

Internet Dating: Social Implications

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Data from the How Couples Meet and Stay Together
nationally representative longitudinal study
<http://data.stanford.edu/hcmst>

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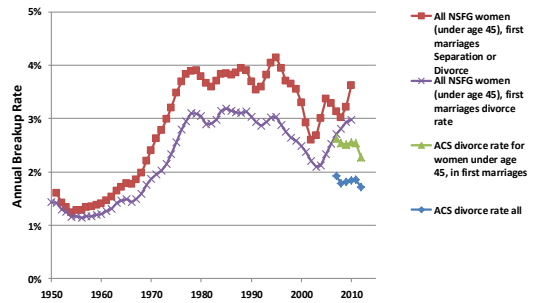
Photo from Vanity Fair, September 2015 story titled: "Tinder and the Dawn of the 'dating apocalypse.'" Photo credit: Justin Bishop



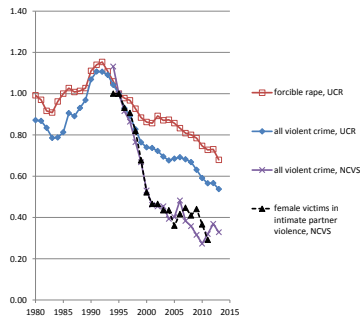
What are the reputed negative aspects of online dating?

- Cell phones supposedly reduce our attention spans, and displace face-to-face interaction. Technology supposedly makes us more superficial.
- Online Dating with its vast sea of potential mates leads to Choice Overload (Iyengar and Lepper's jam experiment)

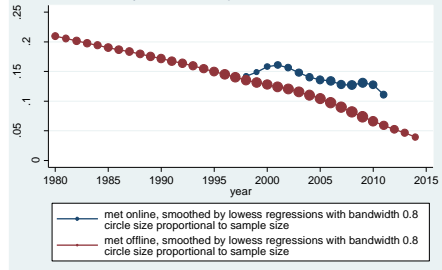
Marital Dissolution Rates from the National Survey of Family Growth and the American Community Survey



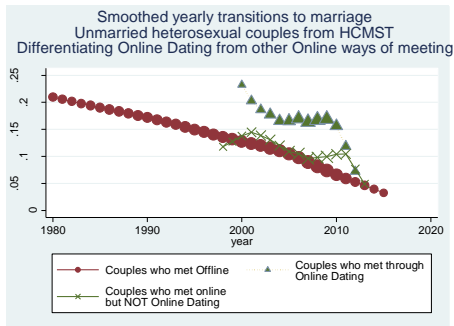
Trends in US crime rates, with 1995=1 from Uniform Crime Reports and National Crime Victim Surveys



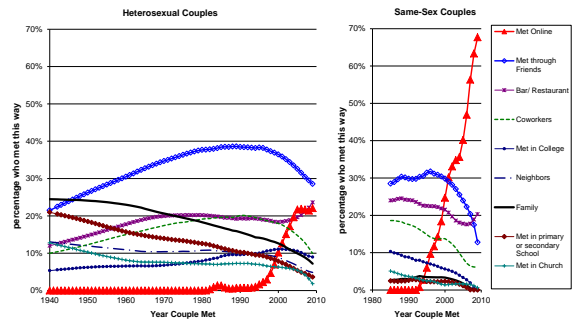
Annual rate of transition to marriage for heterosexual couples, by whether couple met online



Data from the How Couples Meet and Stay Together Project, waves 1-5.

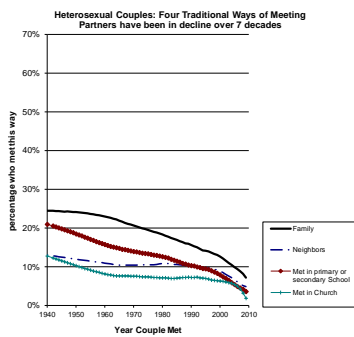


The Changing Way Americans Meet Their Partners

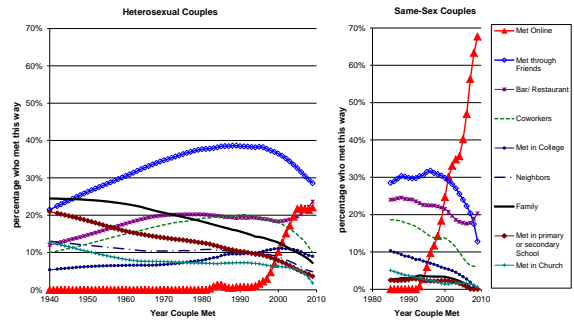


Source: From How Couples Meet and Stay Together, Wave 1, variables derived from question 24 (open text answer box: "How did you meet partner, name?"). N=2,482 for heterosexual couples, N=462 for same-sex couples. Because of smaller sample size, the figure for same-sex couples extends less far into the past. Respondents are age 18 and higher. Data smoothed with loess regression, bandwidth=0.8, except for "met online" category, which is smoothed with a less-aggressive and more-faithful 5 year moving average, because "met online" applies only to the most recent years couples met, which is the more data-rich part of the dataset. Friends, Family, and Coworkers can belong to either respondent or partner. Percentages don't add to 100% because more than one category can apply.

Supplementary tables and figures below



The Changing Way Americans Meet Their Partners



Source: From How Couples Meet and Stay Together, Wave 1, variables derived from question 24 (open text answer box: "How did you meet partner, name?"). N=2,482 for heterosexual couples, N=462 for same-sex couples. Because of smaller sample size, the figure for same-sex couples extends less far into the past. Respondents are age 18 and higher. Data smoothed with loess regression, bandwidth=0.8, except for "met online" category, which is smoothed with a less-aggressive and more-faithful 5 year moving average, because "met online" applies only to the most recent years couples met, which is the more data-rich part of the dataset. Friends, Family, and Coworkers can belong to either respondent or partner. Percentages don't add to 100% because more than one category can apply.

