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Black and white racial inequality in expected survival

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Black and white differences in subjective survival expectations: An evaluation of competing mechanisms

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ABSTRACT

While black-white inequality in longevity is well documented in the United States, little is known about how individuals from different race/ethnic groups form their own personal survival expectations. Prior research has found that despite having higher mortality, blacks on average report higher survival expectations relative to whites. Using data from the Health and Retirement Study, we examined racial differences in subjective survival expectations across birth cohorts and provide explanatory mechanisms.

We find that blacks—men in particular—were overly optimistic about their survival, but this effect had waned with successive birth cohorts. Furthermore, whereas subjective survival expectations and actual survival were correlated among white men, among black men the most optimistic fared worst. Blacks and whites differed not only in their response patterns, but also in how they weighed the different factors (socioeconomic, psychosocial, health, parental longevity) associated with expected survival. Importantly, those who estimated their survival probability with certainty had positive psychosocial characteristics, irrespective of race, but only whites had better health.

These findings underscore the importance of group differences in subjective survival expectations as another potential form of inequality. Racial differences in how long individual expect to live may account for differences in social and economic behavior and outcomes, irrespective of actual longevity differentials.

Why are survival expectations important?

- Economic behavior
 - Directly shapes saving and spending patterns, retirement planning (Salm 2010, Nivakoski 2020)
 - Of interest to social security systems, insurance providers, employers and policy makers



Why are survival expectations important?



- Health behaviors
 - Smoking, alcohol consumption, poor nutrition (Lang and Ruprecht 2019, van Solinge and Henkens 2018)
 - Adherence to preventative medical tests (Picone et al 2004)

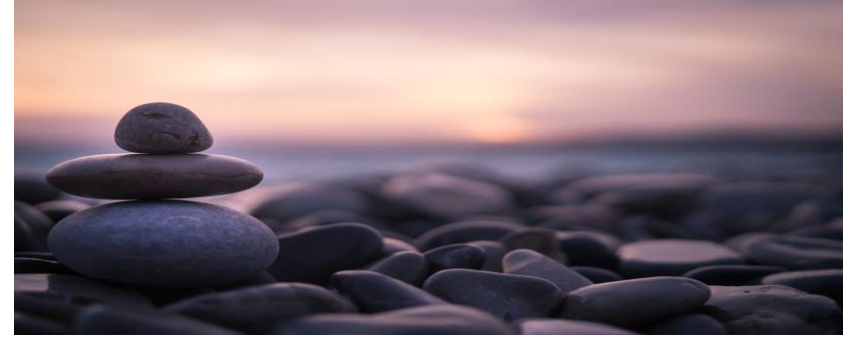
Why are survival expectations important?

- Psychological well-being
 - Greater sense of control (*Horizon Hypothesis*),
 - Subdued stress,
 - Greater emotional support (Gan et al. 2015, Bergman and Segel-Karpas 2020, Mirowsky 1997)



Why are racial inequalities (in survival expectations) important?

- Disparities in the end-of-life experience
- Survival expectations reflect information directly relevant to mortality risk
 - health status, lifestyle, and parental longevity—but also social factors such as socioeconomic status and exposure to social adversity throughout the life course (Mittal & Griskevicius, 2017).
- Blacks tend to report higher survival expectations compared to whites of the same age, i.e. the *racial anomaly* (Mirowsky, 1999)





Calculating survival expectations

Demographers find survival expectations to be...

- ✓ **accurate** (Hurd and McGarry 1995, Peracchi and Perotti 2010, Hudomiet and Willis 2013,)
- ✓ **not accurate** (Elder 2007, Giustinelli, Manski and Molinari 2020, Papachristos et al. 2020)

