Online Supplement Tables and Figure
for
"Resilience and Stress in Romantic Relationships in the US during the COVID-19 Pandemic"

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Appendix Table 1: Comparing HCMST 2020 and CPS September 2020 data

	HCMST 2020	CPS 2020
Mean Age (SD), min= 21	49.25 (17.1)	49.4 (17.5)
Percent female	52.1	51.8
Percent with BA or more	36.3	36.3
Percent w household income <$150K	80.2	
Mean household Income (SD) if hhincome<150K	$67,374 ($38,565)	
percent w family income <$150K		84.5
Mean family income (SD), if fam income<150K		$62,858 ($37,539)
Percent married and living w spouse	59.2	53.5
Percent cohabiting w unmarried partner	8.4	8.1
Mean number of children <13 in the household (sd)	0.33 (0.79)	0.43 (0.86)
Race/Ethnicity (percent)		
NH White	63.5	63.1
NH Black	11.7	11.8
Hispanic	16.7	16.4
NH Other	8.1	8.7
Region (percent)		
Northeast	17.3	17.4
Midwest	20.8	20.7
South	38.1	38.1
West	23.9	23.9
N	2,107	83,012

Source: Weighted HCMST 2020 data (fielded in September 2020) and weighted CPS data from September, 2020. HCMST 2020 minimum age was 21. CPS minimum age set to 21 to match HCMST. Family income is not the same as household income; household income expected to be higher because it can include income of household members who are not part of subject's family. CPS family income was top coded at $150K.

Appendix Table 2: The Association between Economic Hardship and Relationship Quality during the Pandemic

Economic Situation Better or Worse?	Relationship Quality better or worse?			
	Better	No Change	Worse	Total
Much Worse	22	61	15	98
Worse	48	213	29	290
No Change	177	862	34	1,073
Better	31	105	9	145
Much Better	2	16	0	18
Total	281	1,256	87	1,624

Source: Weighted data from HCMST 2020, rounded to the nearest integer. Chisquare 49.8 (8df), with a P value of 4.4×10^{-8}

Appendix Table 3: Stability in relationship satisfaction during the pandemic in two weighted versions: with and without correction for attrition between 2017 and 2020

How has the pandemic affected your relationship	Accounting for Attrition Pct	Not accounting for attrition Pct
Relationship is Better	17.46	17.48
No Change	77.19	77.18
Worse	5.35	5.34
Total	100	100
N	1,629	1,629

Source: weighted data from HCMST 2020, partnered respondents.

Appendix Table 4: Relationship Quality and Change in Relationship Quality over survey waves. In General, How would you describe the Quality of your Relationship with [Partner_name]?

Year	2009	2009	2013	2017	2017	2020	2017	2022
Criteria	All	Still partnered in 2013	Still partnered from 2009	All	Still partnered in 2020	Still partnered from 2017	Still partnered in 2022	Still partnered from 2017
Excellent	59.4	67.3	56.4	59.0	63.8	53.3	64.3	53.3
Good	29.8	26.7	35.2	31.7	30.5	36.6	30.2	38.2
Fair	8.8	5.0	6.3	7.3	6.1	7.6	5.1	6.2
Poor	1.4	0.6	1.4	1.2	0.5	2.0	0.4	1.9
Very Poor	0.6	0.3	0.6	0.9	0.2	0.6	0.1	0.5
Total	100	100	100	100	100	100	100	100
Δ relationship quality, 5 pt scale			-0.148			-0.151		-0.162
Δ years			4.12 years (2009-2013)			3.17 years (2017-2020)		4.69 years (2017-2022)
Δ relationship quality per year			-0.036			-0.048		-0.034
N	2,996	1,417	1,417	2,847	1,485	1,485	1,092	1,092

Source: weighted data from HCMST 2009 and 2013 (2009 panel) and HCMST 2017, 2020, and 2022 (2017 panel), partnered respondents. Test for the slope difference between 2009-2013 compared to 2017-2020: T-statistic 1.58, P>0.11. Test for the slope difference between 2009-2013 compared to 2017-2022: T-statistic 0.31, P>0.76.