Comparison of event history relationship outcomes by Internet influence, HCMST data

Outcome	1 Broke up	2 Broke up	3 Got Married	4 Got Married	5 Moved in together	6 Moved in together
Internet Variable	Met Online	Have Internet Access at Home	Met Online	Have Internet Access at Home	Met Online	Have Internet Access at Home
Raw Odds ratio of rates without controls (with 95% CI)	1.31 [0.91, 1.89]	*0.64 [0.44, 0.93]	* 1.98 [1.06, 3.72]	* 3.01 [1.01, 9.00]	1.73 [0.94, 3.18]	2.17 [0.96, 4.88]
Odds Ratio adjusted with controls (with 95% CI)	0.96 [0.66, 1.39]	1.21 [0.79, 1.85]	* 1.93 [1.05, 3.54]	1.99 [0.72, 5.54]	1.48 [0.94, 2.31]	1.26 [0.51, 3.09]
Controls	age, relationship duration, relationship union, same-sex couple, college degree	age, relationship duration, relationship union, same-sex couple, college degree	age, age ² , relationship duration, race, college degree	age, age ² , relationship duration, race, college degree	age, age ² , relationship duration, race, college degree, same-sex couple	age, age ² , relationship duration, race, college degree, same-sex couple

Source: How Couples Meet and Stay Together, all outcomes took place between wave 1 of HCMST and wave 5 of HCMST, 2009-2015. Rates and comparisons of rates are weighted by weight variable "weight2." Confidence intervals determined by event history logistic regressions with robust standard errors, with standard errors clustered on couples. Controls are all time varying except for the following: same-sex couple status, race

* P<0.05

[TEXT BOX]
 [PROMPT TWICE: first prompt should say, "Please add more details, we want to understand your story." SECOND PROMPT: If response is less than 100 characters, the second response will say: "Is there anything else you could add? Every detail helps us."
 Q24. Please write the story of how you and [Partner_Name] first met and got to know one another and be sure to describe "how" and "where" you first met.



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Some typical example answers:

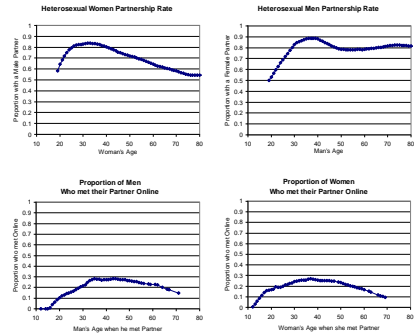
"My mother asked a family friend if she knew any nice single boys. The woman passed my phone number to [respondent's partner's] parents, who gave it to him. I had just broken up with my previous boyfriend, and was willing to see what else was out there. [respondent's partner] called me, and after we spoke on the phone, we decided to go on a date the next day. He picked me up, and we basically went on a blind date. He called me the next day to invite me to a friend's birthday party, so I knew he liked me. That was two years ago and we are now engaged."

"Met at a outdoor party a friend had. It was a keg party at the lake. Everybody rode 4 wheelers got drunk. I met [respondent's partner] we hit it off. Stayed together for a week. Didn't see him for Months. Hooked up again got hitched. My parents liked him."

"We met online for a hook up. I went to his place"

"[respondent's partner] and I met on [online search/messenger/personals]. He called me for over a month trying to get me to date him, and finally I said yes. I met him when he came to my door and we went to dinner and talked for hours at [chain restaurant], we went to a movie afterwards and held hands. Then he took me home. He called the next day and a couple more times before we went out again. before you knew it we were inseparable and were married less than 5 months after meeting."

The relationship between Partner Availability and Meeting Online



Source: HCMST survey, Wave I.
 Notes: Graphs smoothed by Loess; local regressions, bandwidth 0.5
 Proportion partnered is graphed against current age.
 Proportion meeting online is graphed against respondent's age when the respondent first met the partner, for couples who met during 2000-2009.

Table 5: Family and the Internet's influence on Couple Type: Comparisons with Controls.

	Met Through Family			Met Online	
	Pct met through either family	Odds Ratio	Adjusted Odds Ratio	Pct met online (met within last 10 years)	Adjusted Odds Ratio
Heterosexual Couples	18.2			17	
Same-Sex Couples	3.5	0.16**	0.19**	41	3.34*** 2.93**
Same Race Couples	18.7			19	
Inter-racial Couples	11.4	0.56**	0.61*	16	0.85 0.82
Same Religion Couples	19.5			15	
Inter-religious Couples	15.8	0.77*	0.81*	22	1.62** 1.43*
Mothers' Educations differ <4 years	18.3			19	
Mothers' Educations differ by ≥ 4 years	16.4	0.88	0.87	18	0.94 1.01
Respondent/ Partner Education gap <4 years	17.8			18	
Respondent/ Partner Education gap ≥ 4 years	18.7	1.06	1.04	22	1.27 0.98
Respondent/ Partner Age gap <10 years	17.8			19	
Respondent/ Partner Age gap ≥10 years	19.0	1.08	1.31	14	0.70 0.67

*** p<0.001, ** p<0.01, * p<0.05
 Source: From How Couples Meet, Wave I, met via Internet indicated either on open-text q34 or itemized list q32, merged in the variable either_internet_adjusted. Respondents are age 18 and higher. Averages are weighted. Years ago before met refers to time before the How Couples Meet survey. Wave I. Survey was conducted in winter, 2009. Inter-racial couples differ among the 5 racial categories (white, black, American Indian/Alaskan, Asian, Other). Inter-religious couples differ among the 5 religious categories (Protestant, Catholic, Jewish, Other, and non-religious). Odds ratios and adjusted odds ratios derived from separate logistic regressions. For met online, adjusted odds ratios are adjusted for the following: whether the respondent had internet access at home before joining the survey, respondent age, and how long ago (within 10 years) the couple first met. For met through family, adjusted odds ratios are adjusted for the following: respondent age, and when the couple met.

