The Puzzle of Good Health among Ultra-Orthodox Jews in Israel

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Introduction

- The Ultra-orthodox Jews in Israel present an interesting case study: despite their low socio-economic conditions, their life expectancy and self rated health is high.

- Previous studies have already suggested that the income – longevity gradient breaks down when it comes to these communities (Chernichovsky & Anson, 2005; Anson, 1992).

- We hypothesize that social capital is the key to resolving this enigma.

Background

- In Israel, as everywhere else in the world, life expectancy is higher in populations or communities that rank higher in socioeconomic conditions

- The exceptions: Beit Shemesh, Bnei Brak, and Jerusalem
  - Commonality: large population of ultra-Orthodox Jews (UOJ)

Figure 1. Life Expectancy at Birth (2005–2009) in Localities with Populations Over 50,000, by Socioeconomic Index (2008), Israel
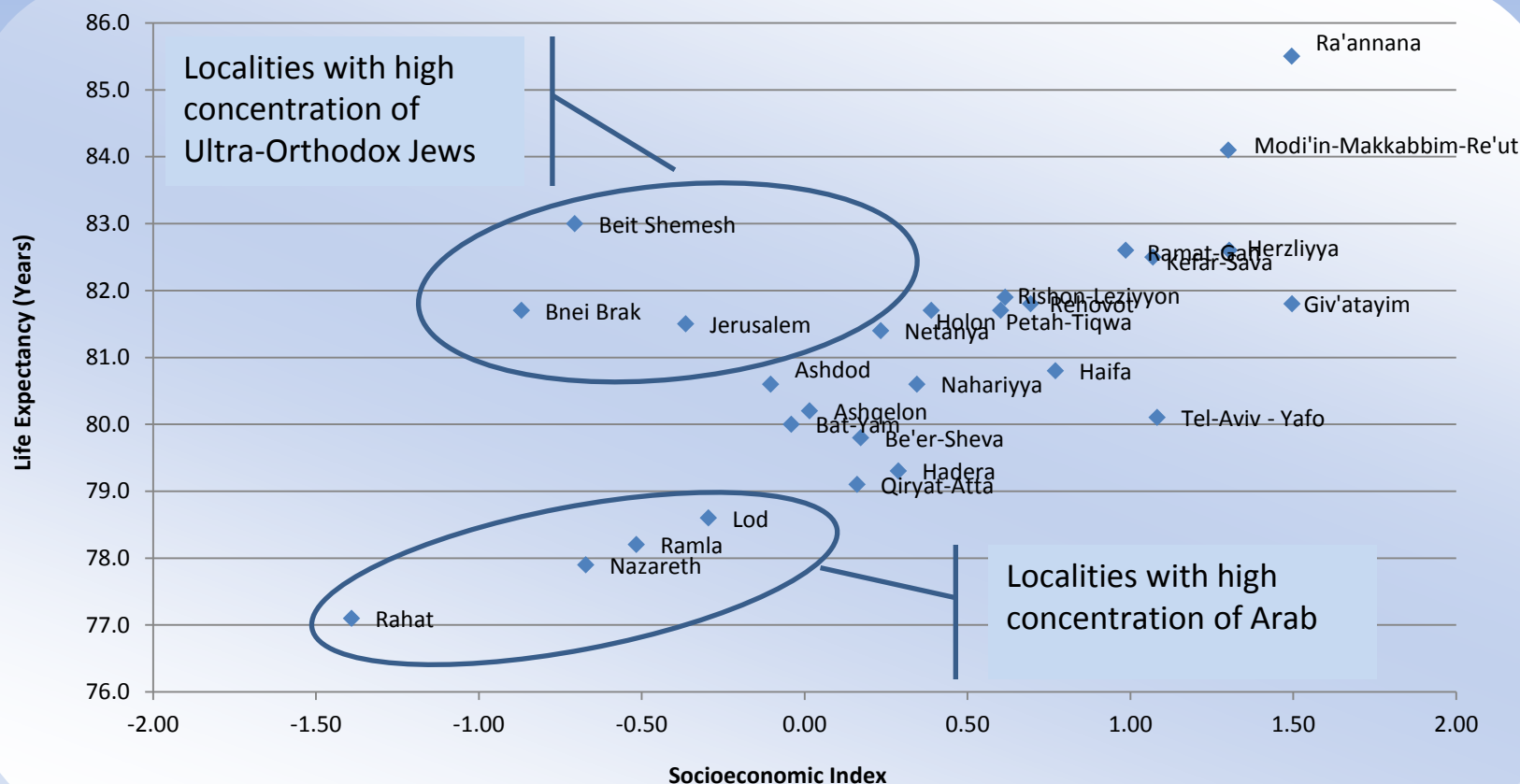
Note: The socioeconomic level of the population is measured by a combination of the following characteristics: demography, education, employment and benefits, and standard of living (financial income, motorization level, housing characteristics). The calculation of the socioeconomic index value for each geographical unit is based on 16 variables selected from these fields by a number of criteria. After the index values are calculated, the geographical units are allocated to 10 or 20 clusters (homogeneous groups with respect to the index values), in which cluster 1 signifies the lowest socioeconomic level).

