

LILIES OF BRISTOL:
Welfare Costs for Being a Great Woman?

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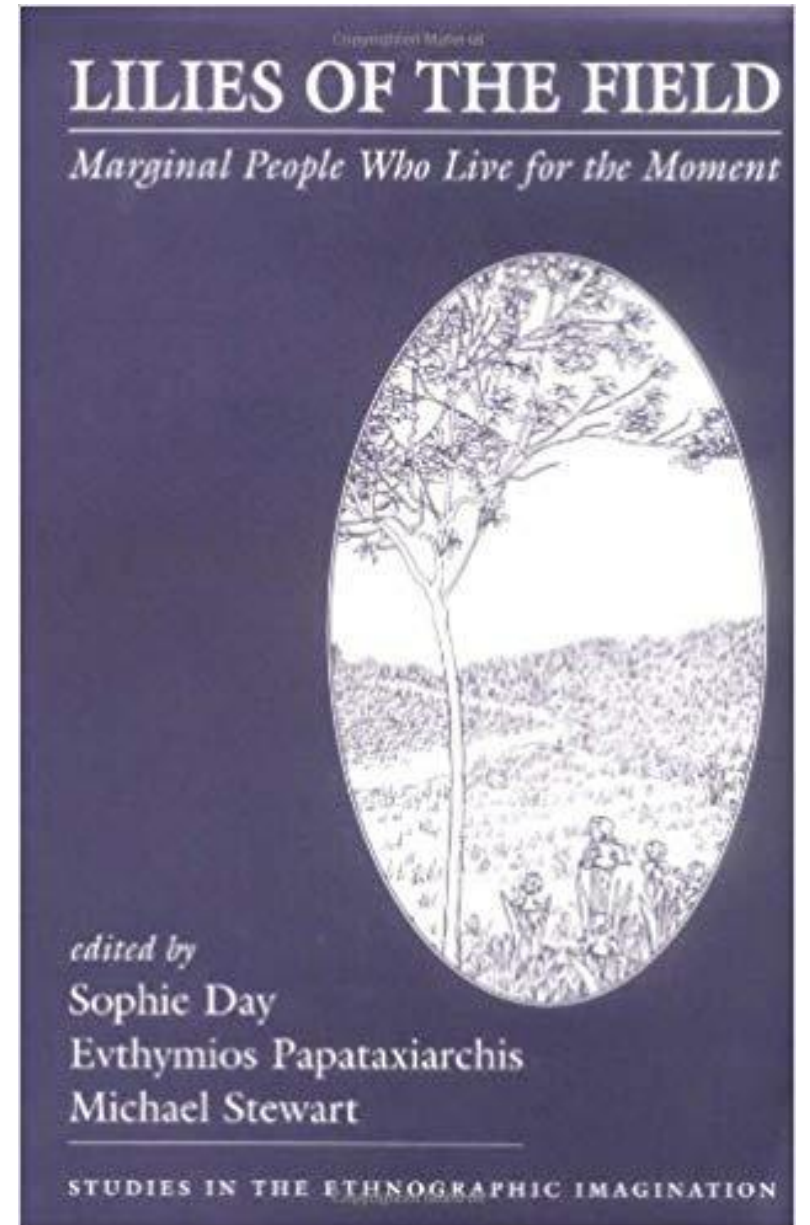
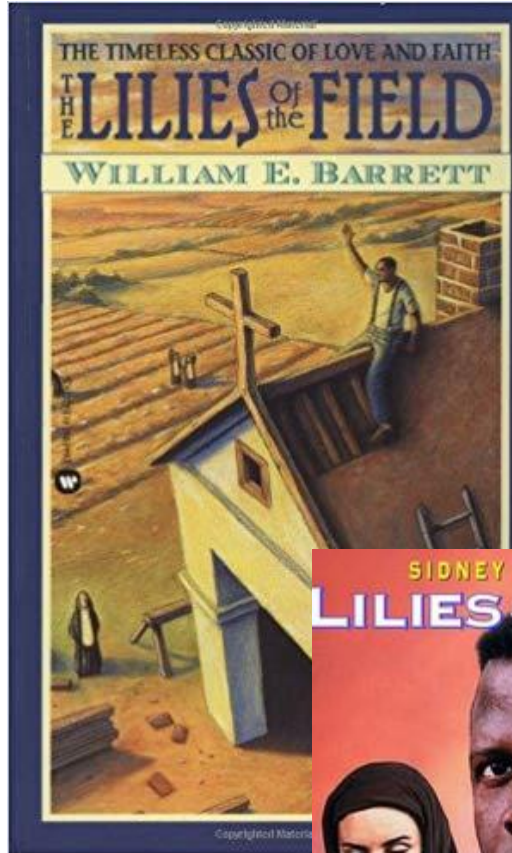
Agenda

