

Racial and Ethnic Differences in Longevity Perceptions and Implications for Financial Decision Making

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March 30, 2023

Motivation

- Much past evidence of US racial disparities in life expectancy:
- For both men and women, life expectancy at birth higher for Whites v.s. Blacks.
(e.g. [Harper et al., 2021](#); [Levine and Crimmins, 2014](#))
- Yet Blacks expect to live longer than Whites.
(e.g. [Mirowsky, 1999](#); [Hurd and McGarry, 1995](#))
- Asian Americans outlive Whites substantially.
(e.g. [Acciai et al., 2015](#); [Hahn and Eberhardt, 1995](#))

Motivation

- Changes in mortality risk emerged during COVID-19 pandemic:
 - ▶ US life expectancy fell overall.
(e.g. [Marois et al., 2020](#); [Andrasfay and Goldman, 2021](#))
 - ▶ Disproportionately higher infection and mortality among Blacks and Hispanics.
(e.g. [Doumas et al., 2020](#); [Hewa, 2020](#); [Bianchi et al., 2023](#); [Macias Gil et al., 2020](#); [Alcendor, 2020](#))
- Survival affects financial decision making.
(e.g. [Bloom et al., 2007](#); [Hurd et al., 2004](#); [Hurwitz et al., 2022](#))

Research question

- Do people in different race/ethnic groups differ from Whites, with regard to own subjective survival probabilities and estimates of overall population survival?
- How did peoples' subjective survival probabilities change from 2020 to 2021, a year into the pandemic, and did these changes differ by race/ethnicity?
- Did recommendations regarding saving and annuitization behavior differ systematically by race/ethnicity?

Data and Methodology

- US nationally representative online survey of respondents age 35-83, using Prolific in March/June 2020 and Feb/April 2021:
 - ▶ Elicited information on subjective survival probabilities.
 - ▶ Demographics and information about COVID-19.
 - ▶ Savings and annuitization advice for a "vignette" individual.
- Compare reported subjective survival chances to objective age/sex values from population life table.
- Compute changes in subjective survival optimism and population survival patterns during the pandemic.
- Assess changes in advice.

Subjective survival probabilities during the pandemic

Variable	Mean	Std. Dev.
<i>2020 SLE-LE(X-5)</i>	3.47	30.03
<i>2020 SLE-LE(X)</i>	18.40	30.44
<i>2021 SLE-LE(X-5)</i>	1.07	29.15
<i>2021 SLE-LE(X)</i>	15.70	29.23
<i>ΔSLE-LE(X-5)</i>	-1.98	24.21
<i>ΔSLE-LE(X)</i>	-2.58	25.57
<i>PopLongPlus</i>	-0.39	1.11
<i>PopLELongPlus</i>	-0.21	0.98

Note: SLE-LE is the difference between subjective survival probability to age X (X-5) and life tables. Δ SLE-LE is the change between 2021 and 2020 (that is, [2021 value – 2020 value]). PopLELongPlus and PopLELongPlus are respondents' assessments of changes in the longevity and life expectancy in the overall US population due to the pandemic

- In both years, respondents overestimated subjective survival chances compared to the life tables, but gap narrowed: respondents overestimated their subjective survival chances less after a year of pandemic.
- Gap in estimated population survival rates also narrowed.

Subjective survival probabilities by race/ethnicity

Variable	<i>White</i>		<i>Hispanic</i>		<i>Black</i>		<i>Asian/PacI</i>		<i>Other</i>	
	Mean	Mean	Diff	Mean	Diff	Mean	Diff	Mean	Diff	
2020 SLE LE(X-5)	2.17	3.87		15.35	***	12.09	***	2.47		
2020 SLE LE(X)	16.74	22.50	*	31.36	***	28.13	***	19.02		
2021 SLE LE(X-5)	-0.48	3.31		15.48	***	8.16	***	1.12		
2021 SLE LE(X)	13.56	19.80	*	34.89	***	23.54	***	20.20	*	
Δ SLE LE(X-5)	-2.11	-1.86		0.39		-2.85		-1.39		
Δ SLE LE(X)	-2.76	-4.39		1.68	*	-3.93		-0.47		
PopLongPlus	-0.38	-0.59	*	-0.39		-0.31		-0.43		
PopLELongPlus	-0.21	-0.21		-0.25		-0.08		-0.31		

- Blacks overestimated their survival chances in both 2020 and 2021
- Hispanics overestimated their chances versus White counterparts
- Asian/Pacific Islanders also overestimated survival chances
- Few estimated changes in subjective or estimated survival rates (2020 vs. 2021) statistically significant

Subjective survival probabilities by race/ethnicity

Variables	2020 SLE-LE(X-5) (1)	2021 SLE-LE(X-5) (2)	2020 SLE-LE(X) (3)	2021 SLE-LE(X) (4)
Hispanic	-1.873 (3.339)	4.097 (3.476)	1.365 (3.354)	4.198 (3.496)
Black	10.906*** (3.001)	16.304*** (3.151)	10.025*** (3.058)	17.771*** (3.220)
Asian/PacI	8.877*** (3.300)	4.384 (3.353)	9.049*** (3.375)	5.219 (3.350)
Other	4.329 (4.121)	11.166** (4.539)	4.552 (4.164)	14.1*** (4.424)
Observations	1,894	1,658	1,868	1,643
R ²	0.10	0.12	0.10	0.12
Mean dep. var	3.38	0.92	17.99	15.20
Std.devdep. var	29.82	29.00	30.20	28.95