Table 6: Relatively Few Prior Social Connections for Couples that Meet Online

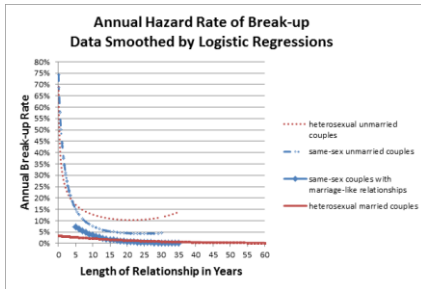
	Pct
Previously Strangers (no connection prior to meeting online)	74.0
Mediated (online connection between respondent and partner was mediated by friends or family)	14.1
Reunited (Respondent knew partner in some prior context; reunited online)	9.1
Insufficient Information	2.8
Total	100%

Source: From How Couples Meet, Wave I. Averages are weighted by weight2. N=286

Table 8: Apparent growth in the number of same-sex couples in the U.S.

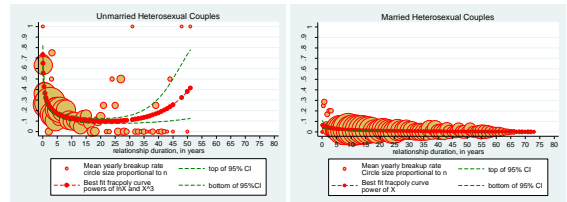
Year	Official Census Count of Same-Sex Unmarried Partners (excluding marital status recodes)
1990	145,130
2000	341,014
2005	384,629
2008	414,787

Source: U.S. Bureau of the Census (2009), and Smith and Gates (2001).



Source: How Couples Meet and Stay Together, waves 1-4, covering years 2009-2012. Data smoothed by unweighted logistic regressions of break-up rate on relationship duration. The hazard rate of break-up is the probability of break-up in a given year for respondents who were partnered at the beginning of the year. Sample sizes are as follows (in couple-years of exposure to the hazard of break-up): 539 for same-sex couples with marriage-like unions, 575 for married heterosexual couples, 682 for same-sex couples not in marriage-like unions, and 1141 for unmarried heterosexual couples. The powers of relationship duration that were used in the generation of the best fit smoothed curves were determined by fractional polynomial regression smoothing, and were as follows, with X meaning relationship duration: for same-sex couples with marriage-like unions, X ; for married heterosexual couples, X ; for unmarried heterosexual couples, $\ln(X)$ and X^2 ; for same-sex couples without marriage-like unions, X and $X^{0.5}$. The curves are truncated at both extremes of relationship duration where the data is sparse and the confidence intervals are too wide. Note that relationship duration is not the same as marriage duration; most couples who marry, marry several years into their relationships. Also note that at HCMST wave 1, couples already had the full range of relationship durations, from less than two weeks to more than 50 years.

Actual data and best fit curves (with CI) predicting annual breakup rate as a function of relationship duration, for heterosexual couples unmarried and married.



Source: Rosenfeld 2014, JMF, related to "Couple Longevity in the Era of Same-Sex Marriage in the US", data is HCMST waves 2-4, covering years 2009-2012. Data smoothed by unweighted logistic regressions of break-up rate on relationship duration, functional form determined by systematically testing different combinations of polynomials and fractional polynomial functions of X . Sample sizes are as follows (in couple-years): 539 for same-sex couples with marriage-like unions, 575 for married heterosexual couples, 682 for same-sex couples not in marriage-like unions, and 1141 for unmarried heterosexual couples. Lowess smoothing and local moving averages yield similar pictures.

Actual data and best fit curves (with CI) predicting annual breakup rate as a function of relationship duration, for same-sex couples without (left) or with (right) marriage and marriage-like relationships



Source: Rosenfeld 2014, JMF, related to "Couple Longevity in the Era of Same-Sex Marriage in the US", data is HCMST waves 2-4, covering years 2009-2012. Data smoothed by unweighted logistic regressions of break-up rate on relationship duration, functional form determined by systematically testing different combinations of polynomials and fractional polynomial functions of X . Sample sizes are as follows (in couple-years): 539 for same-sex couples with marriage-like unions, 575 for married heterosexual couples, 682 for same-sex couples not in marriage-like unions, and 1141 for unmarried heterosexual couples. Lowess smoothing and local moving averages yield similar pictures.