- Phenomenon
- Literature & Definitions
- Research Question
- Hypotheses
- Data & Methods
- Preliminary Results

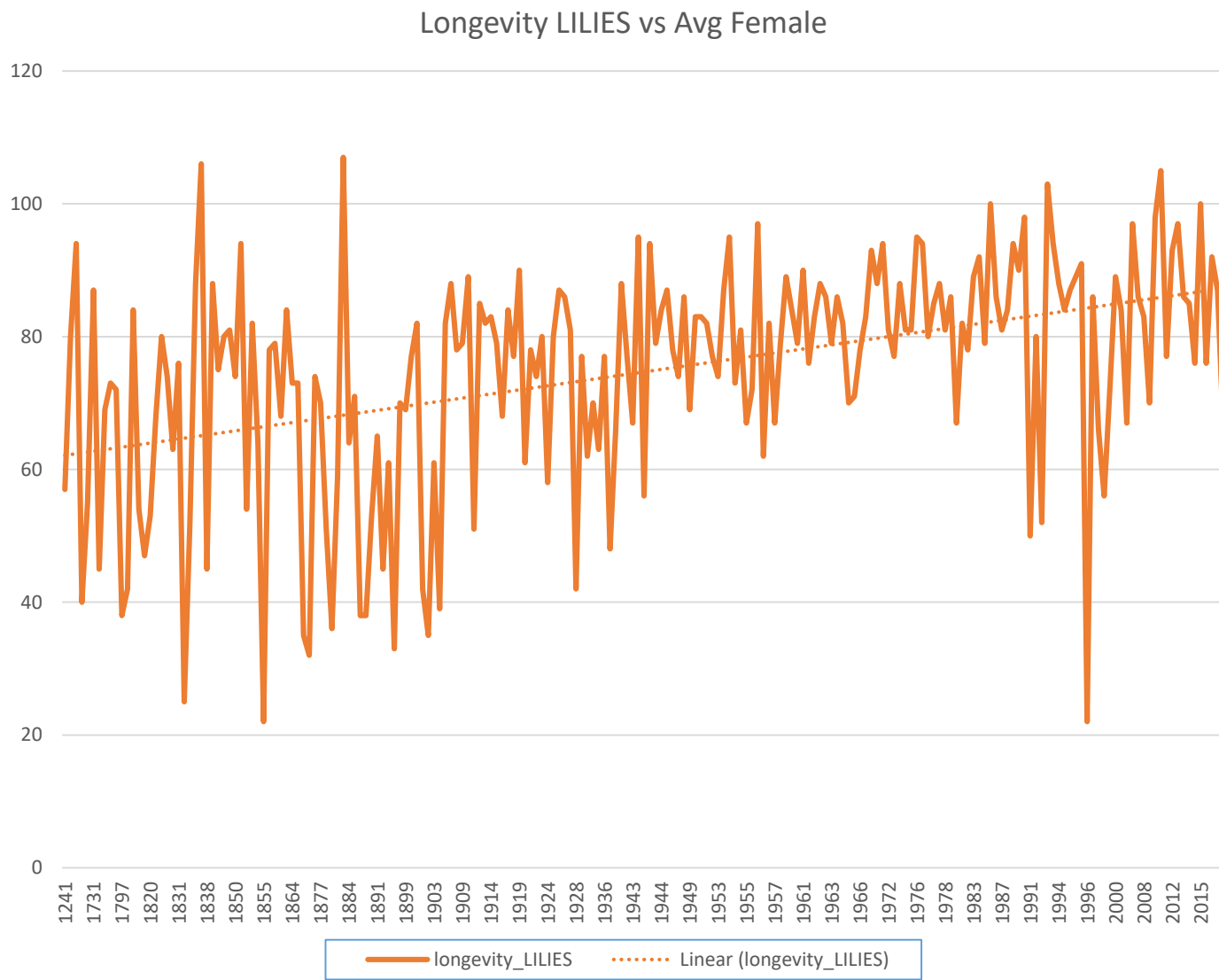
THE WOMEN WHO BUILT BRISTOL 1184-2018



Jane Duffus



Phenomenon



" ... a newborn baby girl 82.9 years if mortality rates remain the same as they were in the UK in 2014 to 2016 throughout their lives."