HRS | HEALTH AND
RETIREMENT
STUDY

1932-1936 birth cohort

1,728 Men

2,001 Women

1937-1941 birth Cohort

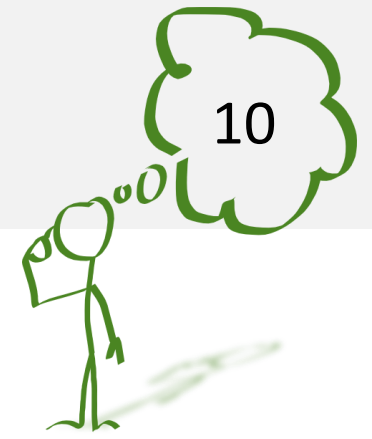
1,842 Men

2,218 Women

Average expected survival = 0.65

Life table survival = 0.68

Calculating survival expectations



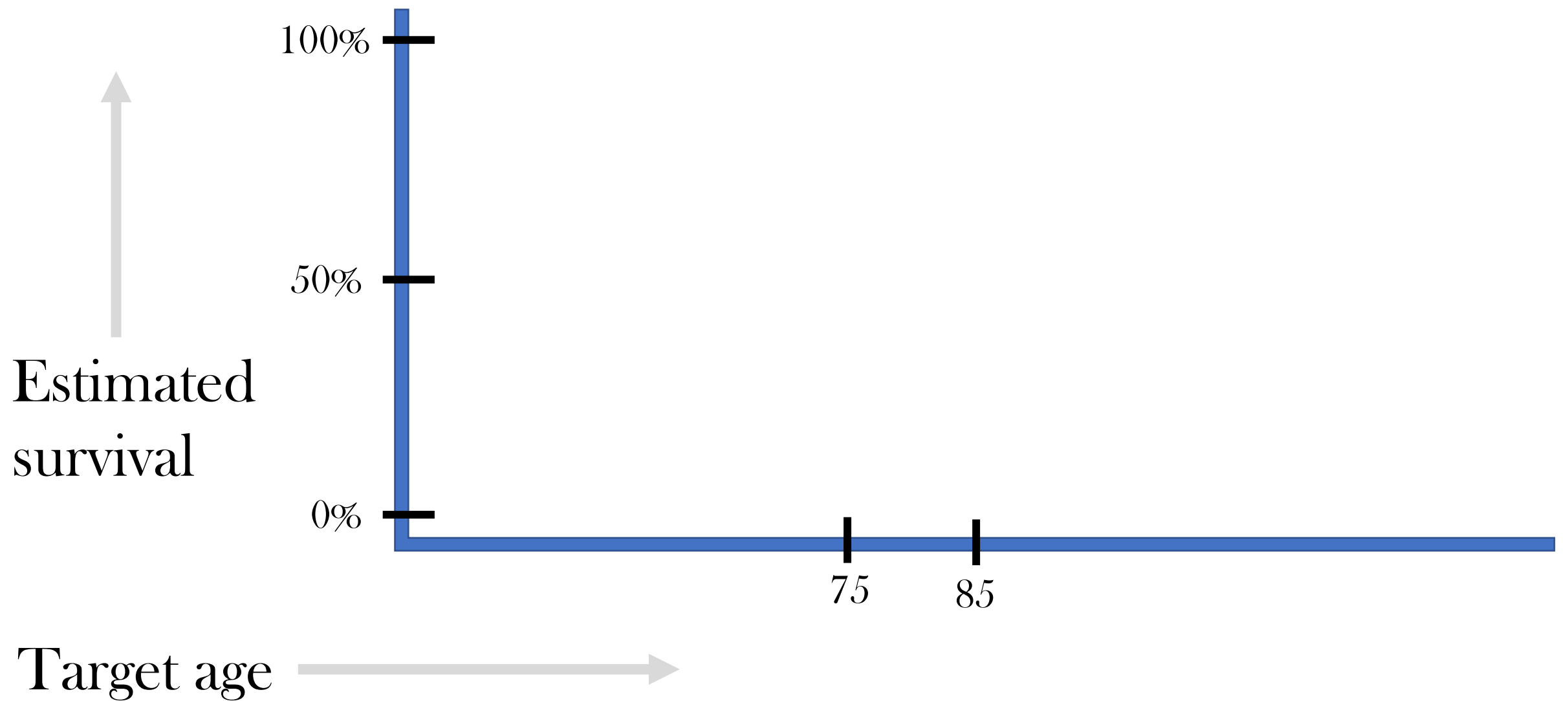
HRS | HEALTH AND RETIREMENT STUDY 1992 interview

“Using any number from zero to ten, where zero equals *absolutely no chance* and 10 equals *absolutely certain*,
What do you think are the chances that you will live to be **75** or more?”

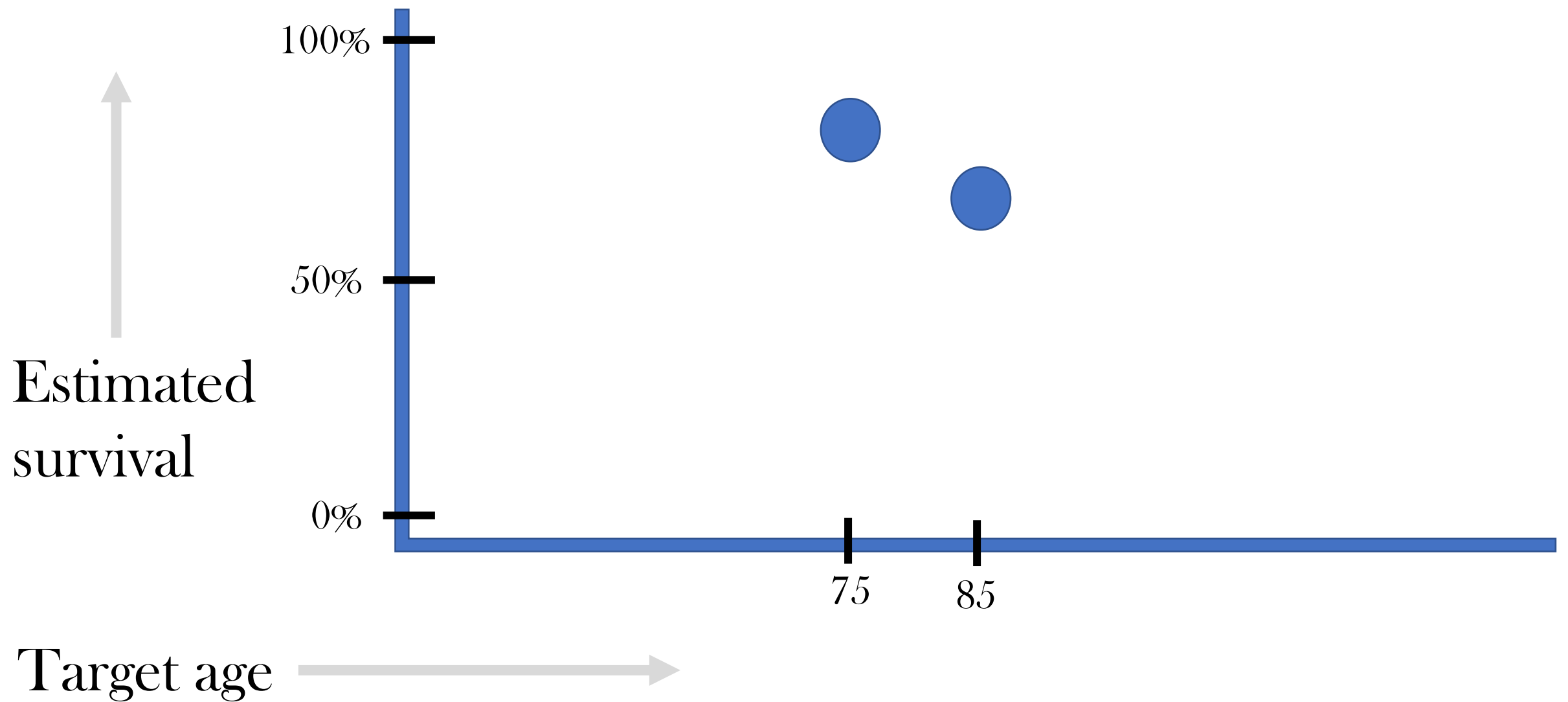
“...that you will live to be **85** or more?”