Figure 2. Age-Standardized Mortality Rate and Socioeconomic Index Compared to National Average, in Localities with Populations Over 9,999, Israel, 2005–2009
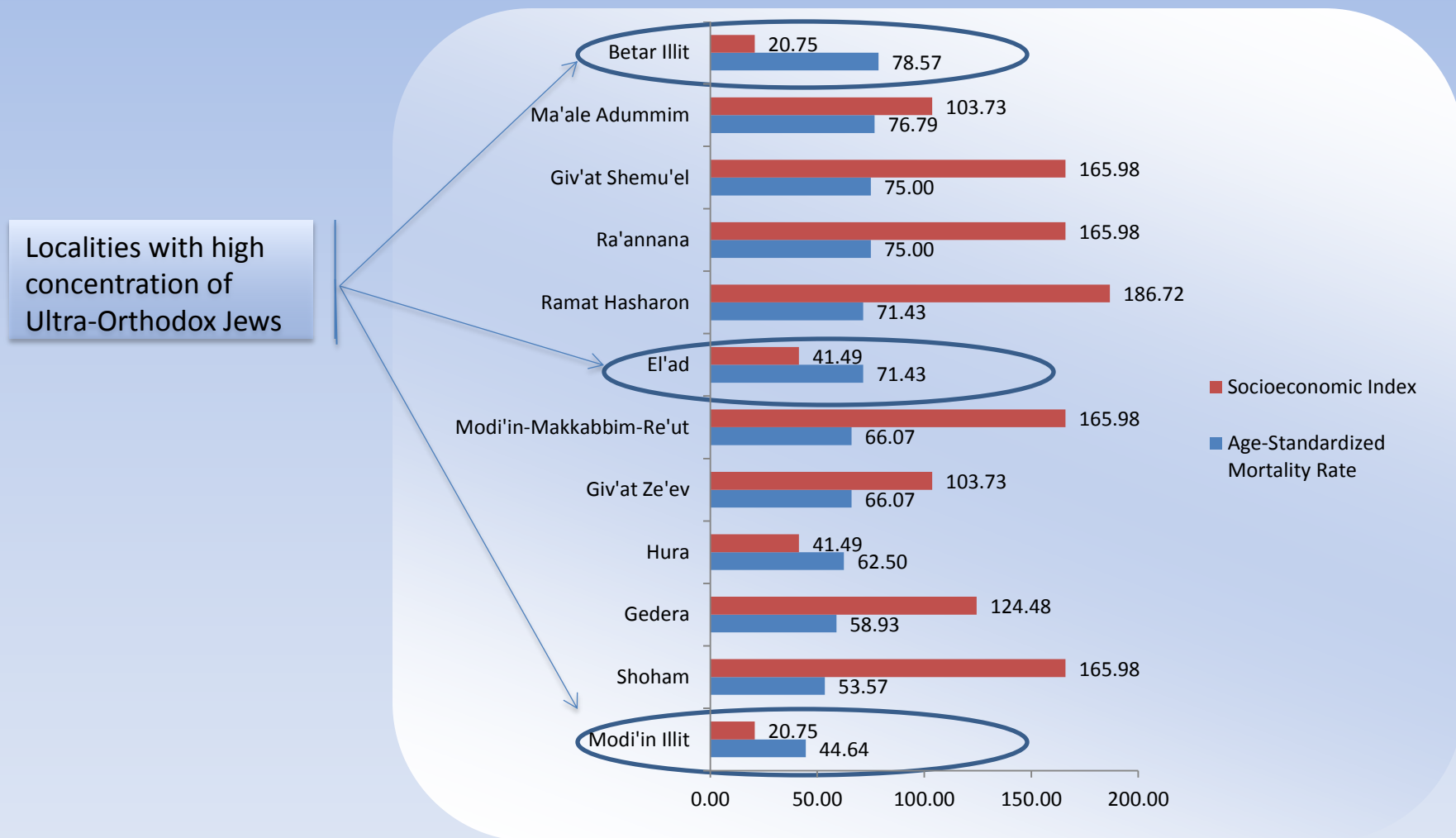
Table 1. Self-Reported Health Status by Religiosity, Jews and Non-Jews

