

Supplement to

Hastings, Orestes P., and Kassandra K. Roeser. "Happiness in Hard Times: Does Religion Buffer the Negative Effect of Unemployment on Happiness?" *Social Forces*

January 2020

Table A1: Descriptives of all observations in the main analyses (weighted to account for sampling and non-response)

Variable	Mean	Std Dev	Min	Max
Happiness (before standardization)	2.19	0.61	1	3
Unemployed	0.047		0	1
<i>Religion variables</i>				
Probability of attendance	0.35	0.42	0	0.99
Pray daily or more	0.53		0	1
Believe God exists	0.57		0	1
Believe in life after death	0.73		0	1
Religious affiliation	0.82		0	1
Religious person	0.51	0.32	0	1
Carry religious beliefs into rest of life	0.60	0.32	0	1
<i>Controls</i>				
Female	0.51		0	1
Age in years	42.2	10.7	18	89
Number of children	1.7	1.5	0	8
Years of education	14.0	2.9	2	20
White (non-Hispanic)	0.69		0	1
Black (non-Hispanic)	0.14		0	1
Other (non-Hispanic)	0.04		0	1
Hispanic	0.12		0	1
Married	0.61		0	1
Widowed	0.01		0	1
Divorced	0.13		0	1
Separated	0.03		0	1
Never married	0.23		0	1

Table A2: Logit and Ordered Logit Baseline Regression Models

	(1)	(2)	(3)
happy	-0.60** (0.088)		
L.happy		-0.41** (0.10)	
Unemployed			-1.21** (0.18)
cut1			-2.32** (0.096)
cut2			0.67** (0.083)
Year fixed effects	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
N(observations)	6327	3708	6327

Standard errors in parentheses

+ $p < .1$, * $p < .05$

Note: Models 1, 2, and 3 correspond to Models 1, 2, and 3 of Table 1 in the main paper, except Models 1 and 2 use a logit model, and Model 3 uses an ordered logit model.

Table A3: Full Regression Coefficients from Fixed Effects Models of Happiness

	(1)	(2)	(3)
Unemployed	-0.40*	-1.05	-0.92
	(0.11)	(0.69)	(0.65)
Unemployed × Probability of Attendance	0.55 ⁺	0.58*	0.77*
	(0.29)	(0.26)	(0.28)
Unemployed × Pray daily or more			-0.13
			(0.21)
Unemployed × Believe God exists			-0.41 ⁺
			(0.21)
Unemployed × Believe in life after death			0.45*
			(0.18)
Unemployed × Religious affiliation			0.094
			(0.23)
Unemployed × Religious person			-0.99*
			(0.44)
Unemployed × Carry relig beliefs into rest of life			0.75*
			(0.33)
Female × Unemployed		0.11	0.089
		(0.19)	(0.18)
Non-Hispanic Black × Unemployed		0.34	0.26
		(0.34)	(0.25)
Non-Hispanic Other × Unemployed		0.22	-0.034
		(0.53)	(0.57)
Hispanic × Unemployed		-0.17	-0.17
		(0.34)	(0.28)
Married × Unemployed		-0.37	-0.20
		(0.26)	(0.23)
Widowed × Unemployed		0.023	0.24
		(0.55)	(0.50)
Divorced × Unemployed		0.11	0.15
		(0.31)	(0.26)
Separated × Unemployed		-0.15	0.13
		(0.72)	(0.63)
Unemployed × Number of children		-0.093	-0.056
		(0.087)	(0.075)
Unemployed × Age		0.016	0.011
		(0.010)	(0.0085)
Unemployed × Education		0.014	-0.0011
		(0.037)	(0.035)
2008	-0.13*	-0.13*	-0.11*
	(0.043)	(0.043)	(0.043)
2010	-0.16*	-0.15*	-0.13*
	(0.044)	(0.044)	(0.044)
2012	-0.078	-0.078	-0.059
	(0.054)	(0.054)	(0.054)
2014	-0.045	-0.045	-0.037
	(0.064)	(0.064)	(0.064)
Constant	0.15*	0.14*	0.13*
	(0.038)	(0.037)	(0.038)
N(observations)	6314	6314	6145
N(individuals)	2413	2413	2347

Standard errors in parentheses

⁺ $p < .1$, * $p < .05$

Note: Full model with all coefficients from Table 3 of paper. Key religion variable is Probability of Attendance. Baseline race/ethnicity variable is “Non-Hispanic White” and baseline marital status variable is “Never Married”.

