness of the spouse's high school classmates.

<sup>&</sup>lt;sup>33</sup> Think of creating synthetic hypothetical marriages by pairing married respondents randomly with other married respondents within the sample. I have not done this, but I am venturing that you could duplicate all the patterns

#### E. Income

The rich are happier than the rest of us - much happier. Income is the major rival to marriage as a marker for happiness (Peltzman, 2023).<sup>34</sup> This section is about the intersection of income and marriage. Is there a substantial marital premium across the income distribution? Does it grow or decline with income? My income measure is household income. So marriage necessarily reduces per capita income. This may not have the same happiness implications when a married couple shares a yacht as when it shares a slim paycheck.

Figure 13 provides important background. Marriage rates are much higher for rich people than poor. The dashed line shows that 66.2 percent of all adults were married from 1972-2018. The thick black line shows that this percentage is in the 80s for the top decile of the income distribution and only in the 20s for the poorest decile (specifically 86.2 v 25.9 percent) – more than a threefold difference. If marriage is so much more common among the rich, then, reciprocally, the married are considerably richer than the unmarried. Specifically, over the same period the median unmarried respondent's household income percentile is 35.9 v 66.0 for the married – a three-decile difference.<sup>35</sup> It also means that, as we will see, part of the marital happiness premium is coming from the extra happiness related to married people's higher incomes.

Income differences in marriage rates have been widening as marriage has become less common. The two lighter lines in Figure 13 show the marriage-income relation before and after 2000. These

visible in table 5. Or you could redo Figure 12 by substituting spouse's education for each married respondents' education. This should (and does, though not shown here) produce patterns similar to Figure 12. <sup>34</sup> The qualification, known as the Easterlin Paradox, is that this applies only to income within a society at a point in

time. Richer countries are not reliably happier nor does average happiness necessarily rise if per capita income grows over time.

<sup>&</sup>lt;sup>35</sup> A substantial economics literature documents the connection between outcomes and marriage. Kearney (2023) is an accessible summary. One caution: this particular comparison exaggerates the per-capita income differential between married and unmarried individuals, because the latter live in smaller households. On the other side, married households with two incomes became more common over the sample period.

### Figure 13. Marriage Rate by Income Percentiles. 1972-2018 and Sub-periods



Y-axis is marriage rate. X-axis is income percentile. Graph shows smoothed representation of percent married around each income percentile The heavy black line shows estimates for all years 1972-2018. The thin colored lines show estimates for years before 2001 (red) and after 2000 (green). The dashed line is the average percent married (66.19) across all adults over all sample years.

reflect the decline in marriage: the after 2000 (green) line is consistently the lower of the two. However, the vertical gap between them is widest near the middle of the income distribution and narrowest at the top.<sup>36</sup> This means that the declining marriage rate is mainly a middle class phenomenon, and mainly avoided by the very rich. Accordingly, Figure 13 implies that the happiness benefits of marriage are concentrated toward richer households and becoming more so.

But do those benefits themselves change with income? The answer is in Figure 14, and it is "yes, but not much." This figure shows how happiness varies with income among married and unmarried individuals. The two rising, nearly parallel, lines confirm that income is generally important. Whether you are married or not chances are you will be happier if you are richer. The gain from being at the top rather than the bottom of the income distribution is around 20 to 30 points for both groups. However, there is also a large gap between these two rising lines across all income levels, which means that whatever your income your odds of being happy are greater if you are married. That gap – the marital premium – is the thick black line. It is between 20 and 30 points over all income percentiles. It tilts down from around 30 at the lowest incomes to the low to mid 20s in the middle and upper deciles.<sup>37</sup> So, there is some progressive happiness redistribution in the marital premium. The two dashed lines on either side of the thick dark line show that the distribution of the marital premium is more progressive now (the more steeply sloped dashed blue) than it used to be (dashed red).

The overall average of the premium is around 25 points, which is less than the 31.2 population average in figure 1. This six-point difference reflects the strong marriage – income correlation in Figure

<sup>&</sup>lt;sup>36</sup> Specifically, from before 2000 to after, the marriage rate in the middle-income decile (45<sup>th</sup> to 55<sup>th</sup> percentiles) declined from 71 to 57 percent, or 14 percentage points. The decline for the top decile (90 to 100) is only 5 points (88 to 83 percent). The decline is also lower in the very bottom decile (0 to 10<sup>th</sup> percentile), where the marriage rate fell by 8 points, from 29 to 21.

<sup>&</sup>lt;sup>37</sup> Small sample sizes (unmarried at the top and married at the bottom of the income distribution) merit caution here. However, the marital premium is significantly higher in the lowest quintile of the income distribution than at the highest.

### Figure 14. Happiness, Marriage and Income Percentile. 1972-2018



Figure shows happiness measures (Y-axis) by income percentile (x-axis). The two rising lines show smoothed representations of happiness of married (green) and unmarried (red) individuals. The thick dark line is the marital premium, which is the difference in the height of the green and red lines. The two lighter dashed lines show the marital premium in the years before and after 2000. The higher of these (blue) is for 2001-18 and the lower (red) for the years before 2001.

13. The marital premium in figure 14 answers: "how much happier are married than unmarried people with a given income?" Accordingly, it does not include the part of the overall 31.2 premium that is coming from the higher income of married people. That part is six points, which is comparatively modest in context. Mainly figure 14 reinforces the pervasiveness and importance of the marital premium. While the premium is highest for the poorest, it is substantial for rich and poor and for everyone in between. You can get a sense of how important marriage is by noticing that happiness for the richest unmarried (right end of the red line) is just about as great (around 20 points) as happiness for the poorest married (left end of the green line). So is the unmarried prince happier than a married pauper? The odds are no better than even. But the prince's odds go up substantially if he has found a princess.