Predicting Break-up in HCMST. Log odds ratio coefficients (and standard errors) from unweighted discrete time event history logistic regressions, with additional controls to predict weights

	M1	M2	M3	M4	M5	M6	M7
Same-Sex Couples (ref: heterosexuals) (0.20)	0.67***	-0.49* (0.20)	0.19 (0.22)	0.17 (0.23)	0.18 (0.22)	0.25 (0.22)	
Gay Male Couples							-0.11 (0.26)
Lesbian Couples							0.65*** (0.25)
Married (or marriage-like)	-2.62*** (0.13)	-1.21*** (0.16)	-1.23*** (0.09)	-1.23*** (0.16)	-1.08*** (0.17)	-1.08*** (0.17)	
Married- same-sex							0.65*** (0.36)
Relationship Quality at Wave 1 (5 pt scale, 5 is best)					-0.74*** (0.07)	-0.73*** (0.07)	-0.74*** (0.07)
Control Variables Group 1 Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables Group 2 No	No	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables Group 3 No	No	No	No	No	Yes	Yes	Yes

Source: Rosenfeld, 2014 "Couple Longevity in the era of Same-Sex Marriage" *Journal of Marriage and Family*. Data from How Couples Meet and Stay Together, waves 1-4. * p<.05; ** p<.01; *** p<.001, two tailed tests. "Married" means "Married or in Marriage-Like commitment." N= 8,043. Control Variables Group 1: Age; Age²; Metro status; Internet Access; Recruitment Source; Control Variables Group 2: Coresident; Relationship duration; Relationship duration²; Control Variables Group 3: respondent has college degree, respondent lives with minor children, respondent's relationship with partner started when respondent was a teenager, respondent and partner are an interracial couple, respondent and partner have equal earnings, respondent race (4 df) and parental approval (2 df).

Comparison of Heterosexual Couples, same-sex couples, married (including marriage-like relationships) and unmarried couples

	Heterosexual married couples	Heterosexual unmarried couples	All Heterosexual couples	Same-sex married couples	Same-sex unmarried couples	gay male couples	lesbian couples	Same-sex married couples	All contrast non-married	contrast sexual/lesbian same-sex Gay couples
Pct of Respondents previously married	25.2%	37.1%	28.2%	29%	24%	20%	31%	25.5%	***	**
Mean Relationship duration (years)	22.9	6.0	18.7	16	11	12.8	12.5	12.6	***	NS
Pct Coresident	84.5%	31.7%	78.7%	87%	67%	73%	82%	77.7%	***	NS
Pct households with Minor Children	33.4%	23.2%	30.9%	4%	8%	5%	8%	6.4%	***	NS
Respondent Education (years)	13.6	13.5	13.5	16	15	15.5	15.6	15.5	***	NS
Respondent Age (years)	48.4	39.1	46.0	51	48	50.3	47.6	49.0	***	NS
Mean Self-Reported Relationship Quality at wave 1 (scale 1-5; 5 is best)	4.52	4.29	4.46	4.6	4.4	4.4	4.5	4.45	***	NS
Pct parental approval	89.0%	83.0%	81.5%	78%	52%	66%	65%	60.5%	***	NS
N of couples at wave 1	1,899	639	2,538	165	306	242	229	471	N/A	N/A
Pct married or in marriage-like unions	100%	0%	74.8%	100%	0%	29%	41%	35.0%	N/A	N/A
N of couples followed up at least once	1,695	559	2,254	137	266	201	202	403	N/A	N/A
N of couple-years of follow-up 2009-2012	5,793	1,151	6,944	542	686	610	618	1,228	N/A	N/A
N of observed break-ups 2009-2012	87	250	337	14	88	45	57	102	N/A	N/A
Annual break-up rate	1.5%	21.7%	4.9%	2.6%	12.8%	7.4%	9.2%	8.3%	***	NS

Source: All values are unweighted from HCMST wave 1 in 2009, except for N of couple-years of follow-up, N of observed break-ups, and break-up rate which are derived from waves 2, 3, and 4 covering 2009-2012. Note that couples can transition from unmarried to married during the follow-up waves. Parental approval is calculated only for respondents who had at least one living parent. Household is respondent's household if respondent and partner were not coresident. Significance determined by separate OLS regressions (for continuous dependent variables) or logistic regressions (for dichotomous dependent variables). *** p<.001; ** p<.01; * p<.05 two-tailed tests. NS means not significant, N/A means not applicable, no test was performed.

Predicting Break-up in HCMST. Coefficients (and SE) from WEIGHTED Discrete Time Event History Logistic Regressions, with robust standard errors

	M1	M2	M3	M4	M5	M6	M7
Couple Type (ref: Heterosexuals)							
Same-Sex Couples	0.94*** (0.22)	-0.095 (0.22)	0.48* (0.24)	0.53 (0.28)	0.43 (0.23)	0.45 (0.24)	
Gay Male Couples							0.09 (0.36)
Lesbian Couples							0.84* (0.30)
Married (or marriage-like)	-3.04*** (0.16)	-1.65*** (0.25)	-1.64*** (0.26)	-1.59*** (0.24)	-1.46*** (0.25)	-1.46*** (0.25)	
Married- same-sex							-0.40 (0.50)
Coresident							-1.33*** (0.22)
Relationship Duration, years							-1.34*** (0.23)
(Relationship Duration) ^{1/2}							-1.24*** (0.20)
Relationship Quality (5 pt scale, 5 is best)							-1.22*** (0.21)
Additional predictors (13 df)							-1.23*** (0.21)
N of person years	8043	8043	8043	8043	8043	8043	8043
df	1	2	5	6	6	19	20
Pseudo R-square	0.003	0.235	0.295	0.295	0.328	0.338	0.338

Source: How Couples Meet and Stay Together, waves 1, 2, and 3. * p<.05; ** p<.01; *** p<.001, two tailed tests. "Married" means "Married or in Marriage-Like commitment." Models include 8,043 out of a possible 8,172 person-years (parameter dropped using false exclusion for missing values for any variables in the full model). The "additional predictors of couple quality" include respondent has college degree, respondent lives with minor children, respondent's relationship with partner started when respondent was a teenager, respondent and partner are an interracial couple, respondent and partner have equal earnings, in HH income, unmarried heteros together more than 17 years, respondent race (4 df) and parental approval (2 df). Weighted by Weight.