- After controls, Blacks and Asian/Pacific Islanders continued to overestimate subjective survival chances vs. Whites

Changes in subjective survival optimism during the pandemic

Variables	Change between SLE-LE(X-5) from 2020 to 2021		Change between SLE-LE(X) from 2020 to 2021	
	OLS	Heckman	OLS	Heckman
Hispanic	1.330 (3.279)	4.174 (3.912)	-2.406 (3.459)	0.920 (4.020)
Black	2.572 (3.197)	14.452 (9.478)	3.575 (3.426)	17.966 * (9.518)
Asian/PacI	-0.925 (3.195)	10.769 (9.346)	-2.257 (3.428)	11.072 (8.911)
Other	3.336 (4.246)	11.375 (7.382)	4.471 (4.356)	9.723 * (5.428)
R ²	0.01	0.01	0.01	0.01
Mean dep. var	-2.40	-2.40	-3.03	-3.03
Std.devdep. var	24.24	24.24	25.52	25.52

- Few race/ethnicity coefficients statistically significant.

Respondents' assessment of changes in population longevity

Variables	PopLongPlus		PopLELongPlus	
	OLS	Heckman OLS	OLS	Heckman OLS
Hispanic	-0.243 *	-0.592 ***	-0.036	-0.168
	(0.135)	(0.205)	(0.118)	(0.140)
Black	-0.066	0.334	-0.046	0.166
	(0.124)	(0.216)	(0.107)	(0.161)
Asian/PacI	-0.006	0.140	0.080	0.190
	(0.136)	(0.151)	(0.117)	(0.133)
Other	-0.144	-0.106	-0.220	-0.100
	(0.176)	(0.177)	(0.154)	(0.168)
Mean dep. var	-0.39	-0.39	-0.21	-0.21
Std.devdep. var	1.12	1.12	0.98	0.98

- Only Hispanic coefficient statistically significant at 1%; otherwise no significant differences by race/ethnicity in perceptions about changes in population longevity.

Vignettes

- Vignettes are short stories about hypothetical persons confronting the same or similar questions (e.g. Samek et al., 2022).
- Survey respondents are asked to provide advice to a hypothetical vignette person.
- Example:
Next, we will describe a financial decision facing Mr. Smith and then we will ask you what you would recommend to this person: Mr. Smith is a single, 60-year-old man with no children. He will retire and claim his Social Security benefits at 65. When he retires, he will have \$100,000 saved for his retirement, and he will receive \$1,400 in monthly Social Security benefits. Imagine that Mr. Smith asks you about how to manage his \$100,000 retirement savings. Please indicate which one of the two options you would recommend:
 - ▶ *Withdraw the entire \$100,000 all at once from the retirement account, to use as he needs.*
 - ▶ *Receive a regular monthly sum of 500(equal to 6,000 yearly) for the rest of his life.*
- Additional vignette asking whether a 40-year old who expects to retire at age 65 with \$100K should increase his saving level.

Framing longevity and financial decision making

Variables	2020 Responders				2021 Responders			
	Savings vignette		Annuitization vignette		Savings vignette		Annuitization vignette	
	All responders (1)	Under-estimators (2)	All responders (3)	Under-estimators (4)	All responders (5)	Under-estimators (6)	All responders (7)	Under-estimators (8)
Hispanic	0.104 (0.094)	-0.172 (0.192)	-0.036 (0.064)	0.105 (0.070)	0.072 (0.087)	0.160 (0.174)	0.015 (0.057)	0.055 (0.074)
Black	0.028 (0.064)	0.251 *** (0.077)	0.040 (0.051)	0.166 *** (0.054)	0.020 (0.085)	0.221 ** (0.098)	0.088 ** (0.044)	0.085 (0.119)
Asian/PacI	-0.046 (0.082)	-0.157 (0.162)	-0.011 (0.069)	-0.117 (0.143)	0.024 (0.085)	0.083 (0.154)	-0.109 (0.082)	-0.305 * (0.168)
Other	0.096 (0.111)	0.121 (0.154)	-0.053 (0.083)	0.013 (0.132)	0.259 *** (0.067)	0.192 (0.123)	-0.024 (0.101)	-0.056 (0.173)
Mean dependent var	0.57	0.61	0.77	0.77	0.59	0.62	0.77	0.80
SD dependent var	0.50	0.49	0.42	0.42	0.49	0.49	0.421	0.402

- Blacks under-estimators most likely to recommend saving more and annuitizing in both years.

Conclusions

- Overall, respondents overestimated own survival probabilities, in both years.
- Overestimates larger for survival to X than to X-5.
- Gaps in subjective survival probabilities shrank a year into the pandemic.
- A year into the pandemic, Blacks and Asian/Pacific Islanders still more optimistic about own survival probabilities vs. Whites.
- Only Hispanics estimated a drop in population longevity.
- Black under-estimators recommended more savings and annuitization.
- Contribution to the discussion about longevity awareness and its affect on financial decisions.
- Future work should investigate additional information treatments and advice to vignette individuals of different ethnic groups.