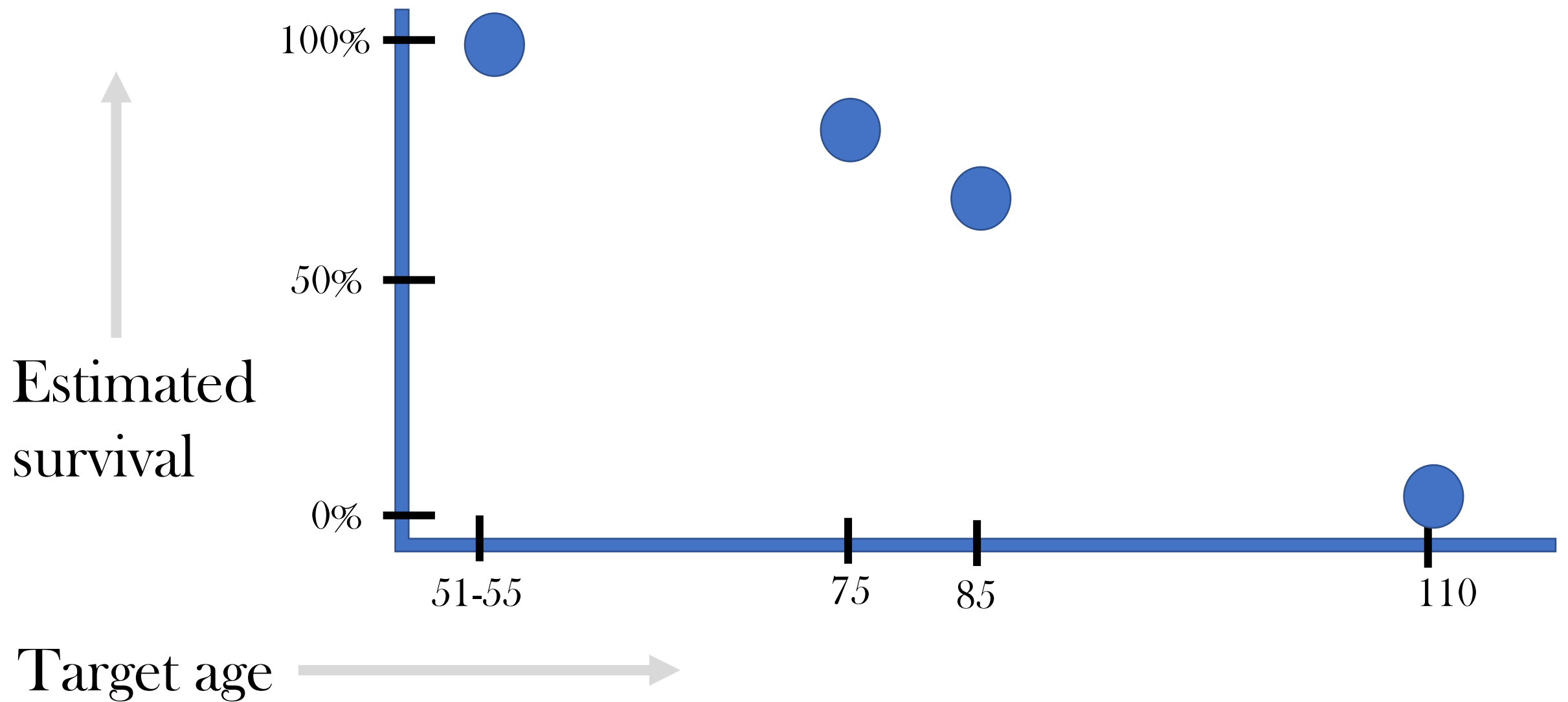
Modeling subjective survival



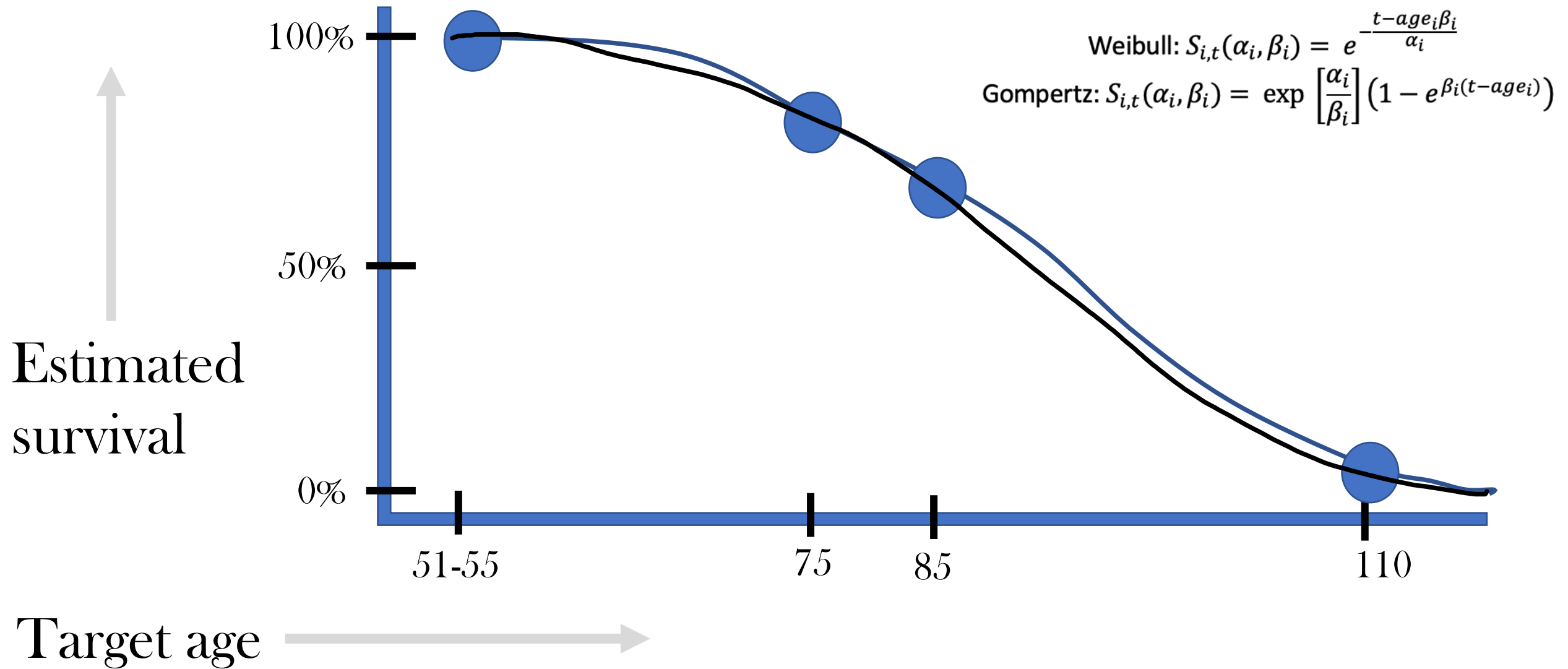
Modeling subjective survival



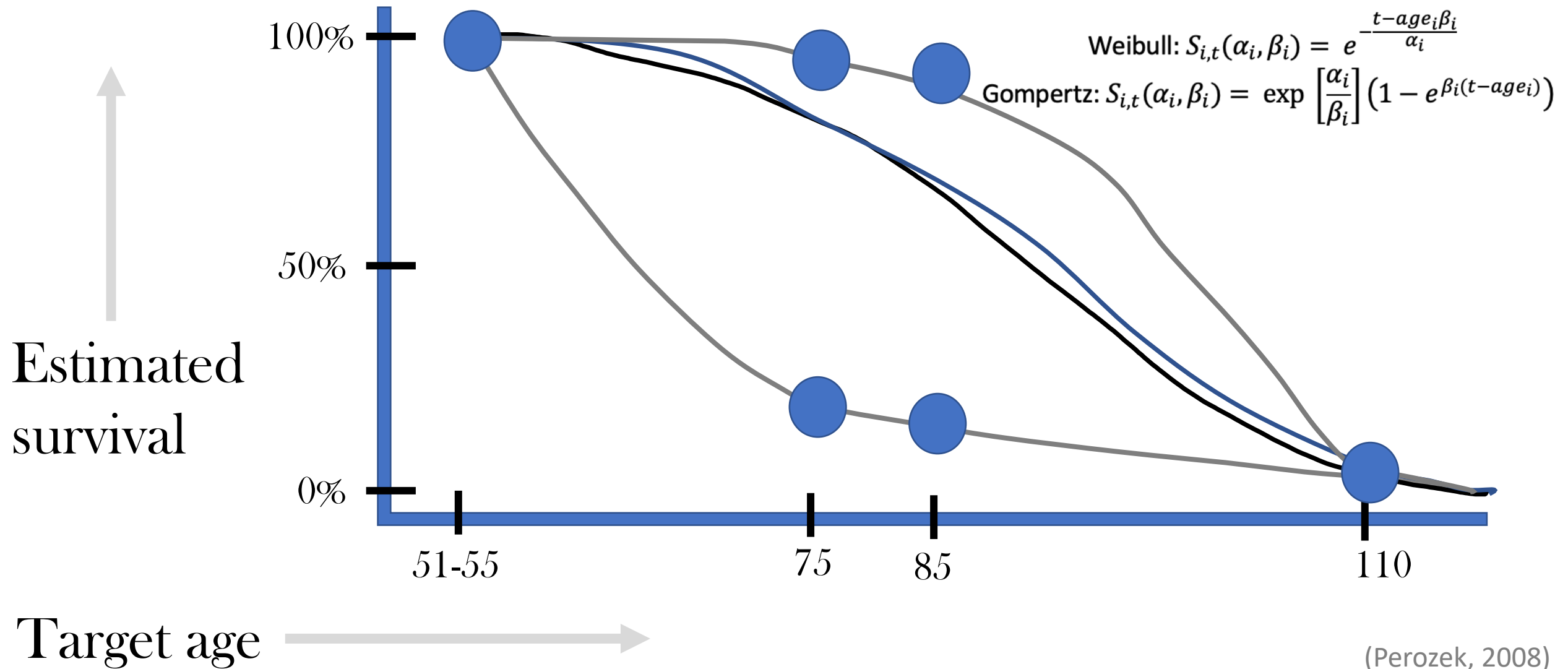