### 5. Summary and Questions

I have tried to quantify marital happiness across various groups from answers to a General Social Survey question that asks whether you are happy, sad or in between. My measure is just the difference between the number who answer happy and sad per 100 respondents, treating those in between as neutral. Over the period from 1972 to 2018, this measure has averaged around +20 in the whole population. However, married and unmarried respondents give much different answers: happiness is near zero for the unmarried and around +30 for the married. Most of this paper has been about this difference – happiness for the married less happiness for the unmarried –, which I call the Marital Premium.

A succinct summary of the paper would be Thirty – or 31.2 more precisely, which is the average marital premium over the forty six years spanned by my data. Figure 15 summarizes the marital premium across all of the population groups I have considered in the paper. The first bar is the 31.2 for the whole adult population since the early 1970s. Every other bar shows some sub-sample of this

### Figure 15. The Marital Premium. Summary



Bar heights show the marital premium for various groups and sub-groups of the population 25 and older. Groups are indicated by the color coding at the right. The bar heights are generally averages of data from 1972 to 2018 (sex practice data are 1988-2018). The bar heights are either taken directly from previous figures or the data underlying them. In some cases I compare extremes within a category (years, age education and income).

population. And it doesn't matter whether you are gay or straight, male or female, black or white, young or old, rich or poor, a college graduate or a high school dropout or were any combination of these in the 1970s or the 2010s. There is a substantial marital premium for your group, and it will not be far from 30 points.<sup>38</sup> This robustness of the marital premium is the main message of this paper. It suggests a strong prior that other significant sub-categories will also have substantial marital premiums.

Why is the marital premium so large and so pervasive? I cannot answer this with the kind of data I have been exploring. However, I can explore some potential answers:

#### A. Is it Companionship?

The relevant question here is whether unmarried individuals are happier if they are not living alone. If so, it might imply that part of the marital premium comes simply from companionship. I have already raised this possibility implicitly with cohabiters, who are clearly happier than other unmarried. However, they are also distinctly less happy than married couples, and cohabitation may denote more than just companionship. What about other unmarried who may or may not be living alone? The answer is that it doesn't seem to matter.

Specifically, around a third of sample households have unmarried heads. If we remove the cohabiters and, as a special case, single parents<sup>39</sup> we are left with one fourth of all households. These divide 55/45 lone singles/unmarried with some other adult presence.<sup>40</sup> There is no discernible happiness difference between these two groups.<sup>41</sup>

<sup>&</sup>lt;sup>38</sup> The lowest premium in the figure – the last one - is at 22 for the very rich, and, as discussed, this understates the marital happiness of this group (by removing the impact of the extra income - and thereby the extra happiness-associated with marriage.)

<sup>&</sup>lt;sup>39</sup> Perhaps unsurprisingly, single parents are among the less happy unmarried (-5.5 on my scale).

<sup>&</sup>lt;sup>40</sup> Roommates, siblings, other relatives, gay couples etc.

<sup>&</sup>lt;sup>41</sup> The lone singles score +2.6 on my scale. The multi adult unmarried score +.5. Both are well within the range for all unmarried, i.e., close to zero. They are statistically indistinguishable from each other.

#### B. Is it children?

No. But it is complicated by some basic demographics. For my sample – US adults from the 1970s up to the pandemic of 2020 – children and marriage are both strong norms. This begins with the youngest i – people in their mid to late 20s – and grows from there over the next 15 years or so.<sup>42</sup> By age 40 around 70 percent are married and almost 80 percent of these will have children living in their household.<sup>43</sup> Nests begin emptying after age 40, and this process is essentially complete by age 60; the share of householders over 60 living with children is in single digits<sup>44</sup>. Therefore, there are really two aspects to our question: is it children as part of lived daily reality and/or as a distant presence in time or space? These aspects vary sharply by age: the lived reality part comes before age 45 or so, and the more distant relationships predominate thereafter.

It is easier to assess the connection between marital happiness and children living within the household. Figure 16 shows happiness among married householders between 25 and 60 with and without children present. The top two lines, which look like a bow tie, show happiness for married householders without children (top blue line) and with children (red line). The important feature is that that those without children are consistently happier. The difference (shown as the black "child deficit" line toward the bottom) narrows from near 10 points in the mid-20s to near zero around age 40 and then widens into the late 50s. However, the child deficit never vanishes nor reverses.

<sup>&</sup>lt;sup>42</sup> Around half of 25-29 year olds in the sample are married. Of the married under 30s over 60 percent already had children. See details in next two footnote.

<sup>&</sup>lt;sup>43</sup> The marriage rate increases steadily from half (50.5 percent) of 25-29 year olds to a peak near three-fourths around age 50 (73.1 percent of 50-54 year olds). It then declines slowly through the mid70s and more rapidly thereafter (to 61.6 percent of 70-74 year olds and 46 percent for all those 75 and older).

<sup>&</sup>lt;sup>44</sup> Among married householders, 63 percent of 25-29 year olds have children. This rises rapidly to a peak of 79.4 percent of 35-39 year olds then declines to 54.2 percent for 45-49 year olds, to 17 percent for 55-59 year olds and to 8.9 percent in the next five years. Note that the decline after age 40 is a net figure: some new households with children outweighed by emptied nests.



Figure 16. Marital Happiness and Children. By Age. 1972-2018

This shows a smoothed representation of happiness by age for married respondents classified by whether or not their household includes children. Respondents' age is truncated at 60 because there are too few householders over 60 with children for meaningful estimates. The top (blue) line shows happiness for householders with no children. The red line is for those with children in the household. The thicker black line labeled "child deficit" is just the difference between the blue and red line What does change is the source of the child deficit. For the downward arc from 25 to around 40 the deficit is driven by high but declining happiness among the childless. Very young childless couples are among the happiest groups (40 points at age 25) found in the paper. We can speculate about reasons for the decline from these high levels (ticking of the biological clock?), but the salient fact is that their contemporaries with children are never happier than they are.