Appendix Table 5: The decline in non-cohabiting relationships and the rise in singleness from 2017 to 2020, for subjects interviewed in both surveys

Relationship status	Survey year 2017 (col pct)	Survey year 2020 (col pct)
Married	59.8	60.1
in non-Marital Cohabiting relationship	9.4	8.4
in non-Marital non-Cohabiting relationship	11.0	8.0
Single	19.8	23.6
Total	100	100
N	2,106	2,106
Chisquare test: 18.7† (3df)		

†P<0.01

Source: Weighted data from HCMST 2017 and HCMST 2020, same subjects interviewed in both surveys. One subject of the 2,107 HCMST 2020 respondents was dropped because they did not answer the question in 2020 about whether they were currently living with their new partner. Although minimum age is 3 years older in the HCMST 2020 dataset, trimming the youngest respondents from the HCMST 2017 sample does not substantively alter the results.

Appendix Table 6: Derivative of relationship outcome due to the pandemic by time spent together (dy/dx), for each relationship outcome and 2017 relationship quality, from Model 5 of Table 4

Reported effect of pandemic on relationship	2017 Relationship Quality (ref: Good)	derivative (SE)
Worse	Excellent	-0.049† (0.0078)
Worse	Fair to v. Poor	0.023 (0.08)
No change	Excellent	-0.33† (0.034)
No change	Fair to v. Poor	-0.012 0.040
Better	Excellent	0.38† (0.035)
Better	Fair to v. Poor	-0.01 (0.04)

†P<0.01

Source: Weighted data from HCMST 2017 and HCMST 2020, N=1262, same subjects interviewed in both surveys. See Table 4 and discussion in the text.

Appendix Table 7: More tests of 2022 predictors of better pandemic relationship response including prior relationship quality, from ordered logit regressions, with coefficients and (SE)

Relationships included:	M1 all	M2 all	M3 Intact	M4 intact
Outcome Year	2022	2022	2022	2022
Number of children in HH <13 y.o.	0.08 (0.08)	0.22 (0.12)		
BA+ (ref <HS)	0.16 (0.30)	-0.03 (0.28)		
Prior Relationship Quality (ref Excellent)¥			-0.20	-0.46*
Good			(0.23)	(0.23)
Fair, poor, very poor			-0.55 (0.42)	-1.67† (0.38)
Spent more time together during pandemic			1.70† (0.21)	1.92† (0.23)
Spent more time × Relationship Good			-0.23 (0.40)	-0.58 (0.40)
Spent more time × Relationship Fair-Poor			0.42 (0.95)	-1.98† (0.72)
Log income	0.001 (0.09)	-0.02 (0.08)		
Female	0.08 (0.14)	0.05 (0.15)		
Female x number of children		-0.15 (0.15)		
Same-sex	-0.37 (0.56)	-0.49 (0.42)		
Female × Same-sex	-0.45 (0.85)			
Live with partner	0.31 (0.24)			
Much worse personal econ situation (ref no change)			-1.86† (0.39)	-1.33† (0.40)
Worse econ situation			-0.09 (0.24)	-0.02 (0.24)
Better econ situation			0.44 (0.27)	0.45 (0.27)
Much better econ situation			2.25† (0.59)	2.28† (0.60)
N	1,293	1,328	903	903
Chisquare	31.6 (19 df)	11.7 (8 df)	132 (9 df)	179 (9 df)

Source: weighted (and attrition-adjusted) data from HCMST 2017, 2020, and 2022. Intact relationships were intact since 2017. Non-significant contrasts not shown in M1: 4df race, 2df for renter status, 2df for age and age-squared, 2df for HS and Some college, 1df for marriage, 1 df for relationship duration.

¥ Prior relationship quality is 2017 (pre-pandemic) relationship quality for M3, and 2020 relationship quality for M4.