Modeling subjective survival



Modeling subjective survival

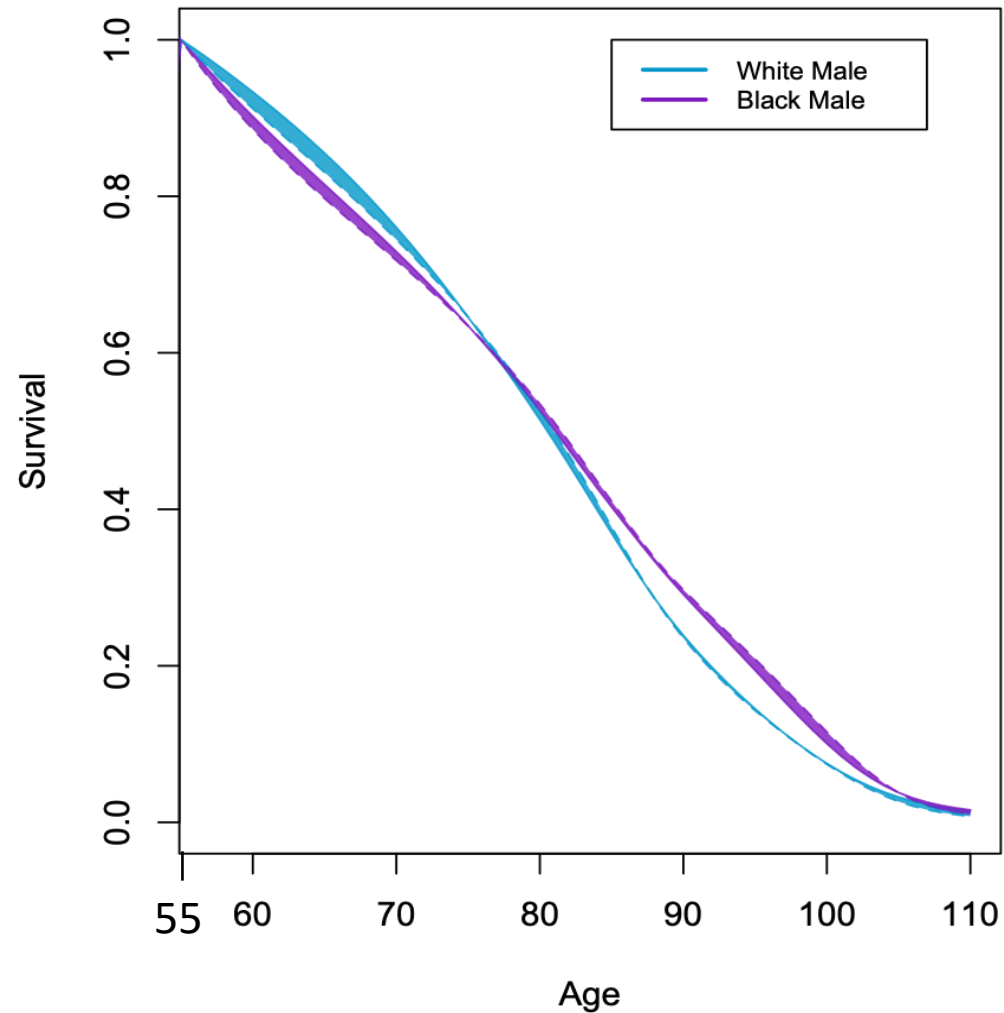


Modeling subjective survival

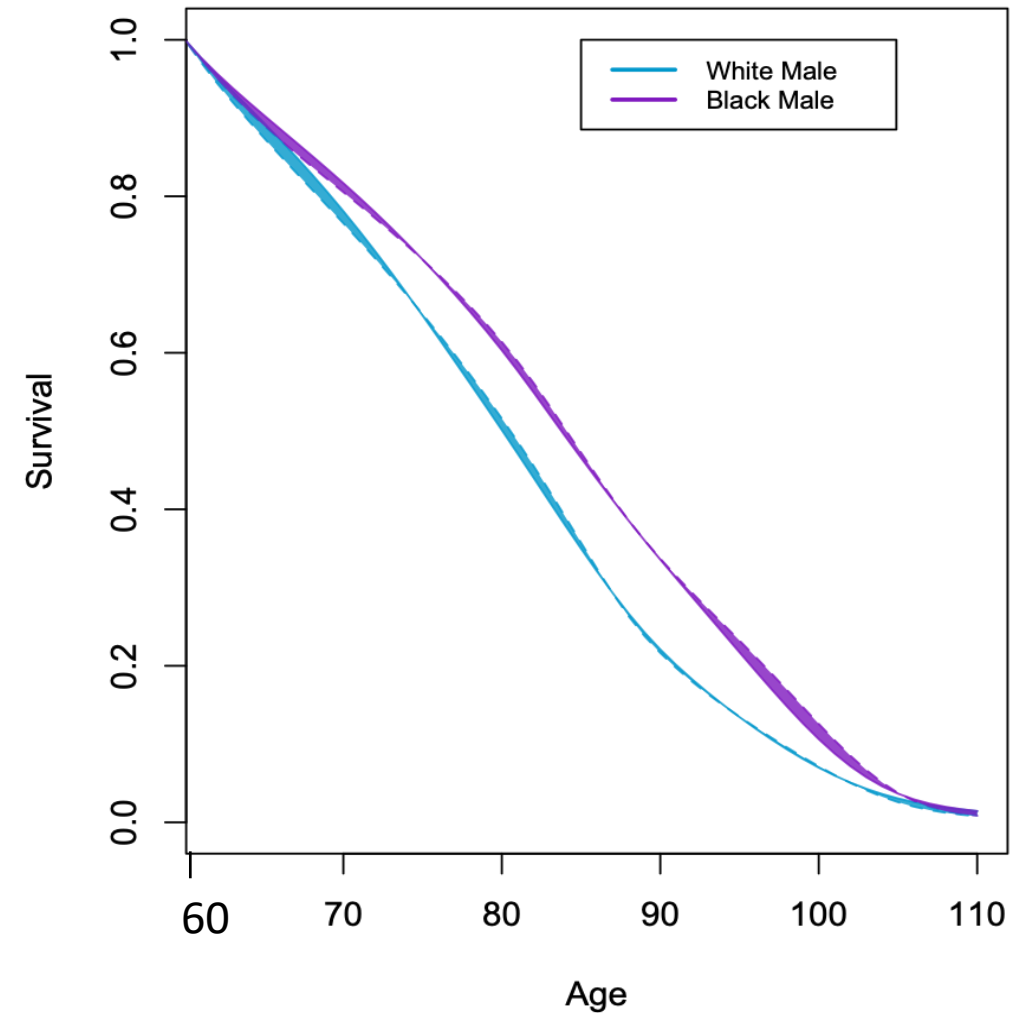