The upturn in the child deficit after age 40 is happening as children grow up and move away. The main source of the rising child deficit here is declining happiness of households where the children have not yet moved out. The red (with children) line is flat until around age 40 after which there is a decline in happiness from the low 30s to the mid-20s. These older couples with children in the house are among the least happy married groups in this paper. Let's call this, speculatively, the "so when are you leaving already?" effect. It is perhaps easier to understand than the similar gap among the very young.

While the more distant and backward looking aspects of marriage with children are harder to measure, what I have seems complementary with the results for young households. Respondents are asked whether they have ever had a child in their lifetime. For those beyond age 40 a steady share, almost10 percent, of the married report never having a child.<sup>45</sup> Most of this small but non-trivial group are not only looking back at a life without children but also forward to a life where it is unlikely there will be any, including grandchildren. However, significantly, they do so without regret, at least as captured by the happiness measure. Happiness is almost identical for these childless older marrieds as for their contemporaries who have had children.<sup>46</sup>

<sup>&</sup>lt;sup>45</sup> It is 8.1 percent of 40 to 55 year olds and 8.5 percent of those 56-80.

<sup>&</sup>lt;sup>46</sup> The happiness measure is 34.5 for childless married 40 and over. It is actually a bit lower, 33.2, for the much larger 40+ group who have had children. For statistical and practical purposes, these are identical.

Be clear about what this set of results can and cannot say. It does not say that children are irrelevant to marital happiness. Most adults marry and the vast majority of those will have children, and this vast majority is distinctly happier than unmarried contemporaries are. Caveats about which is contributing what notwithstanding, marriage, children and happiness are intertwined. However, there is a small, but not too small to notice, group of married couples who do not have children and never will and are at least as happy as other married couples, if not more so. That is the sense in which the presence of children cannot help us to explain the marital premium. This could be a limitation of the data: children are necessary for the happiness of some but not others, and we cannot tell which is which. However, it is a non-trivial result. It would have been unsurprising to find that the childless married had lower happiness than those with children but higher than the unmarried. In that case, we would have uncovered a measurable tradeoff with implications for the size of the marital premium. We found no such tradeoff here. This finding is relevant to my final question.

#### C. Is it sex?

Perhaps only an economist could describe marriage as a legal arrangement that lowers the transaction costs of sexual relations. However, the data would agree. There is non-trivial celibacy among US adults, and it is heavily concentrated in the unmarried. Overall, around one in five adults report no sex in the last 12 months; it is one in three of the unmarried but less than a tenth of the married.<sup>47</sup> There is a distinct age gradient. Celibacy is essentially non-existent among married individuals under 40, and 1/7<sup>th</sup> among unmarried under 40. For those over 40, the corresponding

<sup>&</sup>lt;sup>47</sup> The data are from the sex practice subsample of the GSS that is part of every survey from 1989-2018. The relevant variable is sexfreq, which is the answer to the question: About how often did you have sex during the last 12 months? The seven available answers range from 0 (my definition of celibacy) to "More than 3 times a week." For present purposes, I have combined the active categories into three as indicated in the note to Figure 17. The precise figures for celibacy over all available data since 1989 are 18.5 percent of all adults, 35.4 percent of unmarried and 7.7 percent of married adults.

figures are 1/9<sup>th</sup> of the married and fully half the unmarried.<sup>48</sup> For the sexually active, frequency varies considerably within any age/marital status breakdown of adults, and marital status matters less.<sup>49</sup>

Is the increased likelihood or frequency of sex associated with an increased marital premium? Yes, but not very much. Figure 17 shows happiness of groups classified by sex frequency. Two features stand out. First, if you scan from left (low or no sexual activity) to right (several times a week), happiness is increasing for both married (gray) and unmarried (blue). The increase is meaningful: in panel A (under 40s) the swing from lowest to highest happiness is around 13 points for the married and 10 points for the unmarried.<sup>50</sup> The corresponding swings from low to high frequency in panel B (over 40s) are both around 14 points.<sup>51</sup> So, sex and happiness go together for old and young, and the more the merrier.

The second feature to note is the jump in the marital premium from abstinence to any sexual

activity. I can only show this for those over 40, where the premium (red bars) jumps from 25.8 at zero

frequency to 32 in the lowest frequency category.<sup>52</sup> This means that, unlike the childless married, there

<sup>&</sup>lt;sup>48</sup> More precisely: for those under 40, 0.7 percent of married and 14.3 percent of unmarried are celibate. For those 40 and over, 11.1 percent of married and 51.2 percent of unmarried are celibate. See appendix Table A11 for detailed data underlying Figure 17.

<sup>&</sup>lt;sup>49</sup> Among sexually active adults, 24.4 percent report frequency at once per month or less and 31.3 percent at over once per week with the rest in between.

There is some predictable age variation in frequency, but less variety by marital status. For example, call the three categories of sexual activity in Figure 17 low frequency (not more than once a month), medium (between once a month and once a week), and high (2or 3 times a week and more). Then calculate a summary frequency measure akin to my happiness measure: the difference between the percentage of high and low frequency, treating the percentage medium as neutral. The difference in this frequency measure between sexually active married and unmarried (a kind of marital premium) is modest for the under 40s and dwindles to almost nothing after 40. Specifically, for the under 40s: high-low frequency percentages are +33 for married and +20 for unmarried, or a difference of +13. Frequency declines considerably with age for both married and unmarried, and my summary measure becomes negative (low frequency exceeds high) for both groups after 40: -10 for the unmarried and -8 for the married, or a "marital premium" of +2, which is effectively nil.