Table A4: Regression Coefficients from Fixed Effects Models of Happiness

	(1)	(2)
Unemployed	-0.40*	-1.05
	(0.11)	(0.69)
Unemployed \times Probability of attendance	0.55 ⁺	0.58*
	(0.29)	(0.26)
Controls	<i>No</i>	<i>Yes</i>
Year fixed effects	<i>Yes</i>	<i>Yes</i>
Constant	<i>Yes</i>	<i>Yes</i>
N(observations)	6314	6314
N(individuals)	2413	2413

Standard errors in parentheses

⁺ $p < .1$, * $p < .05$

Note: Controls are interaction terms between unemployment and age, sex, education, race/ethnicity, marital status, and number of children.

Table A5: Regression Coefficients from Fixed Effects Models of Happiness

	(1)	(2)
Unemployed	-0.28 ⁺	-1.21 ⁺
	(0.15)	(0.73)
Unemployed \times Pray daily or more	0.095	0.060
	(0.21)	(0.18)
Controls	<i>No</i>	<i>Yes</i>
Year fixed effects	<i>Yes</i>	<i>Yes</i>
Constant	<i>Yes</i>	<i>Yes</i>
N(observations)	6296	6296
N(individuals)	2406	2406

Standard errors in parentheses

⁺ $p < .1$, * $p < .05$

Note: Controls are interaction terms between unemployment and age, sex, education, race/ethnicity, marital status, and number of children.

Table A6: Regression Coefficients from Fixed Effects Models of Happiness

	(1)	(2)
Unemployed	-0.12 (0.12)	-1.02 (0.69)
Unemployed \times Believe God exists	-0.22 (0.21)	-0.18 (0.18)
Controls	<i>No</i>	<i>Yes</i>
Year fixed effects	<i>Yes</i>	<i>Yes</i>
Constant	<i>Yes</i>	<i>Yes</i>
N(observations)	6276	6276
N(individuals)	2399	2399

Standard errors in parentheses

+ $p < .1$, * $p < .05$

Note: Controls are interaction terms between unemployment and age, sex, education, race/ethnicity, marital status, and number of children.

Table A7: Regression Coefficients from Fixed Effects Models of Happiness

	(1)	(2)
Unemployed	-0.64* (0.16)	-1.54* (0.72)
Unemployed \times Believe in life after death	0.57* (0.20)	0.48* (0.19)
Controls	<i>No</i>	<i>Yes</i>
Year fixed effects	<i>Yes</i>	<i>Yes</i>
Constant	<i>Yes</i>	<i>Yes</i>
N(observations)	6314	6314
N(individuals)	2414	2414

Standard errors in parentheses

+ $p < .1$, * $p < .05$

Note: Controls are interaction terms between unemployment and age, sex, education, race/ethnicity, marital status, and number of children.

Table A8: Regression Coefficients from Fixed Effects Models of Happiness

	(1)	(2)
Unemployed	-0.69*	-1.49*
	(0.21)	(0.74)
Unemployed × Carry relig beliefs into rest of life	0.77*	0.66*
	(0.36)	(0.29)
Controls	<i>No</i>	<i>Yes</i>
Year fixed effects	<i>Yes</i>	<i>Yes</i>
Constant	<i>Yes</i>	<i>Yes</i>
N(observations)	6227	6227
N(individuals)	2379	2379

Standard errors in parentheses

+ $p < .1$, * $p < .05$

Note: Controls are interaction terms between unemployment and age, sex, education, race/ethnicity, marital status, and number of children.