† P<0.01; * P<0.05, two tailed tests.

Appendix Table 8A: Propensity Score Estimates of the causal effect of spending more time with partner on better relationship outcome in 2020 (SE), ATE; with weighted balance of standardized differences and variance ratios before and after matching

2017 relationship quality	All		Excellent		Good		Fair to Very Poor	
Average Treatment Effect (ATE)	0.304† (0.035)		0.379† (0.039)		0.184* (0.074)		-0.045 (0.12)	
Standardized Differences (means)	Raw	**Matched**	Raw	**Matched**	Raw	**Matched**	Raw	**Matched**
BA	0.45	**-0.003**	0.44	**0.00**	0.39	**-0.01**	0.74	**0.00**
Log income	0.34	**-0.001**	0.33	**0.00**	0.34	**0.03**	0.30	**0.06**
2017 rel qual good	-0.14	**-0.005**	--	**--**	--	**--**	--	**--**
2017 rel qual fair-poor	-0.05	**-0.03**	--	**--**	--	**--**	--	**--**
Variance Ratio	Raw	**Matched**	Raw	**Matched**	Raw	**Matched**	Raw	**Matched**
BA	1.02	**1.00**	0.99	**1.00**	1.10	**1.00**	1.07	**1.00**
Log income	0.91	**0.96**	0.99	**1.01**	0.81	**0.92**	0.54	**0.48**
2017 rel qual good	0.86	**0.96**	--	--	--	--	--	--
2017 rel qual fair-poor	0.81	**0.89**	--	--	--	--	--	--

† P<0.01; * P<0.05

Source: Weighted data from HCMST 2017 and 2020. A good propensity score match should have treatment (in this case respondents who spent more time with their partners during the pandemic) and control groups (respondents who did not spend more time with their partners) with matched means close to zero, and matched variance ratios close to one.

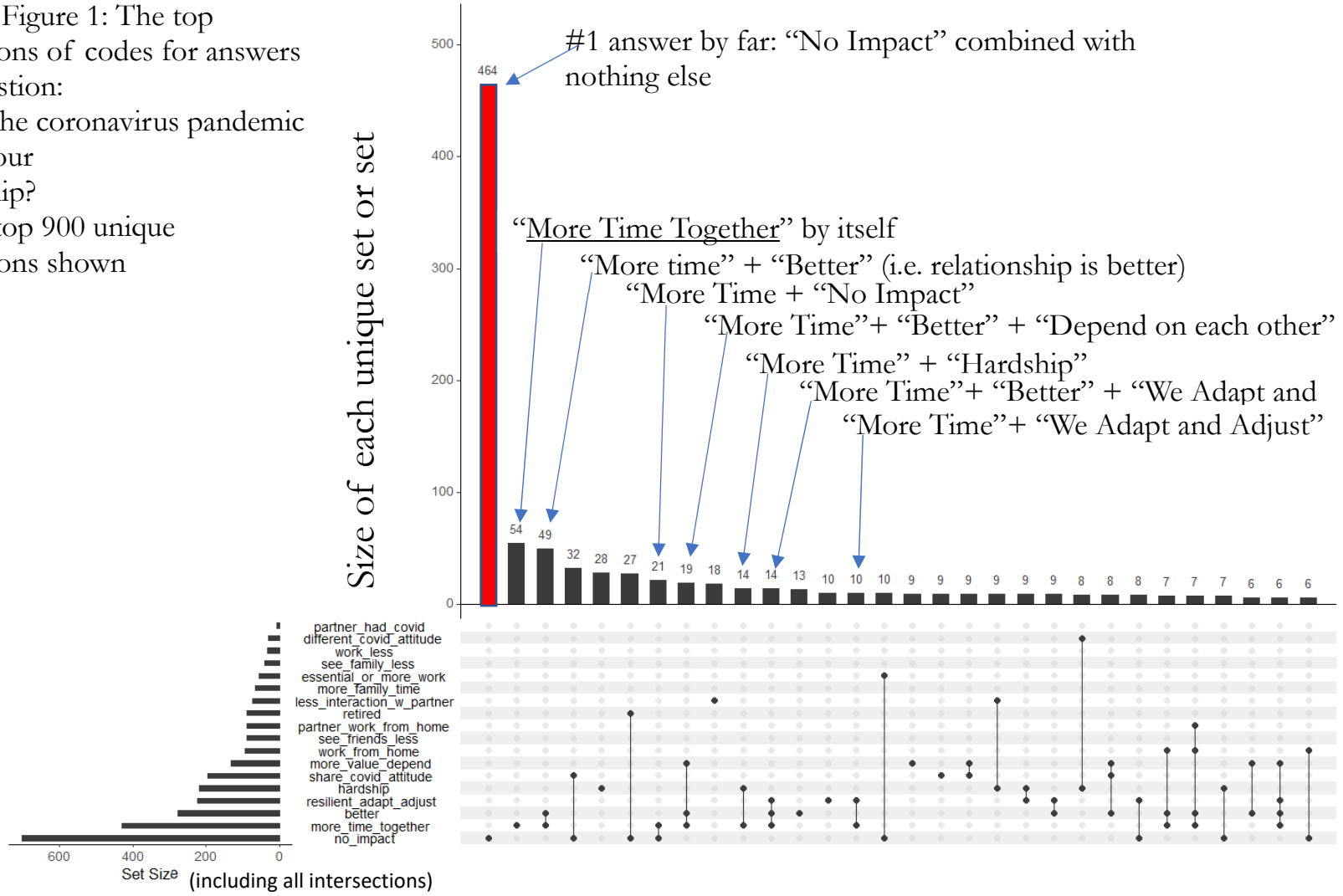
Appendix Table 8B: Propensity Score Estimates of the causal effect of spending more time with partner on better relationship outcome in 2020 (SE), ATT; with weighted balance of standardized differences and variance ratios before and after matching