<sup>&</sup>lt;sup>50</sup> Panel A does not show married celibacy, because it essentially does not exist. The remaining gray bars increase from lowest (25.4) to highest (38.7) by 13.3. For the unmarried, the low actually occurs in the lowest frequency group rather than the celibate. The swing here is from -2.2 to +7.4 or 9.6 points

<sup>&</sup>lt;sup>51</sup> Specifically +14.2 (from 25.2 to 39.4) for the married and +13.5 (from -6.1 to +7.4) for the unmarried; again the low for the unmarried occurs in the least active group rather than the celibate.

<sup>&</sup>lt;sup>52</sup> Increased frequency beyond this has little effect on the marital premium. The average marital premium across the three sexually active groups is 33.6 or 7.8 more than for married celibates.

### Figure 17. Sex Frequency, Marital Status and Happiness. By Age. 1989-2018





B. Age 40 & over

Y axis is happiness. X-axis is respondents' reported frequency of sex in last year from GSS variable sexfreq. I reclassified answers into the categories shown on the x-axis. <=1x\_month is "once or twice [in last 12 months]" or "once a month"; <=1x\_week is "2 or 3 times a month" or "About once a week"; >1x\_ week is "2 or 3 times a week" or "More than 3 times a week." Graphs have same structure as Figures 11, 12A&B: average happiness for married (gray) - not married(blue) = marital premium (red, with bar height shown above). is a measurable happiness cost for the abstinent married. This is the sense in which sex matters for the marital premium. Note that this cost vanishes with any sexual activity. More frequent sex is associated with more happiness, but about equally for married and unmarried sexually active. Therefore, across a very wide variety of sexual activity – from once a year to once a day at the extremes – the marital premium is about the same. Also, keep the cost to the abstinent married in perspective: around 6 or 7 point decline in the marital premium. This still leaves a substantial premium, in the mid-20s. And who is happier: the sexless married or the most sexually active unmarried? It is not even close.<sup>53</sup> The marital premium is about much more than sex or its frequency.

My attempts to answer some obvious questions about the marital premium have perhaps shed some light on it. But not much. The main fact surfaced in this paper remains the ubiquity of a large marital premium not only across a variety of socio-economic and demographic factors but also across diverse aspects closely related to marriage, such as sex and children. This is a mystery perhaps worth exploring further.

<sup>&</sup>lt;sup>53</sup> Happiness is 25.2 for the abstinent married and 7.4 for the most active over 40s (or under 40s), a difference of almost 18 points.

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### Appendix Tables for "Anatomy of Marital Happiness

This section contains appendix tables A1 – A11 mentioned in main text and footnotes.

	Period & Percent										
		Recent									
	All Years	Early Years	Years	Years							
Household Group	1975-2018	1975-1987	1988-2000	2001-2018							
	(1)	(2)	(3)	(4)							
A. Cohabiters by Age											
1. All ages	4.1	1.4	4.1	5.7							
2. 25-44	6.2	2.3	6.3	8.8							
3. 45+	2.2	0.6	1.8	3.4							
ratio:young_old (line2/line3)	2.9	4.0	3.5	2.6							
B. Percent of cohabiting couples											
with children:											
1. All ages	32.9	29.3	35.1	33.3							
2. 25-44	42.1	33.9	41.6	44.9							
3. 45+	11.5	12.3	13.3	10.9							

## Table A1. Cohabiting Couples as Percent of All Households by Age and Percentwith Children. 1975-2018 and Sub-periods

Source: General Social Survey, variable HHTYPE1. This summarizes interviewer's classification of survey respondent's household. Cohabitation is defined as two unmarried adults of opposite sex with or without children under 18. Column (1) shows data for all available years (1975-2018). Columns (2)-(4) show sub periods within these years - roughly the early period of rapid growth in cohabitation from a small base (column (2), then a middle & recent period (columns (3) and (4)) where the growth continues at slower rates.

Line A1 shows the percentage of all households that were cohabiting. Lines 2 and 3 show the percentages for households within age groups, and the last line shows the ratio of these percentages (all subject to rounding). For example, over the whole period (column (1)) all cohabiters were 4.1 percent of all households, but they were 6.2 percent of the under 45 households and 2.2 percent of 45 and older households.

Line B1 shows the percent of cohabiting couple households with children. Lines 2 and 3 show this percentage by age groups. For example, over the whole period 32.9 percent of cohabiting couples had children living in their households. This percentage was 42.1 for under 45 households and 11.5 percent for 45 and over.

Line	Period & Type of Household	N	Happiness	SD or SE	t-ratio
		(1)	(2)	(3)	(4)=(2)/(3)
	A. All years 1975-2018				
1	Cohabiters	1,892	13.47	62.23	
2	Married	34,496	33.03	60.90	
3	Unmarrried non cohabiter	17,945	1.80	63.26	
	Differences				
4	Marr - Cohab (line2-line1))		19.56	1.44	13.6
5	Cohab - Unmarr (Line1-Line3)		11.67	1.53	7.6
	B. Early: 1975-1987				
1	Cohabiters	197	9.75	58.46	
2	Married	13,741	30.71	62.38	
3	Unmarrried non cohabiter	4,744	1.43	64.65	
	Differences				
4	Marr - Cohab (line2-line1))		20.96	4.47	4.7
5	Cohab - Unmarr (Line1-Line3)		8.32	4.68	1.8
	C. Mid: 1988-2000				
1	Cohabiters	674	15.69	58.46	
2	Married	10,668	35.14	59.20	
3	Unmarrried non cohabiter	6,002	4.62	61.34	
	Differences				
4	Marr - Cohab (line2-line1))		19.45	2.35	8.3
5	Cohab - Unmarr (Line1-Line3)		11.07	2.48	4.5
	D.Late: 2001-2018				
1	Cohabiters	1,022	12.72	65.19	
2	Married	10,088	33.95	60.53	
3	Unmarrried non cohabiter	7,198	-0.30	63.83	
	Differences				
4	Marr - Cohab (line2-line1))		21.23	2.00	10.6
5	Cohab - Unmarr (Line1-Line3)		13.02	2.14	6.1