Replication of Table 2, Model 5 (unweighted) from the paper, logistic regressions predicting break-up, with and without Heckman selection term; Heckman selection control leads to no substantive difference in the model.

	M5	M5+ selection correction
Same-Sex Couples (ref: heterosexuals)	0.18 (0.22)	0.20 (0.22)
Married (or marriage-like)	-1.23*** (0.16)	-1.23*** (0.16)
Coresident	-1.53*** (0.14)	-1.54*** (0.14)
Relationship Duration, years	-0.028*** (0.009)	-0.028*** (0.009)
Relationship Duration ^{1/2} (1-12)	0.59*** (0.10)	0.58*** (0.10)
Relationship Quality at Wave 1 (5 pt scale, 5 is best)	-0.74*** (0.07)	-0.74*** (0.07)
Heckman Selection Correction term (inverse mills ratio)		-0.73* (0.30)
Additional Factors that predict individual weights (7df)		yes
N of person years	8043	8043
df (including additional factors that predict the weights)	13	14
LR Chi-square (compared to constant only)	1091.8	1098.2

Source: How Couples Meet and Stay Together, waves 1-4. * p<.05; ** p<.01; *** p<.001, two tailed tests. "Married" means "Married or in Marriage-Like commitment." Additional factors that predict weight are: respondent age, age squared, living in metropolitan area, having own Internet access at home, and recruitment source from Wave 1. The main predictor of the Heckman selection term is panel status at each wave, that is whether the subject was an active KNIGK panelist (and could therefore be reached online), or whether the subject had withdrawn or retired from the panel.

Replication of Table 2, Model 5 (unweighted), discrete time logistic regressions predicting break-up based on a couple-year dataset, compared to discrete time and cox proportional hazard models based on a couple-month version of the data (with months imputed for some transitions)

	couple years, logistic regression same as JMH Table 2 model 5	couple months, Cox proportional hazards model	couple months, logistic regression
Same-Sex Couples (ref: heterosexuals)	0.18 (0.22)	0.10 (0.18)	0.14 (0.18)
Married (or marriage-like)	-1.23*** (0.16)	-1.05*** (0.15)	-1.07*** (0.15)
Coresident	-1.53*** (0.14)	-1.24*** (0.13)	-1.27*** (0.13)
Relationship Duration, years	-0.028*** (0.009)	-0.028*** (0.0077)	-0.028*** (0.0077)
(Relationship Duration) ^{1/2}	0.59*** (0.10)	0.53*** (0.097)	0.60*** (0.097)
Relationship Quality at Wave 1 (5 pt scale, 5 is best)	-0.74*** (0.07)	-0.65*** (0.054)	-0.67*** (0.055)
Additional Factors (7df)	yes	yes	yes
N of couple-years	8043	95,547	95,547
N of couple-months		95,547	95,547
df	13	13	13
LR Chi-square	1091.8	931.4	1046.15

Source: How Couples Meet and Stay Together, waves 1-4. * p<.05; ** p<.01; *** p<.001, two tailed tests. "Married" means "Married or in Marriage-Like commitment." Additional factors that predict weight are: respondent age, age squared, living in metropolitan area, having own Internet access at home, and recruitment source from Wave 1.

Relationship Satisfaction Only Weakly Related to How the Couple Met.

	Mean Relationship Quality (1-5 scale, 5 is best)	The OLS coefficient for each way of meeting's effect on relationship quality (with controls)
Met Through Family	4.40*	-0.12
Met Through Friends	4.47	-0.09
Met In a Bar, Restaurant, or other Public Entertainment Space	4.47	-0.07
Met Through or As Neighbors	4.48	-0.03
Met Online	4.51	0.09
Met Through or As Coworkers	4.51	0.05
Met in College or University	4.57*	0.08
Met in Primary or Secondary School	4.59**	0.15*
Met in Church	4.67***	0.13*
All Couples	(SD=0.75)	

N=2,865 for all couples, excludes 28 respondents whose partners were already deceased, and excludes 108 respondents who did not have a physical or sexual relationship with their partners. N varies for the other categories. Means weighted by weight. Family, friends, neighbors, and coworkers may belong to either respondent or partner. Weighted OLS regressions with robust standard errors control for relationship duration, respondent race, respondent's coresidence with partner, and parental approval. N=1975 for the regressions, because parental approval was only asked of respondents who had at least one living parent. * p<.05; ** p<.01; *** p<.001, two tailed tests, comparing each group to all others.

Breakup rates not much influenced by How Couples Meet

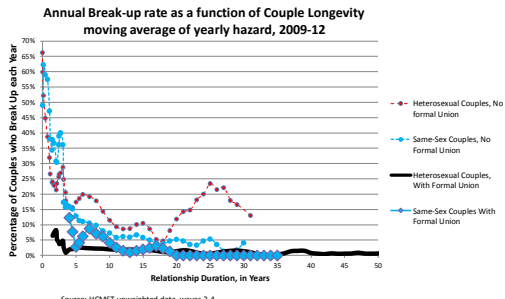
	One Year Breakup Rate (pc)	Raw Odds Ratio (at 1 year)	Adjusted Odds Ratio (at 1 year)	Adjusted yearly odds of break-up after 4 years
Met Online (met within past 10 years)	15.6	0.86	0.69	1.05
Met Offline (met within past 10 years)	17.8			
Met Through Family: Yes	8.7	1.01	1.25	1.81*
Met Through Family: No	8.7			
Met Through Friends: Yes	9.6	1.20	1.41*	1.36
Met Through Friends: No	8.1			
Met in a Bar/Restaurant: Yes	7.3	0.81	0.96	0.89
Met in a Bar/Restaurant: No	9.0			
Met Through or As Neighbors: Yes	7.6	0.86	0.94	0.89
Met Through or As Neighbors: No	8.8			
Met Through or as Coworkers: Yes	6.3	0.66	0.66	0.83
Met Through or as Coworkers: No	9.2			
Met in College or University: Yes	6.5	0.72	0.90	0.76
Met in College or University: No	8.9			
Met in Primary or Secondary School: Yes	5.2	0.55*	0.58	1.05
Met in Primary or Secondary School: No	9.2			
Met in Church: Yes	1.4	0.14**	0.27	0.54
Met in Church: No	9.2			