ONS:
<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/lifeexpectancies/bulletins/nationallifetablesunitedkingdom/2014to2016>

Literature

Intrinsic Motivation:

- Psychological motivation
- Consumption and investment
- Crowding out and endogeneity

Altruism

- Motivation – natural cost benefit analysis
- Effects – welfare gains

Literature – indiv. prosocial behaviour

- Psychological motivation
 - (Taylor; Maslow, Herzberg) -> Skitovsky (1976)
 - Wilson & Butler (1978) "Race and Job Satisfaction in the Military", *Sociological Quarterly* 19:626-638.
 - Mueller & McDuff (2004) Clergy-Congregation Mismatches and Clergy Job Satisfaction, *J. of the Scientific Study of Religion* 43(2): 261-273.
- Consumption and investment
 - Benabou & Tirole (2003) Intrinsic and Extrinsic Motivation, *Review of Econ. Studies* 70: 489–520
 - Delfgaauw & Dur (2005) Signaling and Screening of Workers' Motivation, Tinbergen Institute TI 2002-050/3
- Crowding out and endogeneity
 - Frey & Jegen (2001) Motivation Crowding Theory, *J of Econ. Surveys*, 15(5): 589-611
 - Brunoa & Fiorillo (2012) Why without pay?, *J of Socio-Economics* 41(5): 659-669.
 - Besley & Ghatak (2016) Market Incentives and the Evolution of Intrinsic Motivation, Manuscript.
 - Czaicki et al. (2018) Do incentives undermine intrinsic motivation? Increases in intrinsic motivation within an incentive-based intervention for people living with HIV in Tanzania, *PLOS One*.

Altruism

- Motivation – natural cost benefit analysis - Hamilton's Rule – Becker (1974); **Bergstrom (1986)**;
- Effects – welfare gains – Pearson (2016): **The Life Project: The Extraordinary Story of 70,000 Ordinary Lives**

Besley and Ghatak (2016)

Market Incentives and the Evolution of Intrinsic Motivation

- Durkheim (1893) and Polanyi (1944)
- transformation in culture is a sine qua non of economic change

Bourdieu (1998)

Masculine Domination, Stanford Uni Press: Stanford.

- Social construct

Question:

- What personal characteristics & actions determine their longevity?
- How the social construct affects their longevity?

- *H01: Lilies' longevity depends on their 'ends and means'.*

$$LILIES\ Longevity = \beta_1 Demogr + \beta_2 Altruism + + \beta_3 Econ_class + e_1, \quad (1)$$

- *H02: Lilies' longevity depends on the social construct (endogenous to economic dev.).*

$$LILIES\ Longevity = \beta_1 Indiv_controls + \beta_2 Historic_Events + e_2, \quad (2.1)$$