Table A9: Regression Coefficients from Fixed Effects Models of Happiness

	(1)	(2)
Unemployed	-0.049	-1.09
	(0.23)	(0.72)
Unemployed × Religious person	-0.39	-0.40
	(0.37)	(0.35)
Controls	<i>No</i>	<i>Yes</i>
Year fixed effects	<i>Yes</i>	<i>Yes</i>
Constant	<i>Yes</i>	<i>Yes</i>
N(observations)	6288	6288
N(individuals)	2404	2404

Standard errors in parentheses

+ $p < .1$, * $p < .05$

Note: Controls are interaction terms between unemployment and age, sex, education, race/ethnicity, marital status, and number of children.

Table A10: Regression Coefficients from Fixed Effects Models of Happiness

	(1)	(2)
Unemployed	-0.29 (0.20)	-1.24 ⁺ (0.74)
Unemployed × Religious affiliation	0.076 (0.23)	0.088 (0.22)
Controls	<i>No</i>	<i>Yes</i>
Year fixed effects	<i>Yes</i>	<i>Yes</i>
Constant	<i>Yes</i>	<i>Yes</i>
N(observations)	6305	6305
N(individuals)	2410	2410

Standard errors in parentheses

⁺ $p < .1$, * $p < .05$

Note: Controls are interaction terms between unemployment and age, sex, education, race/ethnicity, marital status, and number of children.

Supplemental Models with Alternative Religion Variables as Moderators

Table A11: Regression Coefficients from Fixed Effects Models of Happiness

	(1)	(2)
Unemployed	-0.38*	-1.10
	(0.11)	(0.71)
Unemployed \times Attend monthly or more	0.39 ⁺	0.39 ⁺
	(0.23)	(0.20)
Controls	<i>No</i>	<i>Yes</i>
Year fixed effects	<i>Yes</i>	<i>Yes</i>
Constant	<i>Yes</i>	<i>Yes</i>
N(observations)	6314	6314
N(individuals)	2413	2413

Standard errors in parentheses

⁺ $p < .1$, * $p < .05$

Note: Controls are interaction terms between unemployment and age, sex, education, race/ethnicity, marital status, and number of children.

Table A12: Regression Coefficients from Fixed Effects Models of Happiness

	(1)	(2)
Unemployed	-0.35 (0.24)	-1.26 ⁺ (0.75)
Unemployed × Frequency of prayer	0.031 (0.056)	0.021 (0.051)
Controls	<i>No</i>	<i>Yes</i>
Year fixed effects	<i>Yes</i>	<i>Yes</i>
Constant	<i>Yes</i>	<i>Yes</i>
N(observations)	6296	6296
N(individuals)	2406	2406

Standard errors in parentheses

⁺ $p < .1$, * $p < .05$

Note: Controls are interaction terms between unemployment and age, sex, education, race/ethnicity, marital status, and number of children.

Table A13: Regression Coefficients from Fixed Effects Models of Happiness

	(1)	(2)
Unemployed	-0.080 (0.26)	-1.17 (0.79)
Unemployed \times Beliefs about God	-0.033 (0.058)	-0.0068 (0.057)
Controls	<i>No</i>	<i>Yes</i>
Year fixed effects	<i>Yes</i>	<i>Yes</i>
Constant	<i>Yes</i>	<i>Yes</i>
N(observations)	6276	6276
N(individuals)	2399	2399

Standard errors in parentheses

⁺ $p < .1$, * $p < .05$

Note: Controls are interaction terms between unemployment and age, sex, education, race/ethnicity, marital status, and number of children.

Table A14: Logistic Regression Coefficients from Main Models

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
very happy							
Unemployed	-11.6* (5.44)	-14.9* (6.47)	-8.41+ (4.59)	-23.3 (790.6)	-7.25* (3.66)	-6.52+ (3.51)	-8.31* (4.23)
Unemployed × Probability of attendance	5.20** (1.68)						
Unemployed × Pray daily or more		4.80** (1.68)					
Unemployed × Believe God exists			0.89 (1.04)				
Unemployed × Believe in life after death				17.2 (790.6)			
Unemployed × Religious affiliation					1.32 (1.10)		
Unemployed × Religious person						0.61 (1.11)	
Unemployed × Carry relig beliefs into rest of life							2.95+ (1.53)
Controls	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Year fixed effects	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
N(observations)	2216	2209	2202	2215	2213	2203	2185
N(individuals)	819	816	814	819	818	815	807

Standard errors in parentheses

+ $p < .1$, * $p < .05$

Note: These models differ from the main models in several important ways. First, these are logistic regression models with a dependent variable of reporting being “very happy”. Second, logistic regression models with individual fixed effects only include respondents who change on the dependent variable, regardless of change of the independent variables, so the analytic sample is different. Third, the interactions terms in logistic regression models cannot be interpreted in a straightforward way.