Black vs white subjective survival for males

1937-1941 birth cohort



1932-1936 birth cohort



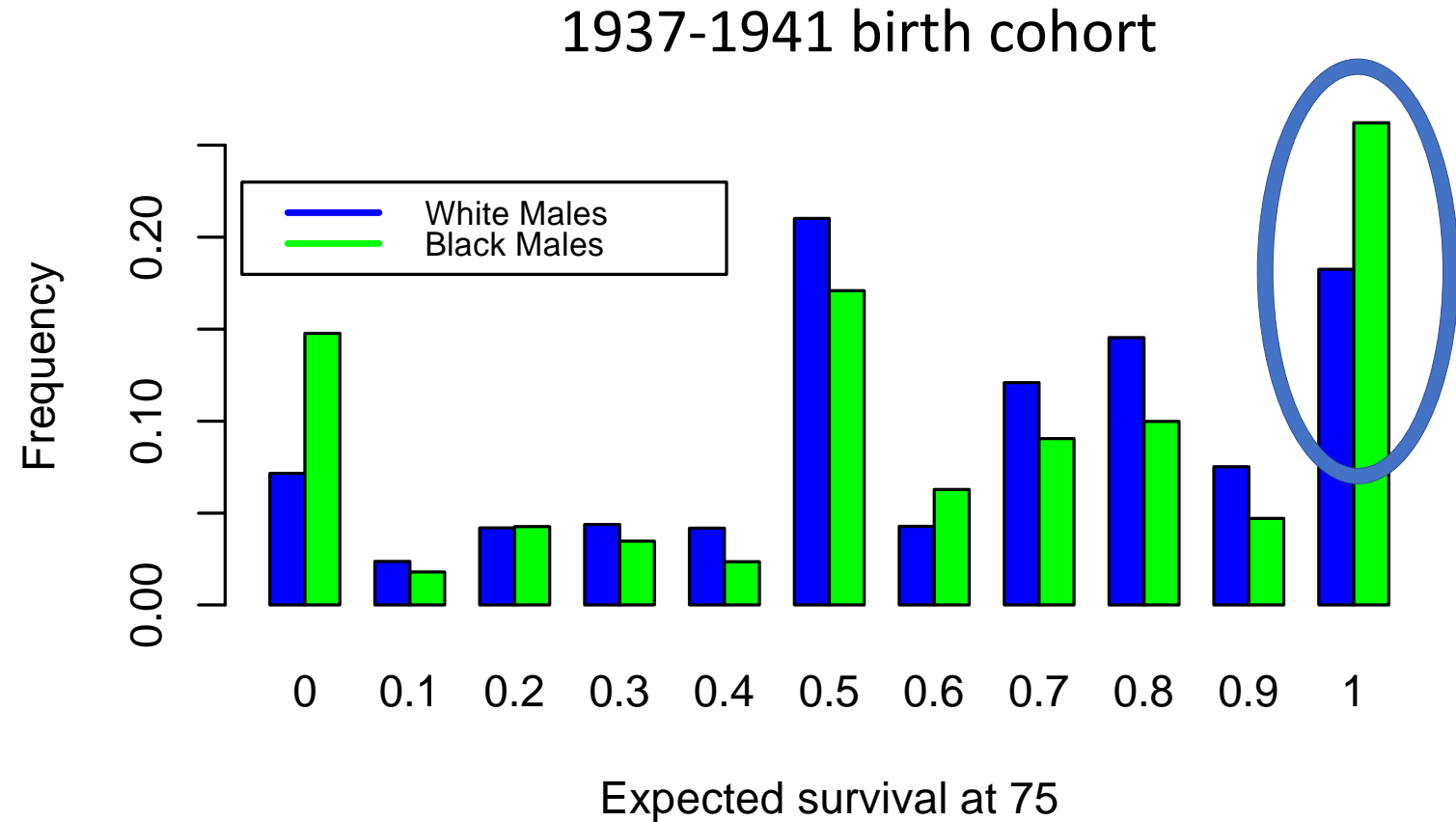
Focal point clustering