## Table A2. Happiness for Cohabiters, other Unmarried and MarriedRespondents. 1975-2018 and Sub-periods

Source GSS variables HHTYPE1 (see Table A1) and happy. The four panels show mean happiness for three household types (cohabiting, married and non-married other than cohabiting) on lines 1-3 of each panel. Lines 4 and 5 show the difference between married and cohabiting and cohabiting v other unmarried respectively. Panel A shows all available years. Panels B, C and D show indicated sub periods.

Column (1) is the sample size (sum of weights from GSS variable wtssall).

(Note to Table A2 continued)

Column (2) is mean happiness or the indicated difference

Column (3) is the standard deviation across observations (lines 1-3) or the standard error of the mean difference (lines 4 and 5).

Column (4) shows the t-ratio for tests of the difference between means against the null. |t|>2 implies a risk of error <.05 for rejecting the null.

## Table A3. Happiness for Cohabiters, other Unmarried and Married by Gender.1975-2018

Line	Genders	N	Happiness	SD or SE	t-ratio
		(1)	(2)	(3)	(4)=(2)/(3)
	A. Both Genders				
1	Cohabiters	1,892	13.47	62.23	
2	Married	34,496	33.03	60.90	
3	Unmarrried non cohabiter	17,945	1.80	63.26	
	Differences				
4	Marr - Cohab (line2-line1))		19.56	1.44	13.6
5	Cohab - Unmarr (Line1-Line3)		11.67	1.53	7.6
	B. Males				
1	Cohabiters	960	13.18	61.55	
2	Married	14,984	32.12	60.57	
3	Unmarrried non cohabiter	7,142	-0.19	62.29	
	Differences				
4	Marr - Cohab (line2-line1))		18.94	2.02	9.4
5	Cohab - Unmarr (Line1-Line3)		13.37	2.14	6.2
	C. Females		0.00	0.00	
1	Cohabiters	932	13.77	62.96	
2	Married	16,351	34.39	60.37	
3	Unmarrried non cohabiter	10,802	3.12	63.90	
	Differences				
4	Marr - Cohab (line2-line1))		20.62	2.03	10.2
5	Cohab - Unmarr (Line1-Line3)		10.65	2.18	4.9
	D. Male - Female				
1	Cohabiters		-0.59	2.86	-0.2
2	Married		-2.27	0.68	-3.3
3	Unmarrried non cohabiter		-3.31	0.60	-5.5
	Differences				
4	Marr - Cohab (line2-line1))		-1.68	2.86	-0.6
5	Cohab - Unmarr (Line1-Line3)		2.72	3.05	0.9

See Note to Table A2. Panels show data by gender. Panel A is copied from table A2. Panel D shows Male Female differences . Column 4 shows t-ratios for indicated differences.

	Period		All Years	1988_2018			1988	2003			2004	2018	
line	Gender, Marital Status, Sex	N	happiness	sd or se	t	N	happiness	sd or se	t	N	happiness	sd or se	t
	Practice	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9	(10)	(11)	(12)
	A. All genders_married												
1	heterosexual	15,649	35.2	59.1		8,912	35.5	58.7		6,736	34.9	59.6	
2	homosexual	165	39.8	58.8		93	43.4	58.8		72	35.3	58.9	
3	Dif: hetero-homo		-4.6	4.6	-1.00		-7.9	6.1	-1.29		-0.4	7.0	-0.06
	B. All genders_not married												
1	heterosexual	6,367	2.3	61.4		3,276	4.5	59.9		3,091	0.0	62.9	
2	homosexual	378	13.0	60.8		182	15.0	61.1		196	11.2	60.6	
3	Dif: hetero-homo		-10.7	3.2	-3.33		-10.6	4.6	-2.27		-11.2	4.5	-2.51
	C. All genders_marprem												
1	heterosexual		33.0	0.9	36.50		31.1	1.2	25.54		34.9	1.3	25.95
2	homosexual		26.8	5.5	4.85		28.4	7.6	3.74		24.1	8.2	2.94
3	Dif: hetero-homo		6.1	5.6	1.09		2.7	7.7	0.35		10.8	8.3	1.30
	D.Males_married												
1	heterosexual	7,392	34.1	59.1		4,241	35.4	58.3		3,150	32.2	60.1	
2	homosexual	78	43.7	52.7		48	46.5	54.9		31	39.4	49.7	
3	Dif: hetero-homo		-9.6	6.0	-1.60		-11.0	8.0	-1.38		-7.2	9.0	-0.80
	E. Males_not married												
1	heterosexual	3,082	1.4	60.5		1,561	3.8	58.6		1,521	-1.1	62.4	
2	homosexual	211	12.7	58.9		115	16.2	58.6		96	8.4	29.3	
3	Dif: hetero-homo		-11.3	4.2	-2.68		-12.4	5.7	-2.20		-9.5	3.4	-2.81
	F. Males_marprem												
1	heterosexual		32.7	1.3	25.38		31.7	1.7	18.29		33.3	1.9	17.30
2	homosexual		31.1	7.2	4.31		30.3	9.6	3.14		31.0	9.4	3.29
3	Dif: hetero-homo		1.6	7.3	0.22		1.4	9.8	0.15		2.3	9.6	0.24
	G. females_married												
1	heterosexual	8,257	36.3	59.1		4,671	35.6	59.0		3,586	37.2	59.1	
2	homosexual	86	36.3	63.9		45	40.2	63.2		41	32.2	65.4	
3	Dif: hetero-homo		0.0	6.9	0.00		-4.5	9.5	-0.48		5.0	10.3	0.49
	H. females_not married												
1	heterosexual	3,284	3.2	62.1		1,715	5.1	61.1		1,569	1.0	63.3	
2	homosexual	167	13.5	63.2		67	13.0	65.4		100	13.8	61.9	
3	Dif: hetero-homo		-10.4	5.0	-2.07		-7.9	8.1	-0.97		-12.8	6.4	-2.00
	I. females_marprem												
1	heterosexual		33.2	1.3	26.24		30.5	1.7	17.87		36.1	1.9	19.25
2	homosexual		22.8	8.4	2.70		27.2	12.4	2.20		18.3	11.9	1.53
3	Dif: hetero-homo		10.4	8.5	1.21		3.4	12.5	0.27		17.8	12.1	1.47