Religiosity	Health indicators					
	Very good	Good	Not so good	Not good at all	Very good—standardized	Have any health problem
Jews	Percent of all					
Ultra-Orthodox	73.6	20.4	5.3	0.0	64.6	18.7
Religious	52.9	31.9	10.1	4.9	55.1	35.4
Traditional	48.0	31.5	14.1	6.3	51.2	39.4
Not religious, secular	52.9	34.0	9.1	3.7	54.2	33.7
Non-Jews	Percent of all					
Very religious and religious	54.1	21.7	17.6	6.7	51.2	33.8
Not so religious	60.3	24.8	10.3	4.6	50.7	25.0
Not religious	56.4	26.2	12.3	5.2	48.5	28.2

Source: Dov Chernichovsky and Chen Sharony, Taub Center for Social Policy Studies in Israel
Data: Central Bureau of Statistics. *Social Survey*, 2011–2012.

Characteristics of Ultra-Orthodox Jews

- 4.3% of population in Israel
- Live in neighborhoods with orthodox nature
- Low income and formal education
- Large families
- Low participation rate in labor force and army
- High percentage donate to charity and volunteer

Table 2. Means and Percentages for Selected Basic Characteristics, UOJ vs Other Jews

Characteristic	Ultra-Orthodox Jews	Other Jews
Age	38.6 years	47.6 years
Married	85.1%	60.0%
Male head of household	50.2%	48.0%
Number of children	3.86	1.99
Studied in an academic institution	19.6%	41.8%
Active in the labor force	61.6%	71.4%
More than 2 persons per room in residence	25.8%	2.1%
Own a car	37.7%	74.4%
Net monthly income	7,506.40 NIS	11,698.60 NIS
Donated to charity last year	88.0%	66.1%
Served in the military	20.3%	65.3%

Source: Dov Chernichovsky and Chen Sharony, Taub Center for Social Policy Studies in Israel.
Data: Central Bureau of Statistics, *Social Survey 2011–2012*.

Table 3. Social Capital Variables by Religiosity, Jews and Non-Jews

Religiosity	Satisfied with family		Have friends	Frequency of meeting or talking with friends			Feeling lonely	Doing volunteer work
	Very	Just		Every or almost every day	Once or twice a week	Twice a month or less		
Jews	**Percent of all**		**Percent of all**	**Percent of respondents who reported having friends**			**Percent of all**	**Percent of all**
Ultra-Orthodox	80.2	16.4	93.1	57.0	31.4	10.9	11.4	43.4
Religious	62.7	32.5	88.9	49.3	35.1	15.3	25.9	32.2
Traditional	62.1	32.7	89.9	50.4	36.0	13.2	27.7	17.4
Not religious, secular	60.0	34.1	94.9	51.5	36.8	11.4	24.5	20.8
Non-Jews	**Percent of all**		**Percent of all**	**Percent of respondents who reported having friends**			**Percent of all**	**Percent of all**
Very religious and religious	68.7	26.3	83.1	29.9	41.0	29.1	37.7	
Not so religious	62.1	32.0	86.3	39.2	37.3	23.5	30.7	
Not religious	67.4	28.2	91.0	42.3	38.4	19.3	30.0	

Source: Dov Chernichovsky and Chen Sharony, The Taub Center for Social Policy Studies in Israel.
Data: Central Bureau of Statistics, *Social Survey 2011–2012*.