$$+ \beta_2 F_Historic_Events + e_2, \quad (2.2)$$

$$+ \beta_2 Inequality + e_2, \quad (2.3)$$

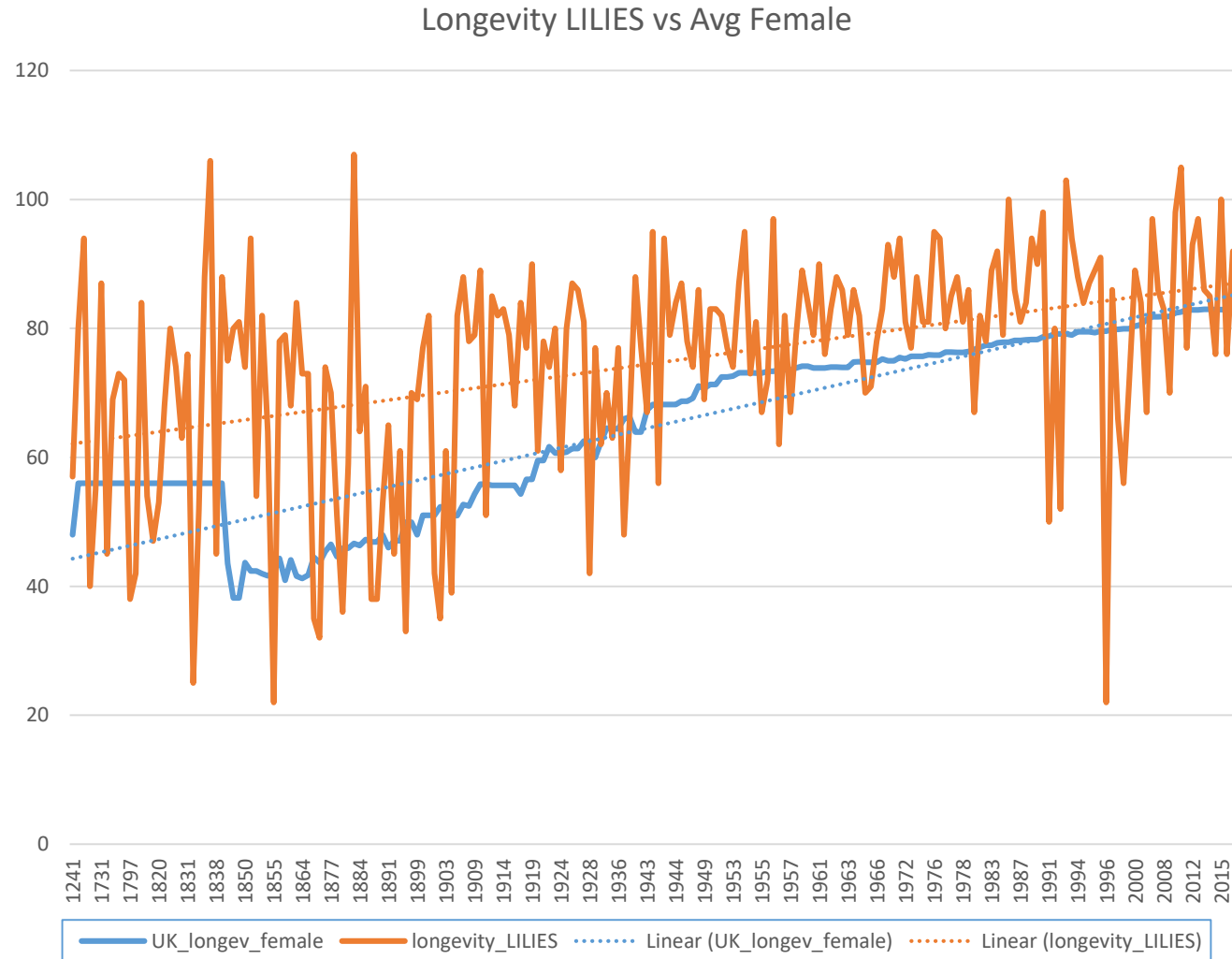
Data

- 250 great women from Bristol – 1184 – 2018
 - occupation, parents status, marital status, own children, economic class
 - altruistic activity
 - Disability
- Max Planck - ***The Human Mortality Database:***
 - England & Wales, Life expectancy at birth, 1841-2011
 - Cummins (2017) Lifespans of the European Elite, 800-1800, J of Econ History, 77(2): 406-439.
- Manchester Metropolitan University – The Women Timeline in the UK
- Atkinson et al. (2017) Chartbook of Economic Inequality
 - share of top 1% in total net wealth – 1900 - 2015

Methods

- OLS - exploration
- Nested model for capturing the social construct

Preliminary Results – 1a



Preliminary Results – 1b

Variable	Obs	Mean	Std. Dev.	Min	Max
longevityc~d	206	74.3301	17.8803	0	107
birth	215	1845.53	79.92302	1184	1974
death	217	1917.627	91.01192	1241	2017
UK_lon~emale	216	64.63199	12.9089	38.17	83.04
UK_lon~_male	185	61.12476	12.68062	36.54	79.42
UK_longev_~l	185	63.64222	13.02018	37.34	81.25
inequality	96	50.03531	15.76319	15.78	72.09
pre_Ind_re~n	260	.0384615	.1926786	0	1
industrial~v	260	.9615385	.1926786	0	1
post_WW2	260	.5461538	.4988255	0	1
suffrage	260	.6730769	.4699936	0	1
post_suffr~e	260	.2461538	.4316	0	1

Preliminary Results – 2a

Table 2a: Historic Event

```
. reg longevity pre_Ind_revolution post_WW2
```

Source	SS	df	MS	Number of obs	=	206
Model	8911.55693	2	4455.77847	F(2, 203)	=	15.97
Residual	56627.9965	203	278.955648	Prob > F	=	0.0000
				R-squared	=	0.1360
				Adj R-squared	=	0.1275
Total	65539.5534	205	319.705139	Root MSE	=	16.702

longevitycleaned	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
pre_Ind_revolution	-2.838755	6.527844	-0.43	0.664	-15.70983 10.03232
post_WW2	12.94696	2.368211	5.47	0.000	8.277513 17.61641
_cons	68.26733	1.661908	41.08	0.000	64.99051 71.54414


```
. gen industrial_rev = death > 1759
```

```
. replace industrial_rev = 0 if death > 1946
```