### Table A4. Happiness by Sex Practice and Marital Status and Gender. 1988-2018 and Sub-periods

(note on following page)

Note to Table A4. Happiness is cross-tabulated by heterosexual or homosexual practice (see main text for definition) and self-reported marital status and gender. There are three sets of panels (A-C, D-F, G-I), each with three sub-panels (A,B,C etc). The 3 lines in each panel show data for heterosexuals, homosexuals and the difference between them. The first set (A-C) shows data for all genders, the next two show males and females separately. Within each set of three panels the first panel (e.g. A) shows data for self-reported married respondents, the next (e.g. B) shows unmarried and the last (e.g., C) shows the marital premium.

The 12 Columns give three sets of four statistics as follows (in order) : sample size, mean happiness, standard deviation of happiness or standard error of a difference, t-ratio for a test of difference against the null. Each set covers the indicated years.

		1972_	2018			1972_	2000			2001	_18	
Marital Status & Gender	N (1)	Happiness (2)	SD or SE (3)	t -ratio (4)	N (5)	Happiness (6)	SD or SE (7)	t -ratio (8)	N (9)	Happiness (10)	SD or SE (11)	t -ratio (12)
A. Married												
1. Male	14,635	31.46	61.14		10,512	30.965	61.16		4,123	32.7	61.05	
2. Female	15,697	34.48	60.65		11,180	34.23	60.90		4,517	35.08	60.03	
3. Male-Female (L1-L2)		-3.02	0.70	-4.32		-3.265	0.83	-3.94		-2.38	1.30	-1.82
B. Not married												
1. Male	9,000	-0.19	62.29		5,178	0.64	61.58		3,822	-1.3	63.21	
2. Female	14,596	3.12	63.86		9,261	4.78	63.55		5,335	0.44	64.28	
3. Male-Female (L1-L2)		-3.31	0.84	-3.93		-4.14	1.08	-3.83		-1.74	1.35	-1.29
C. Marital premium												
1. Male		31.65	0.83	38.20		30.325	1.04	29.07		34	1.40	24.35
2. Female		31.36	0.72	43.75		29.45	0.88	33.61		34.64	1.25	27.63
3. Male-Female (L1-L2)		0.29	1.10	0.26		0.875	1.36	0.64		-0.64	1.88	-0.34

### Table A5. Happiness by Gender and Marital Status. 1972-2018 and Sub-periods

Source GSS variables happy, sex, marital. See Tables 1 and 2 and notes for definitions of rows. See note to Table A4 for definitions of columns

	1972_2018					1972_2	000		2001_18			
Marital Status & Age	N	Happiness	SD or SE	t -ratio	Z	happiness	sd or se	t	Z	happiness	sd or se	t
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12
A. Married												
1. Age < 45	14,249	31.80	59.80		10,829	30.61	59.80		3,420	35.3	59.67	
2. Age 45+	16,083	34.05	61.78		10,863	34.51	62.10		5,220	33.09	61.06	
3. Young-Old (L1-L2)		-2.25	0.70	-3.22		-3.9	0.83	-4.71		2.21	1.32	1.67
B. Not married												
1. Age < 45	10,533	2.18	62.07		6,732	2.65	60.46		3,801	1.42	62.05	
2. Age 45+	13,063	1.44	65.31		7,707	3.8	65.22		5,356	-1.78	65.29	
3. Young-Old (L1-L2)		0.74	0.83	0.89		-1.15	1.05	-1.10		3.2	1.34	2.38
C. Marital premium												
1. Age < 45		29.62	0.79	37.72		27.96	0.93	29.92		33.88	1.43	23.64
2. Age 45+		32.61	0.75	43.43		30.71	0.95	32.25		34.87	1.23	28.38
3. Young-Old (L1-L2)		-2.99	1.09	-2.75		-2.75	1.33	-2.06		-0.99	1.89	-0.52

### Table A6. Happiness by Age and Marital Status. 1972-2018 and Sub-periods

Source: GSS variables happy, age, marital. Line 1 in each panel shows respondents aged 25-44; Line 2 shows age 45 and older; Line 3 is the difference between those under and over 45. Marital premium is the difference between values in panel A and B. Se note to Table A4 for definitions of columns