Table A15: Regression Coefficients from Secondary Models

	(1) Attendance	(2) Pray daily or more	(3) Believe God exists	(4) Believe life after death	(5) Religious affiliation	(6) Religious person	(7) Relig beliefs into life
Unemployed	-0.015 (0.020)	0.019 (0.028)	0.027 (0.027)	-0.021 (0.028)	0.025 (0.021)	-0.017 (0.016)	-0.011 (0.025)
2008	0.0061 (0.010)	-0.0054 (0.015)	-0.031* (0.014)	0.0085 (0.014)	-0.021+ (0.011)	-0.024* (0.0086)	0.0041 (0.0099)
2010	-0.0066 (0.011)	0.0086 (0.015)	-0.015 (0.015)	0.0025 (0.015)	-0.017 (0.012)	-0.031* (0.0091)	0.0011 (0.011)
2012	-0.0058 (0.013)	0.012 (0.018)	-0.037* (0.018)	-0.0033 (0.018)	-0.033* (0.014)	-0.035* (0.011)	
2014	-0.0060 (0.016)	0.0052 (0.022)	-0.041+ (0.021)	-0.013 (0.022)	-0.037* (0.017)	-0.037* (0.013)	
Constant	0.35* (0.0096)	0.54* (0.013)	0.60* (0.013)	0.73* (0.013)	0.83* (0.010)	0.53* (0.0079)	0.60* (0.0084)
N(observations)	6314	6296	6292	6322	6310	6294	4310
N(individuals)	2419	2416	2418	2419	2419	2417	2327

Standard errors in parentheses

+ $p < .1$, * $p < .05$

Table A16: Logit Coefficients from Secondary Models

	(1) Attendance (monthly+)	(2) Pray daily or more	(3) Believe God exists	(4) Believe life after death	(5) Religious affiliation
main					
Unemployed	-0.23 (0.33)	0.17 (0.30)	0.37 (0.36)	-0.23 (0.32)	0.55 (0.47)
2008	0.016 (0.18)	-0.065 (0.17)	-0.38* (0.18)	0.11 (0.18)	-0.41+ (0.22)
2010	-0.22 (0.19)	0.11 (0.18)	-0.17 (0.18)	0.036 (0.19)	-0.35 (0.24)
2012	-0.29 (0.23)	0.15 (0.21)	-0.45* (0.22)	-0.031 (0.22)	-0.67* (0.28)
2014	-0.25 (0.28)	0.067 (0.26)	-0.51+ (0.27)	-0.14 (0.26)	-0.73* (0.34)
N(observations)	1299	1454	1334	1426	843
N(individuals)	483	539	497	532	307

Standard errors in parentheses

+ $p < .1$, * $p < .05$

Note: Logistic regression models with individual fixed effects only include respondents who change on the dependent variable, regardless of change of the independent variables, so the analytic sample is different.