(140 real changes made)

```
. reg longevity industrial_rev post_WW2
```

Source	SS	df	MS	Number of obs	=	206
Model	8875.95489	2	4437.97745	F(2, 203)	=	15.90
Residual	56663.5985	203	279.131027	Prob > F	=	0.0000
				R-squared	=	0.1354
				Adj R-squared	=	0.1269
Total	65539.5534	205	319.705139	Root MSE	=	16.707

longevitycle~d	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
industrial_rev	1.508613	6.085986	0.25	0.804	-10.49124 13.50847
post_WW2	14.52639	6.092882	2.38	0.018	2.51294 26.53984
_cons	66.6725	5.914219	11.27	0.000	55.01132 78.33368

Source: Author's

Preliminary Results – 2b

Table 2b: F_Historic Event

longevityc~d		Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
	suffrage	13.98405	2.529532	5.53	0.000	8.996674	18.97143
	_cons	65.70886	2.171766	30.26	0.000	61.42688	69.99085


```
. reg longevitycleaned post_s, ro
```

longevitycl~d		Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
	post_suffrage	-6.955376	5.283566	-1.32	0.190	-17.37278	3.462024
	_cons	75.00538	1.258188	59.61	0.000	72.52466	77.4861


```
. reg longevitycleaned suf post_s, ro
```

longevitycl~d		Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
	suffrage	16.1603	2.431298	6.65	0.000	11.36646	20.95413
	post_suffrage	-13.81916	5.256821	-2.63	0.009	-24.18413	-3.454186
	_cons	65.70886	2.177108	30.18	0.000	61.41622	70.00151

Source: Author's

Preliminary Results – 2c

Table 2c: Inequality

```
. reg longevitycleaned inequality, ro
```

```
Linear regression                Number of obs    =           96
                                F(1, 94)         =           0.07
                                Prob > F              =          0.7936
                                R-squared              =          0.0014
                                Root MSE           =          13.637
```

longevityc~d	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
inequality	.0316784	.1207254	0.26	0.794	-.2080247	.2713816
_cons	78.66496	6.626311	11.87	0.000	65.50826	91.82165

Source: Author's

Preliminary Results – 3a

Table 3a: Individual - Descriptive

Variable	Obs	Mean	Std. Dev.	Min	Max
longevity	40	74.025	15.05117	18	100
birth	42	1841.524	124.1909	1184	1943
death	41	1920.244	124.1662	1241	2016
placeofbirth	44	.5681818	.501056	0	1
placeofmai~y	44	.3409091	.479495	0	1
altruistic~y	44	.4545455	.5036862	0	1
imprisonment	44	.1136364	.3210382	0	1
forced	44	.0681818	.2549717	0	1
interests	44	.3181818	.4711553	0	1
parentalfa~h	44	.3636364	.4866071	0	1
ownfamily	44	.5	.5057805	0	1
widow	44	.1363636	.3471418	0	1
children	44	.25	.4380188	0	1
suffrage	44	.1363636	.3471418	0	1
disabled	44	.1818182	.3901537	0	1
medicine	44	.2045455	.4080325	0	1
edu	44	.1136364	.3210382	0	1
art	44	.2045455	.4080325	0	1
politics	44	.2954545	.4615215	0	1

Source: Author's

Preliminary Results – 3b

Linear regression

Number of obs = 40
 F(9, 30) = 2.54
 Prob > F = 0.0267
 R-squared = 0.2143
 Root MSE = 15.212

Table 3b: Individual - Effects

longevity	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
parentalfamilyrich	3.896548	4.717298	0.83	0.415	-5.737459	13.53056
altruisticactivity	-1.587647	4.209765	-0.38	0.709	-10.18513	7.00984
ownfamily	-13.38112	7.721916	-1.73	0.093	-29.15138	2.389133
widow	15.61002	6.560056	2.38	0.024	2.212602	29.00744
children	13.58566	6.793806	2.00	0.055	-.2891388	27.46047
disabled	-7.662488	6.186156	-1.24	0.225	-20.2963	4.971328
medicine	1.960093	7.285455	0.27	0.790	-12.91879	16.83898
edu	-10.54651	3.426804	-3.08	0.004	-17.54498	-3.548044
politics	-3.928794	4.884333	-0.80	0.428	-13.90393	6.046345
_cons	77.90458	4.412751	17.65	0.000	68.89254	86.91662

Source: Author's

Considerations for further research

- Transcribe individual data for all 250
- Additional 250 artists again from Jane Duffus in 2019
- Nested model

- Any ideas?