*** P<0.001; ** P<0.01; * P<0.05.
 Source: From How Couples Meet, Waves 1 and II, met via internet indicated either on open-text (q24) or itemized list (q2), merged in the variable either_internet_adjusted. N=2,520 for individuals who responded to the 1 year follow-up survey. Excluding respondents whose partners were already deceased and excluding respondents who did not have a physical or sexual relationship with their partners at wave 1 adds an N of 2,429. Among these, 775 met within 10 years prior to wave 1. Means weighted by weight. Family, friends, neighbors, and coworkers may belong to either respondent or partner. Each of the odds ratios is computed via separate logistic regressions. Raw odds ratios take no other factors into account. Adjusted odds ratios control for respondent's marital status at wave 1, co-residence with partner at wave 1, the presence of children in the respondent's household at wave 1, respondent race, respondent religion, and relationship duration. For the wave 4 break-up odds ratios, additional controls for formal unions (rather than just marriage) and relationship duration (raised to the power of 0.5) are added, and N of couple years=793.

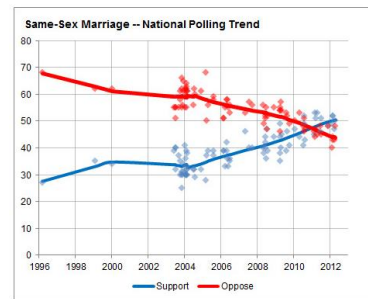
Table 4: Comparing 2009 How Couples Meet to 1992 National Health and Social Life Survey

Q: Who Introduced You to Partner... Name? Choose All That Apply	1992 NHLS		2009 HCMST (Who were cohabiting in 1992)		2009 HCMST (All)		2009 HCMST (Met after 1999)	
	pc	pc	pc	pc	pc	pc	pc	
Family	15.6	15.0	11.1**	9.5**				
Friends	40.3	33.1***	34.6***	30.7***				
Co-workers	5.8	8.0*	8.3*	6.9				
Classmates	7.3	5.7	4.9*	1.4**				
Neighbors	0.7	1.4	1.6*	1.4				
Introduced Self or Partner								
Introduced Self	31.7	32.0	36.0*	43.1***				
Subjects had Age range 18-59 in what year	1992	1992	2009	2009				
Cohabiting in what year	1992	1992	2009	2009				
N	1,367	968	1,848	593				

*** P<0.001; ** P<0.01; * P<0.05, two-tailed tests.
 Note: Statistical tests compare columns 2 and 3 (HCMST) with column 1 (NHLS). Tests are two sample t-tests with unequal variance, standard deviations assume Bernoulli distribution. NHLS data weighted by HWGTST; HCMST data weighted by weight.
 For NHLS, Questions are SP1NTA1-SP1NTSL1, referring to respondent's most recent spouse or unmarried cohabiting partner. For HCMST, questions are q31_1 to q31_7, with sample limited to partners who were coresident in 1992 (column 2), or partners who were coresident in 2009 (columns 3 and 4).

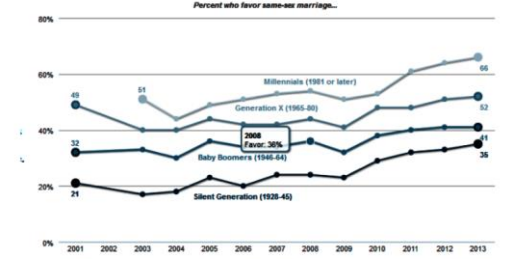


Source: HCMST unweighted data, waves 2-4



From: <http://livethighheight.blogspot.com/2012/05/09/support-for-gay-marriage-surveythe-opposition-in-poll/>

Pew data show generational differences and change within birth cohorts w.r.t same-sex marriage



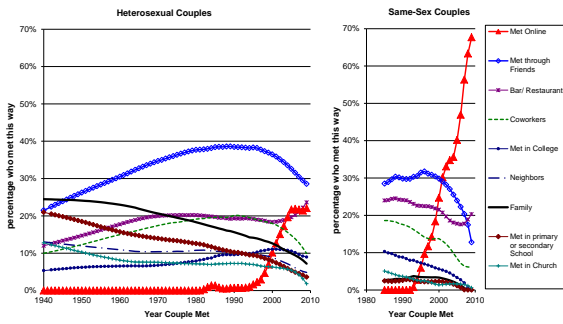
The increase in support for same-sex marriage fueled by generational trends has been accompanied by the number of Americans who say they have changed their minds on the issue, according to our March poll (<http://www.people-press.org/2013/03/20/growing-support-for-gay-marriage-changed-minds-and-changing-demographics/#changed-minds>).