Literature: Types of Social Capital

- UOJ in Israel conform to basic definition: "Characteristics of social organization such as trust, norms and social networks that can improve the efficiency of society by facilitating coordinated action" (Putnam, 1993)
- Concept is broad:
  - Individual and community
  - Bonding and bridging
- Israeli UOJ have high individual, community, and bonding social capital and mixed bridging social capital

Literature: Health and Social Capital

- Growing evidence on positive effect of social capital on health (Wolf & Bruhn, 1993; Klinenberg, 2003; Veenstra, 2002; Ronconi, Brown & Scheffler, 2012; Kim et al., 2006; Kim, Subramanian & Kawachi, 2006; Szreter & Woolcock, 2004)

- Questions remain about causal effect of social capital (Scheffler et al., 2007)

Literature: Religion and Social Capital

- Religious involvement: important component of social capital (Putnam, 2000)
- Religious organizations: connect community members and provide information and social norms
- Belief that purpose of man is not personal enjoyment but to serve others, contributes to maintaining health (Scheffler & Brown, 2008)
- Research in Israel found significant difference in mortality rates between religious and secular kibbutzim (Kark et al., 1996)
- Research in Jerusalem found high usage of private health services among Ultra-orthodox neighborhoods (Rosen et al., 2006).

Literature: Social Capital and Socioeconomic Condition

- Research suggest that social capital can attenuate effects of low socioeconomic condition on health:
  - Social capital negatively related to psychological stress among families with lower than median income (Scheffler et al., 2007)
  - Social capital affects health status only in low-income populations (Scheffler et al., 2008)

Other possible explanations for the good health of Ultra-orthodox Jews

- Access to health care

- Health promoting behaviors - study found an inverse association between level of religiosity and healthy behavior (Ministry of Health, 2013).

Data

- Social survey administered in 2011 by the Central Bureau of Statistics of Israel (CBS, 2012)
- 2 Logit regression models
  - Model 1: religiosity variables, model 2: social capital variables
  - Dependent variables: "health status is very good" and "have no health problem"
- Group response "good health" dropped from analysis for robustness

Table 4. Logit Regression Coefficients, Have Very Good Health (=1) as Dependent Variable (z-score in parentheses)

Independent variable/religiosity model	Coefficient	Independent variable/social capital model	Coefficient
Demographic		**Demographic**	
Age	-0.093***	Age	-0.097***
	(-19.63)		(-19.74)
Gender of interviewee	0.146	Gender of interviewee	0.212
(male=1)	(1.12)	(male=1)	(1.56)
Marital status (married=1)	-0.053	Marital status (married=1)	-0.154
	(-0.34)		(-0.96)
Socioeconomic		**Socioeconomic**	
Education: 1- 10 years (=1)	1.719	Education: 1-10 years (=1)	1.831*
	(1.60)		(1.68)
Education: 11 + years (=1)	2.592**	Education: 11 + years (=1)	2.626**
	(2.43)		(2.44)
In the labor force (=1)	1.011***	In the labor force (=1)	0.971***
	(6.08)		(5.63)
No. of earners	-0.165*	No. of earners	-0.202**
	(-1.94)		(-2.29)
Household net income	0.0001***	Household net income	0.0001***
	(11.21)		(9.39)
Religiosity (not religious=0)		**Social capital indicator**	
Traditional (=1)	-0.159	Never lonely (=1)	0.724***
	(-0.87)		(5.17)
Religious (=1)	0.313	Talk to friends/relatives daily	0.200
	(1.39)	(=1)	(1.16)
Ultra-orthodox (=1)	1.308***	Talk to friends/relatives 1-2	0.087
	(4.80)	times weekly (=1)	(0.49)
		Very satisfied with family	0.908***
		relations (D=1)	(3.44)
		Satisfied with family	0.510*
		relations (D=1)	(1.88)
		Doing volunteer work	0.760***
			(4.20)
		Very satisfied with	0.848***
		relationship with neighbors	(4.04)
		(D=1)	
		Satisfied with relationship	0.286
		with neighbors (D=1)	(1.56)
No. of observations	3,119	No. of observations	3,119
Pseudo R^2	0.5291	Pseudo R^2	0.5518
Ln chi^2	1851.53	Ln chi^2	1,931.17