Figure A1: Distribution of Frequency of Prayer

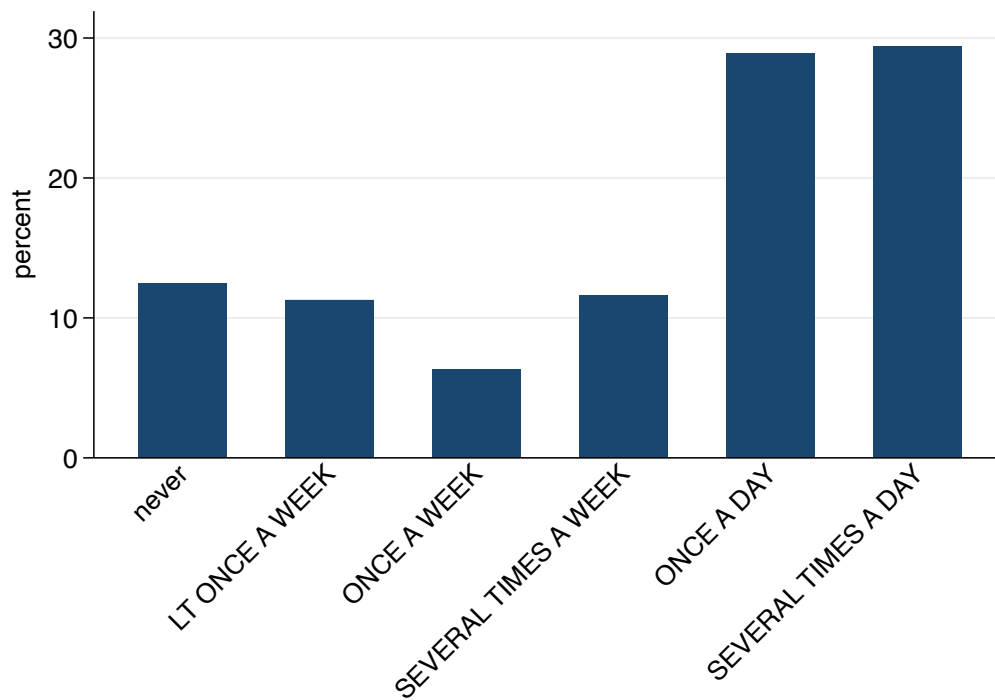


Figure A2: Distribution of Belief in God

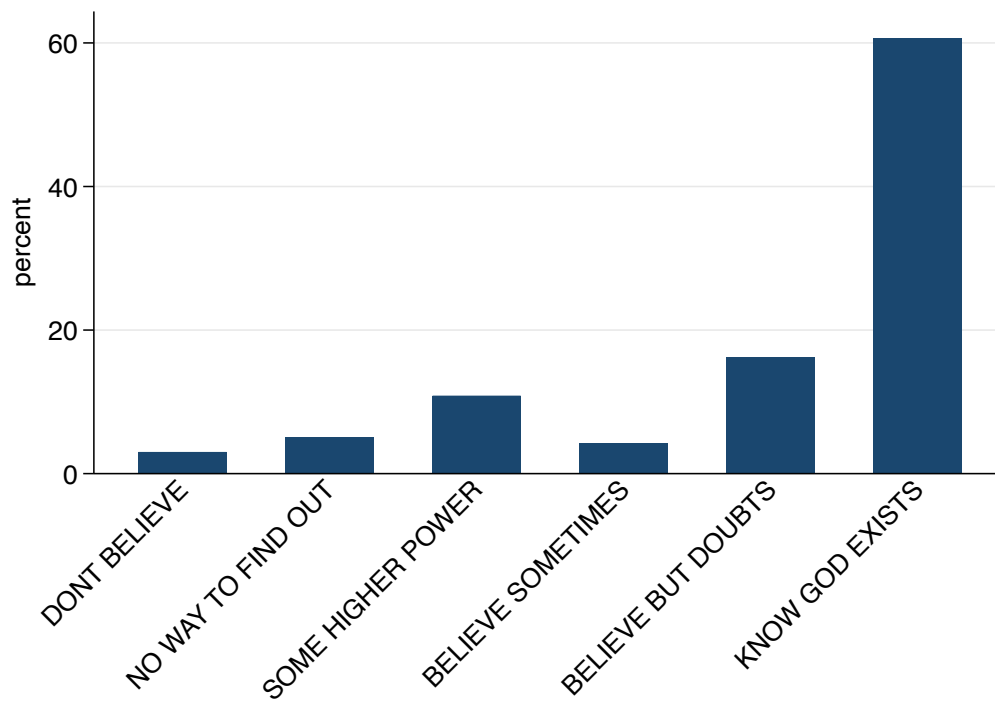


Figure A3: Carry Religious Beliefs Into Rest of Life by Extent to Which One Considers Themselves a Religious Person