28% percent of black males
18% of white males

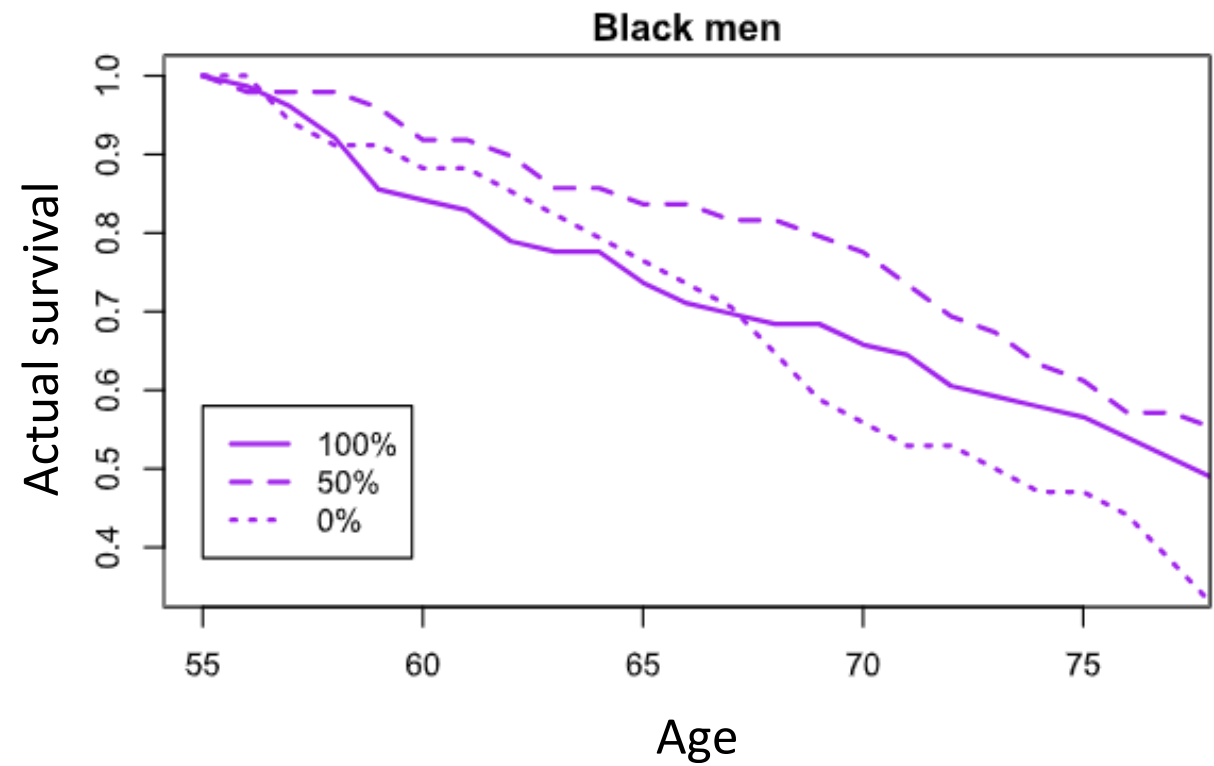
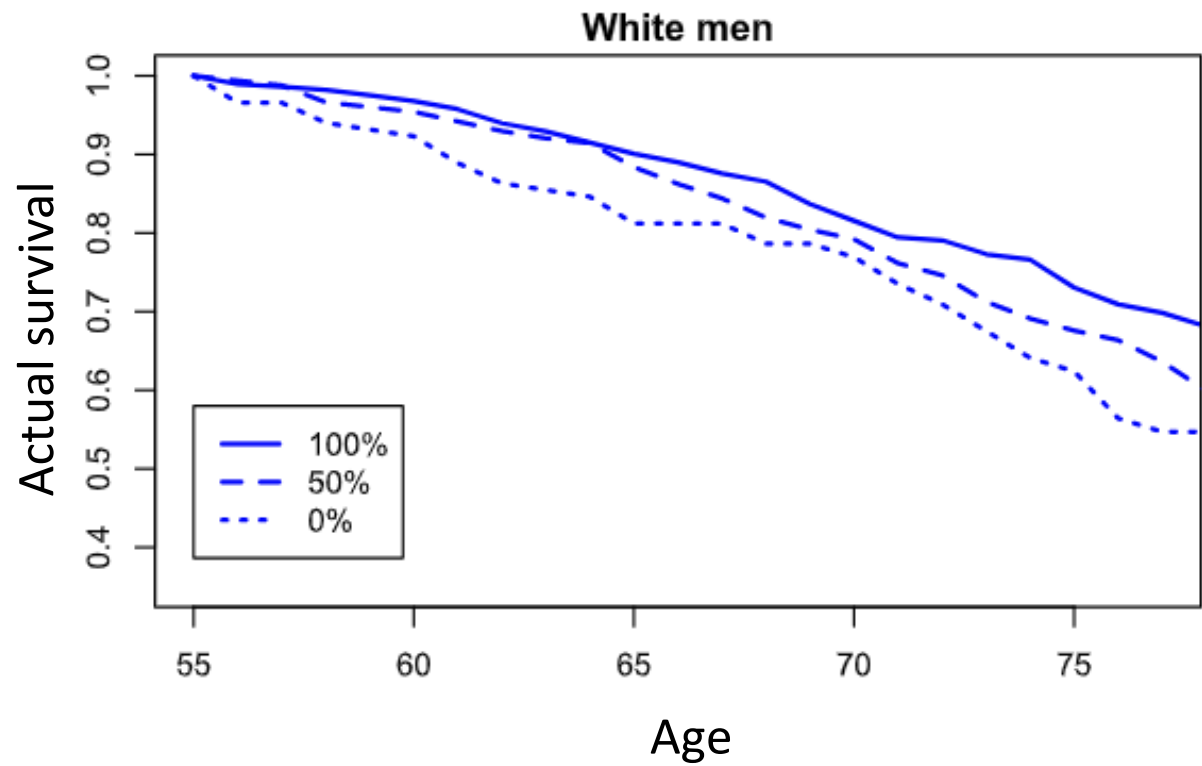
There might be underlying cultural attitudes