Long term changes in the nature of Family Government in the US, and in the values parents impart to their children

Trait	Mother c 1900	Self 1924	Mother c 1954	Self 1978
Tolerance (respect for opinions opposed to one's own)	5.0	5.7	21.9	46.8
Independence (ability to think and act for oneself)	15.8	24.8	34.4	75.8
Strict Obedience	64.4	45.4	43.8	16.8
Loyalty to the church	69.3	50.4	35.0	22.4
Good manners	40.6	30.5	40.4	23.3
Frankness in dealing with others	24.8	27.0	16.7	25.5
Desire to make name in the world	5.0	5.0	6.6	0.9
Concentration	4.0	9.2	4.1	7.7
Social-mindedness	6.9	12.8	17.3	25.7
Appreciation of art and music	5.0	9.2	3.3	4.8
Economy in money matters	21.8	24.8	26.0	16.8
Knowledge of sex hygiene	2.0	14.9	5.1	7.8
Curiosity	1.0	0.7	2.6	9.9
Patriotism	16.8	20.6	8.3	4.5
Getting very good grades in school	14.9	19.1	23.6	6.3
N	101	141	313	324

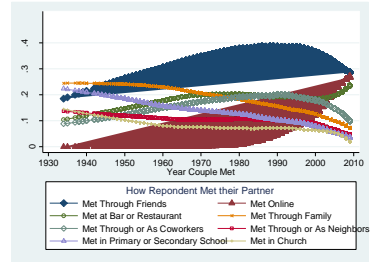
Source: Adapted from Alwin, Duane F. "From Obedience to Autonomy: Changes in Traits Desired in Children, 1924-1978." *Public Opinion Quarterly* 52:33-52, Table 1. Most desired traits are the top 3 traits parents most strongly desire for their children, from the list of 35 traits. 1924 data are from the Univ's Middletown. 1978 data are from Theodore Caplan's Middletown Families.

The Changing Way Americans Meet Their Partners



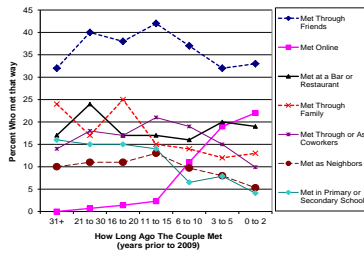
Source: From How Couples Meet and Stay Together, Wave I variables derived from question 24 (open text answer box: "How did you meet partner_name"), N=2,462 for heterosexual couples, N=462 for same-sex couples. Because of smaller sample size, the figure for same-sex couples extends later far into the past. Respondents are age 19 and higher. Data smoothed with lowess regression, bandwidth=0.8, except for "met online" category, which is smoothed with a less aggressive and more faithful 5 year moving average, because "Met online" applies only to the most recent years couples met, which is the more data-rich part of the dataset. Friends, Family, and Coworkers can belong to either respondent or partner. Percentages don't add to 100% because more than one category can apply.

An alternate view of Figure 1 for heterosexuals which used less smoothing for all ways of meeting, including meeting online. Note the earlier take-off and higher end peak (both less accurate) for Met Online in this figure



Why smoothing is needed: the data are too noisy without smoothing

Figure 1: The Changing Way Americans Meet Their Partners



Heterosexual Couples: Ways of Meeting Partners that increased in popularity in the post-1960 US

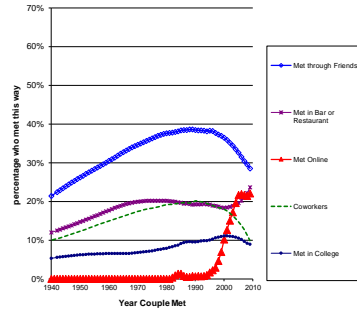


Table 7: Respondents with own Internet Access at Home More Likely to have a Partner.

	Percent with Partners (met 1995 or later)			Percent with Coresident Partners (met 1995 or later)			Percent Married (met 1995 or later)		
	Raw Odds Ratio	Adjusted Odds Ratio	Ratio	Raw Odds Ratio	Adjusted Odds Ratio	Ratio	Raw Odds Ratio	Adjusted Odds Ratio	Ratio
Respondents without their own Internet access	35.9			18.0			10.6		
Respondents with their own Internet access	71.8	4.54***	1.78***	52.6	5.04***	2.62***	41.5	5.94***	3.36***

Source: From How Couples Meet, Wave I. Respondents are age 19 and higher. Simple exclude 28 respondents whose text answers implied that their reported partner was already deceased, and all respondents who met their partners before 1995. N= 2,490. Averages are weighted by weights. *** p<0.001, two tailed tests. Raw odds ratios take only the percentage partnered (met 1995 or later) into account. Adjusted odds ratios exclude couples that met before 1995, and control via logistic regression for respondent age, gender, education, GLS status, race, and religion.

Appendix Table A4b: Partnership rate in the US is flat 1995-2009, for adults age 30-49

year	A) Percentage married	B) Percentage with unmarried coresident partner	C=(B+A) Percentage partnered
1995	69.6	3.3	72.9
1996	68.7	3.4	72.1
1997	68.3	3.6	71.9
1998	67.8	3.6	71.4
1999	67.6	4.1	71.7
2000	67.6	4.7	72.3
2001	67.7	4.8	72.5
2002	67.3	4.8	72.1
2003	67.1	4.8	71.9
2004	67.4	5.4	72.8
2005	67.0	5.4	72.4
2006	66.7	5.5	72.2
2007	67.2	5.6	72.8
2008	66.0	6.1	72.1
2009	66.2	6.0	72.2

Source: weighted data from March Current Population Surveys, via ipums.org.