		All Races			White			Black		White_Black
										Ratio or
Variable and	Ν	Variable	SD	Ν	Variable	SD	Ν	Variable	SD	Difference
Decade	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
A.Percent Married										(ratio)
All 1970's-2010's	58,280	65.6	47.5	47,088	69.1	46.2	8,104	46.2	45.9	1.50
1970's	9,222	79.2	40.6	8,113	81.1	39.2	1,051	64.3	48.0	1.26
1980's	12,619	69.1	46.2	10,402	72.6	44.6	1,910	50.0	50.0	1.45
1990's	12,037	64.1	48.0	9,933	67.0	47.0	1,552	44.8	49.8	1.50
2000's	13,576	61.7	48.6	10,548	64.8	47.8	1,903	42.4	49.4	1.53
2010's	10,826	56.3	49.6	8,092	60.9	48.8	1,688	35.1	47.7	1.74
	В.	Happiness								(difference)
All 1970's-2010's	53,928	22.34	63.47	43,747	25.58	62.35	7,442	4.52	66.20	21.06
1970's	9,189	24.44	64.94	8,090	27.75	63.8	1,041	-1.06	68.52	28.81
1980's	12,481	23.08	63.03	10,309	26.85	61.91	1,869	1.64	64.85	25.21
1990's	11,951	23.22	61.95	9,871	25.89	60.93	1,537	5.84	63.33	20.05
2000's	9,516	22.51	63.07	7,407	25.62	61.93	1,318	9.61	67.67	16.01
2010's	10,791	18.59	64.59	8,070	21.36	63.34	1,677	6.40	67.40	14.96

### Table A7. Marriage Rates and Happiness by Race. Decades from 1970's through 2010's.

Source: GSS variables happy, marital and race. See note to Table 1. Panel A shows the percent of respondents married . Panel B shows happiness. Means for the indicated period are in columns 2 for all races, column 5 for whites and column 8 for blacks. All races includes races other than black or white. N=sample size, SD=standard deviation. Column 10 shows the ratio of column5 to column 8 in panel A and the difference between columns 5 and 8 in panel B... Data include all surveys from 1972-2018 subdivided by decade, e.g. 1972-79 (1970's), 1980-89 (1980's) etc.

Doriod and Marital		White			Black		White - Black			
	Ν	Happiness	SD or SE	Ν	Happiness	SD or SE	Happiness	SE	t	
Status	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
All Years: 1972-2018										
1. Married	26,167	34.74	60.02	2,734	19.48	65.39	15.26	1.30	11.70	
2. Not married	17,580	4.82	62.54	4,708	-8.38	64.17	13.2	1.05	12.60	
3. Marital premium		29.92	0.60		27.86	1.56	2.06	1.67	1.23	
Decade Averages										
1970's (1972_79)										
1. Married	5,997	33.58	62.44	584	8.03	68.53	25.55	2.95	8.67	
2. Not married	2,093	2.79	63.35	457	-17.6	65.41	20.39	3.36	6.07	
3. Marital premium		30.79	1.60		25.63	4.17	5.16	4.47	1.15	
1980's (1980_89)										
1. Married	6,490	33.48	60.25	754	13.27	63.54	20.21	2.43	8.31	
2. Not married	3,819	9.17	62.84	1,115	-10.11	64.08	19.28	2.17	8.88	
3. Marital premium		24.31	1.26		23.38	3.01	0.93	3.26	0.29	
1990's (1990_99)										
1. Married	5,583	35.74	58.52	534	19.17	61.16	16.57	2.76	6.00	
2. Not married	4,288	5.83	60.82	1,003	-5	63.03	10.83	2.20	4.93	
3. Marital premium		29.91	1.21		24.17	3.31	5.74	3.53	1.63	
2000's (2000_09)										
1. Married	3,974	37.49	58.59	402	35.65	65.11	1.84	3.38	0.54	
2. Not married	3,433	4.29	62.06	916	-8.54	63.41	12.83	2.35	5.47	
3. Marital premium		33.2	1.41		44.19	3.86	-10.99	4.11	-2.67	
2010's (2010_18)										
1. Married	4,123	34.26	59.66	460	29.68	65.72	4.58	3.20	1.43	
2. Not married	3,947	1.35	63.69	1,217	-6.16	64.94	7.51	2.12	3.54	
3. Marital premium		32.91	1.38		35.84	3.59	-2.93	3.84	-0.76	

### Table A8. Happiness by Race and Marital Status. Decades from 1970's through 2010's

See notes to Tables A7 .and A4 Column 7 = column 2 – column 5. Column 8 is the standard error of this difference , and column 9 = column 7/column 8.

## Table A9. Marital Status Components of the Change in the Racial Happiness Gapfrom the 1970's to the 2020's

Change and Components	White	Black	White- Black	
	(1)	(2)	(3)=(1)-(2)	
A. Change in Happiness of the				
Population				
1. 1970s happiness	27.75	-1.06	28.81	
2. 2010s happiness	21.36	6.4	14.96	
3. Change:2010s-1970s	-6.39	7.46	-13.85	
B. The Three Components of this				
Change:				
1. Change in happiness of				
unmarried	-1.44	11.44	-12.88	
plus				
2a. marriage share (2010's)	0.6085	0.3506		
x 2b. Change in marital premium	2.12	10.21		
2. marital premium effect	1.29	3.58	-2.29	
plus				
3a marital premium (1970's)	30.79	25.63		
x 3b. Change in marriage rate	-0.2024	-0.292		
3. marriage rate effect	-6.23	-7.48	1.25	

Panel A. shows the change in happiness by race from the 1970's to the 2010's. Column 3 shows the white-black difference, e.g, line 3 says that the white black difference narrowed by 13.85 points between the 1970's and 2010's.

Panel B then breaks the changes into 3 components: Line 1 is the baseline component –the change in happiness for the unmarried; Line 2 is the component due to the change in the marital premium and Line 3 is the component due to the change in the marriage rate. Panel B comes from the following formula for average happiness in a population:

Average Happiness = Unmarried Happiness + marriage share\*marital premium.