2017 relationship quality	All		Excellent		Good		Fair to Very Poor	
Average Treatment Effect on the Treated (ATT)	0.307† (0.033)		0.374† (0.036)		0.192* (0.077)		-0.083 (0.17)	
Standardized Differences (means)	Raw	**Matched**	Raw	**Matched**	Raw	**Matched**	Raw	**Matched**
BA	0.45	**0.01**	0.44	**0.00**	0.39	**0.00**	0.74	**0.00**
Log income	0.34	**0.01**	0.33	**0.00**	0.34	**0.00**	0.30	**0.06**
2017 rel qual good	-0.14	**-0.01**	--	**--**	--	**--**	--	**--**
2017 rel qual fair-poor	-0.05	**0.09**	--	**--**	--	**--**	--	**--**
Variance Ratio	Raw	**Matched**	Raw	**Matched**	Raw	**Matched**	Raw	**Matched**
BA	1.02	**1.00**	0.99	**1.00**	1.09	**1.00**	1.07	**1.00**
Log income	0.91	**1.01**	0.99	**1.00**	0.81	**1.00**	0.54	**1.31**
2017 rel qual good	0.86	**0.99**	--	--	--	--	--	--
2017 rel qual fair-poor	0.81	**1.61**	--	--	--	--	--	--

† P<0.01; * P<0.05

Source: Weighted data from HCMST 2017 and 2020. A good propensity score match should have treatment (in this case respondents who spent more time with their partners during the pandemic) and control groups (respondents who did not spend more time with their partners) with matched means close to zero, and matched variance ratios close to one.

Appendix Figure 1: The top combinations of codes for answers to the question:
How has the coronavirus pandemic affected your Relationship?
N=1385, top 900 unique combinations shown



Source: Lex, Alexander, and Nils Gehlenborg. "Sets and Intersections." *Nature Methods* 11, no. 8 (2014): 779. This figure describes all combinations of codes with at least 6 observations.