Characteristics of the Knowledge Networks/ GfK Panel and the HCMST data

- Not an opt-in panel: Recruitment started with nationally representative RDD survey
- The Internet mode of survey delivery has proven advantages because respondents answer the questions when they are free to do so, and they can read the question at their own pace, and see all the answer options at once (rather than have someone read 5 options over the phone). Item-specific non-response is very low (typically on the order of 1%), quality of answers is generally very good.
- Easy to identify target sub-populations (in this case self-identified GLB adults) from profile questions already asked.
- Suitable for moderate duration longitudinal studies because subjects remain in the KN panel for years.
- Downside: Because recruitment occurs over several stages (first contact has +33% response rate; first demographic survey has 57% response rate; first wave of HCMST had 71% response rate), the overall response rate is low (multiplying together the response rates at each stage), generally <20%.
- Despite low overall response rate, KN panel has been experimentally tested and found to be equal to or better than industry standard RDD in terms of national representativity, bias, and data quality.
 - Fricker et al. 2005. "An Experimental Comparison of Web and Telephone Surveys." *Public Opinion Quarterly* 69 (3):370-392.
 - Chang, Linchiat, and Jon A. Krosnick. 2009. "National Surveys via RDD Telephone Interviewing versus the Internet: Comparing Sample Representativeness and Response Quality." *Public Opinion Quarterly* 73 (4):661-674.
 - Schachter, Ariela, 2015, "Measurement Error in Panel Data: A Comparison of Face-to-Face and Internet Survey Samples", working paper
- HCMST characteristics: Wave 1 in 2009, Oversample of self-identified GLB adults, Yearly follow-ups to see whether partnered respondents are still together with their partner from 2009.

Individual and Couple Characteristics by Couple Type from HCMST wave 1

	men and women in heterosexual marriages	men and women in unmarried heterosexual partnerships	men partnered with men	women partnered with women
<i>Individual attributes</i>				
respondent Age	48.4	39.7	42.6	40.6
pct respondents with college degree	28.8	23.6	42.4	47.1
<i>Couple or household attributes</i>				
Respondent's mean household Income (\$2008)	65,700	53,100	69,200	63,000
Pct Interracial	7.2	14.9	17.3	15.0
Pct Interreligious	38.0	47.9	47.2	44.6
Pct Respondents parents (one or both) approve of union	89.6	65.0	56.8	59.2
Median distance moved (in Miles) from the place where respondent was raised	50	10	150	100
Pct of couples that are coresident	94.4	37.5	63.8	79.7
Mean number of children in respondent's household	0.62	0.34	0.11	0.25
Mean how long ago first met (years)	24.6	9.1	11.5	10.4
Mean how long in relationship (years)	23.3	6.7	10.6	9.4
Weighted number of Individuals in the US unweighted N in wave 1	119,950,000 1632	46,700,000 703	1,900,000 242	1,450,000 232

Source: From How Couples Meet, Wave 1. Respondents are age 19 and higher, weighted with weight2. Averages are weighted. Interracial couples differ among the 5 racial categories (white, black, American Indian/Native American, Asian, Other) with Hispanics spread across the 5 categories. Hispanics of "other" sex coded as white, and multiracial respondents forced to pick one category, see ACS variable RACESING. Interreligious couples differ among the 5 religious categories (Protestant, Catholic, Jewish, Other, and non-religious).

How Americans Met their Spouses and Current Partners, detailed view (percentages)

	Unmarried Men		Unmarried Women		Men partnered with Men		Women partnered with Women		Stat Sig.	same-sex couples vs. Hetero	Stat Sig.	partnered gay men vs. partnered lesbians
	Men married to Women	Men partnered with Women	Women married to Men	Women partnered with Men	Men partnered with Men	Women partnered with Women	Stat Sig.	Stat Sig.				
<i>How Couple Met</i>												
Met Through Friends	36.8	33.1	36.3	38.3	19.7	26.0	***	***				
Met Through Family	17.4	14.0	22.0	15.0	0.1	7.7	***	***	**		*	
Met Through Respondent's Own Family	9.0	7.9	15.5	10.9	0	0.8	***	***	***		***	
Met as Coworkers	19.3	11.3	16.1	15.4	12.7	22.8	***	***				***
Met at Bar, Club, or Restaurant	20.7	15.7	16.7	18.0	26.7	11.4	***	***		*		***
Met through Internet	4.5	13.8	3.6	10.0	27.3	24.1	***	***				
Met Through Work as Client	9.5	7.6	8.4	10.4	2.1	4.0			*			
Met in Primary or Secondary School	13.6	8.7	13.5	7.8	0	6.5	***	***				¥
Met in College	8.6	5.6	9.7	7.0	9.1	10.9	**	***				
Met through Church	7.0	2.9	9.5	2.6	1.5	1.3	***	***				
Met in Social Groups, not Church	5.3	6.8	4.9	6.8	13.2	16.7	***	***				
Met in Neighborhood	9.6	5.7	11.0	12.1	10.9	4.7	**	**				
Blind Date	4.3	2.9	3.8	2.9	4.9	0.5	***	***				
Private Party	13.5	14.0	11.1	9.5	11.6	12.9						
In Public Place	5.9	14.3	9.1	10.2	5.9	4.7	***	***				
N	939	307	848	377	234	229						

Source: From How Couples Meet, Wave 1, variables derived from question 24 (open text answer box: "How did you meet partner_name"). N=2934, which excludes 49 refusals and 50 non-meaningful responses to 204. Respondents are age 18 and higher. Averages are weighted by weight2; tests comparing gay men to lesbians are unweighted. Unless otherwise specified, Friends, Family, and Coworkers can belong to either respondent or partner. Percentages don't add to 100% because more than one category can apply. Statistical Significance compares across all 6 groups, whereas GLB vs. Hetero and men vs. women compare across 2 groups. *** P<0.001, ** P<0.01, * P<0.05, ¥ least not applicable (collinearly)