determining the type of focal point clustering

Ex) Black individuals tend to pick 100%, White 50% and Hispanics 0%

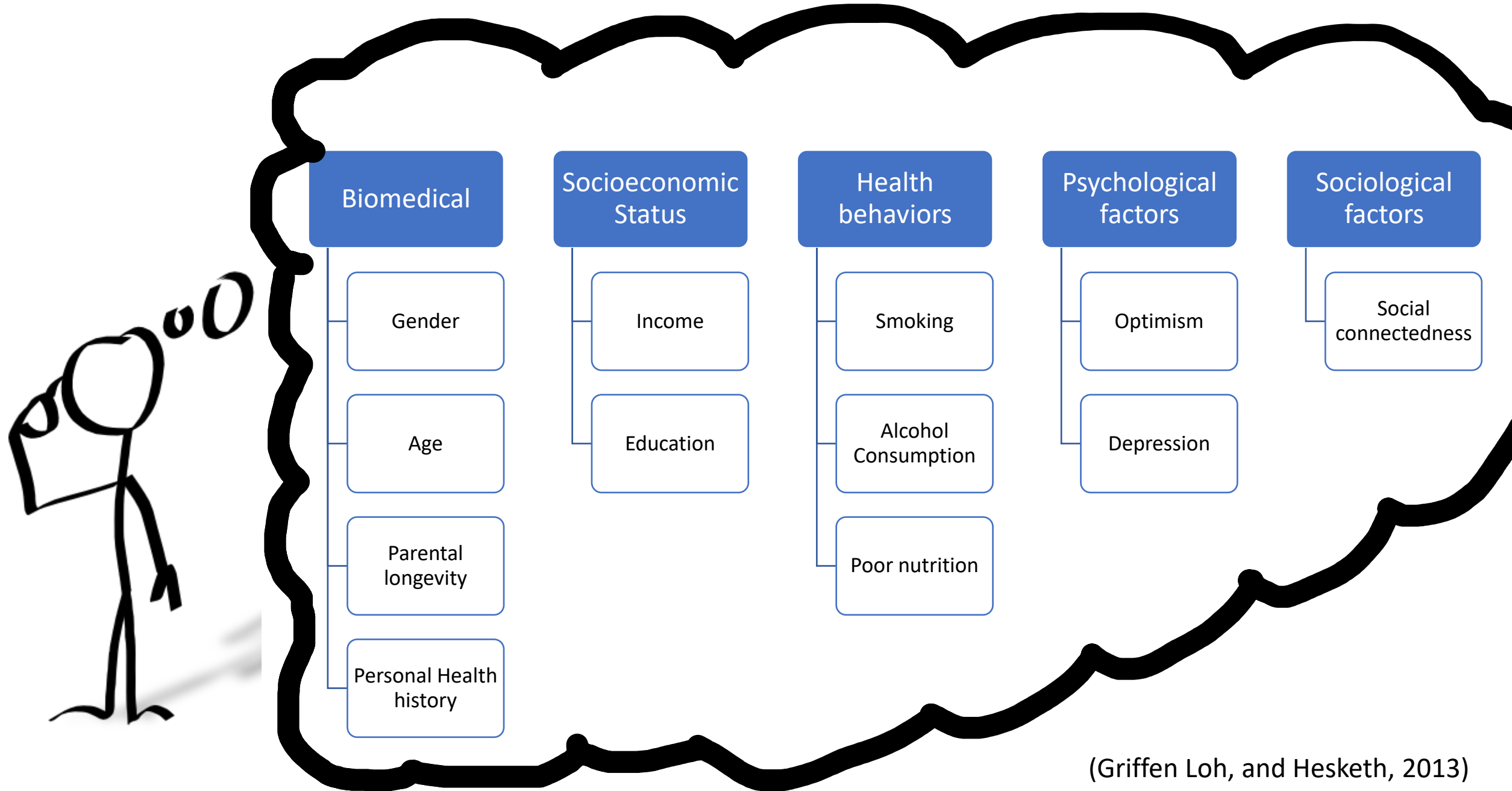
(Lee and Smith 2016)