This implies that the change over time ( $\Delta$ ) is:

 $\Delta$ Happiness =  $\Delta$ Unmarried happiness +2010's average marriage share\* $\Delta$ marital premium+1970's average marital premium\* $\Delta$ marriage rate.

The three terms above and their components are in lines 1, 2 and 3 respectively in panel B; column 3 shows the racial difference in each component. Accordingly, in column 3 the three terms in panel B sum to line 3 of panel A (subject to rounding).

		1972_2018				1972_2000				2001_18				Change: col 10-col 6		
Education Group	Ν	Happiness	SD or SE	t-ratio	Ν	Happiness	SD or SE	t-ratio	Ν	Happiness	SD or SE	t-ratio	Happiness	SE	t-ratio	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
A. Less than HS Grad																
1. Married	6471	25.8	65.9		5405	25.9	65.7		1066	25.3	66.7		-0.6	2.2	-0.3	
2. Not Married	5863	-7.2	67.3		4255	-4.4	66.9		1608	-13.8	67.9		-9.3	2.0	-4.7	
3. Marital Premium		33.0	1.2	27.5		30.3	1.4	22.3		39.1	2.7	14.7	8.7	3.0	2.9	
B. HS Graduates																
1. Married	9581	31.9	60.5		7284	33.2	60.1		2297	28.2	61.7		-5.0	1.5	-3.4	
2. Not Married	6539	-0.6	62.0		3990	-0.2	60.9		2549	-1.0	63.6		-0.8	1.6	-0.5	
3. Marital Premium		32.5	1.0	33.0		33.4	1.2	28.0		29.2	1.8	16.2	-4.2	2.2	-1.9	
C. Some College																
1. Married	6480	34.1	58.7		4381	33.6	58.6		2099	35.1	58.9		1.5	1.6	1.0	
2. Not Married	5651	3.3	61.8		3181	6.1	61.0		2470	0.0	62.5		-6.1	1.7	-3.7	
3. Marital Premium		30.8	1.1	28.0		27.5	1.4	19.7		35.1	1.8	19.5	7.6	2.3	3.3	
D. College Grads +																
1. Married	7800	39.6	58.0		4622	39.0	58.3		3178	40.4	57.7		1.3	1.3	1.0	
2. Not Married	5543	12.7	60.2		3013	15.3	59.6		2530	9.6	60.7		-5.7	1.6	-3.5	
3. Marital Premium		26.9	1.0	25.9		23.7	1.4	17.2		30.8	1.6	19.5	7.1	2.1	3.4	
E. All Groups																
1. Married	30332	33.0	60.9		21692	32.7	61.1		8640	34.0	60.5		1.3	0.8	1.7	
2. Not Married	23596	1.8	63.3		14439	3.2	62.8		9157	-0.3	63.8		-3.5	0.8	-4.1	
3. Marital Premium		31.2	0.5	57.8		29.4	0.7	44.1		34.3	0.9	36.7	4.8	1.1	4.2	

#### Table A10. Happiness by Education Group and Marital Status. 1972-2018 and Sub-periods and Changes

Data from GSS variables happy and educ (years of education). Panels defined as A. less than 12 years of education, B. Exactly 12 years, C. 13 through 15 years, and D. 16 years or more. Each panel shows mean happiness for married and not married respondents and the difference between them (the marital premium). SD or SE show standard deviations for sub groups and standard errors for mean differences within a panel or over time. t ratios are mean differences divided by their standard errors.

		Married			Not Married	Marital Premium			
Age Group and							Happiness		
Frequency	Ν	Happiness	SD	Ν	Happiness	SD	Difference	SE	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)-(5)	(8)	
A. All Ages									
0	1183	24.6	62.4	3473	-0.7	64.7	25.3	2.1	
< or=1x month	3240	25.9	60.2	1801	-4.3	61.6	30.2	1.7	
< or = 1x week	6777	35.8	58.3	2262	3.9	59.4	32.0	1.4	
2 x week or +	4135	39.1	58.9	2251	7.2	62.8	31.9	1.6	
B. Below 40									
0	33	0.2	67.1	554	-0.7	61.7	1.0	12.9	
< or=1x month	461	25.4	58.2	757	-2.2	60.5	27.5	3.5	
< or = 1x week	2139	33.8	57.2	1204	5.1	56.7	28.7	2.0	
2 x week or +	2008	38.7	58.7	1446	7.4	61.6	31.3	2.1	
C. 40 and over									
0	1148	25.2	62.2	2877	-0.6	65.3	25.8	2.2	
< or=1x month	2734	25.9	60.7	994	-6.1	62.5	32.0	2.1	
< or = 1x week	4458	37.0	58.8	1001	2.1	62.3	35.0	2.0	
2 x week or +	1995	39.4	59.2	752	7.4	65.0	32.0	2.6	

### Table A11. Sex Frequency and Happiness by Age and Marital Status. 1989-2018

Sex frequency is from GSS variable sexfreq, which answers: About how often did you have sex during the last 12 months? I combine the seven available answers as follows: 0= Not at all (celibacy)

< or = 1 x month = "once or twice" or "once a month"

< or = 1 x week = "2 or 3 times a month" or "About once a week"

2 x week or + = "2 or 3 times a week" or "More than 3 times a week"

Panels show data for all respondents (A) and sub-populations on either side of age 40 (B and C)

columns (1) and (4): weighted number of respondents

columns (2) and (5) : average happiness measure

columns (3) and (6): standard deviations of happiness

column (7): marital premium ( col (2) minus col(5)

column (8): standard error of column (7). With one exception, these are small enough so every marital premium significantly exceeds zero. The exception is the celibate under 40s where the tiny sample of married precludes any meaningful inference.