*$p < .1$ **$p < .05$ ***$p < .01$

Table 5. Logit Regression Coefficients, Do Not Have a Health Problem (=1) as Dependent Variable (z-score in parentheses)

Independent variable/religiosity model	Coefficient	Independent variable/social capital model	Coefficient
Demographic		**Demographic**	
Age	-0.065***	Age	-0.068***
	(-18.41)		(-19.05)
Gender of interviewee	-0.089	Gender of interviewee	-0.061
(male=1)	(-0.89)	(male=1)	(-0.60)
Marital status (married=1)	0.219*	Marital status (married=1)	0.260**
	(1.87)		(2.24)
Socioeconomic		**Socioeconomic**	
Education: 1- 10 years (=1)	1.161	Education: 1- 10 years (=1)	1.175
	(1.50)		(1.49)
Education: 11 + years (=1)	1.614**	Education: 11 + years (=1)	1.604**
	(2.11)		(2.07)
In the labor force (=1)	0.836***	In the labor force (=1)	0.770***
	(6.29)		(5.77)
No. of earners	-0.128**	No. of earners	-0.170**
	(-1.92)		(-2.54)
Household net income	0.00008***	Household net income	0.00006***
	(8.80)		(7.17)
Religiosity (not religious=0)		**Social capital indicator**	
Traditional (=1)	-0.106	Never lonely (=1)	0.453***
	(-0.73)		(4.34)
Religious (=1)	0.211	Talk to friends/relatives daily	0.103
	(1.23)	(=1)	(0.75)
Ultra-orthodox (=1)	1.217***	Talk to friends/relatives 1-2	0.041
	(5.79)	times weekly (=1)	(0.29)
		Very satisfied with family	0.628***
		relations (D=1)	(2.87)
		Satisfied with family relations	0.402*
		(D=1)	(1.79)
		Doing volunteer work	0.245**
			(1.98)
		Very satisfied with	0.520***
		relationship with neighbors	(3.34)
		(D=1)	
		Satisfied with relationship	0.331**
		with neighbors (D=1)	(2.33)
No. of observations	3,119	No. of observations	3,119
Pseudo R^2	0.3312	Pseudo R^2	0.3356
Ln chi^2	1,292.57	Ln chi^2	1,309.80

*$p < .1$ **$p < .05$ ***$p < .01$

Results

- Demographic
  - Age has negative effect on dependent health variables

- Socioeconomic status
  - Income, education, and being in labor force have positive effect on health
  - No. of earners in household has negative effect on health

Results

- Being UOJ has positive effect on health
- Social capital indicators have positive effect on health
  - Never being lonely; being satisfied with family relations, and neighbors; and doing volunteer work
- Substitution of religiosity variables with social capital variables does not change measured impact and statistical significance of other independent variables

Conclusions

- Despite low socioeconomic status, UOJ in Israel report good health status

- This can be explained by relatively high social capital

  – Volunteering; close relationship with family, neighbors, and friends; etc.

Conclusions (continued)

- Regressions show
  - Being UOJ has positive effect on health
  - Social capital indicators have positive effect on health
- Substitution of religiosity variables with social capital variables may mean that religiosity is a proxy for social capital in this case.

Discussion

- Case of Ultra-Orthodox Jews in Israel lends support to the role of social capital in good health by providing psychological support

- There is, as of yet, no anecdotal evidence that access to health care and health promoting organizations plays a role in this case, although intuitive reaction is the opposite