Objective survival of those who expected to: 100% survive, 50% survive, and not survive at age 75



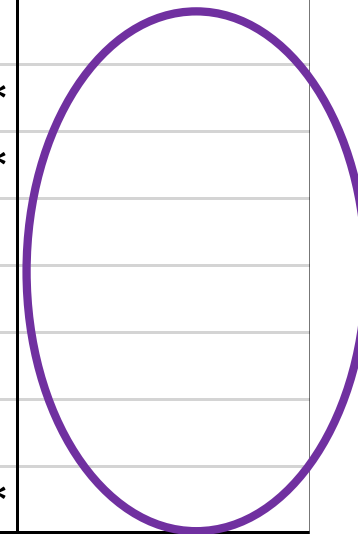
Factors considered when constructing an expected survival estimation



(Griffen Loh, and Hesketh, 2013)

MEN 1937-1942 birth cohort			White	Black
		All vs 100%ers	All vs 100%ers	All vs 100%ers
Psychosocial Variables				
	Enjoy life	**	**	*
	Happy	**	**	*
	Depression	*		*
	Self-rated emotional health	**	**	**
Social connectedness				
	Household size			
	Number of siblings			
	Number of children			
	Good friends			
	Satisfaction with friendships	**	**	*
	Satisfaction with marriage			
Personal Health and history				
	Self-Rated Current Health	**	**	
	Total health conditions	**	**	
	Number of living parents			
	Mom living			
	Mom age			
	Dad living			
	Dad age	*	*	

MEN 1937-1942 birth cohort			White	Black
		All vs 100%ers	All vs 100%ers	All vs 100%ers
Psychosocial Variables				
	Enjoy life	**	**	*
	Happy	**	**	*
	Depression	*		*
	Self-rated emotional health	**	**	**
Social connectedness				
	Household size			
	Number of siblings			
	Number of children			
	Good friends			
	Satisfaction with friendships	**	**	*
	Satisfaction with marriage			
Personal Health and history				
	Self-Rated Current Health	**	**	
	Total health conditions	**	**	
	Number of living parents			
	Mom living			
	Mom age			
	Dad living			
	Dad age	*	*	



Odds ratio of answering 100% for 5 different mental models

MODEL:	DEMOGRAPHIC		+ SES		+ HEALTH and HEALTH BEHAVIORS		+ PSYCHOLOGICAL FACTORS		+ SOCIAL FACTORS	
Intercept	0.00	***	0.01	***	0.01	**	0.02	*	0.04	.
Age	1.08	**	1.08	*	1.11	***	1.10	**	1.09	**
Sex	1.29	**	1.29	**	1.33	**	1.39	***	1.34	**
Race	1.28	*	1.29	*	1.67	***	1.60	***	1.49	**
Married	0.79	*	0.78	*	0.71	**	0.65	***	0.60	***
Household Income			1.00		1.00		1.00		1.00	
Highest Year Education			0.99		0.94	***	0.94	***	0.95	***
Self-Rated Health					0.63	***	0.69	***	0.69	***
Total Health Conditions					0.86	**	0.86	**	0.86	**
BMI					1.00		1.00		1.00	
Cups Alcohol per Day					1.03		1.03		1.02	
Currently Smoke					0.99		1.01		0.98	
Mom Alive					1.04		1.07		1.07	
Dad Alive					1.27	*	1.26	*	1.25	*
Depression							0.99		1.02	
Enjoy Life							0.70	***	0.73	***
Happy							0.98		0.98	
Emotional Health							0.90	.	0.90	.
Number of Siblings									1.01	
Number of Children									1.05	*
Satisfied with Friends									0.87	*
Population	4,040		4,040		3,924		3,924		3,794	
AIC	4,234		4,237		3,950		3,910		3,790	

Concluding remarks



- The black-white racial anomaly is dissipating with cohort
- The anomaly is due to:
 - Culture specific focal point clustering
 - And may be a result of ‘perceived selection’
- Our findings supports the notion that middle- and old-aged black Americans are more optimistic than their white peers.
 - ‘Older black men more frequently engage in adaptive coping strategies and have a stronger resolve that their future would be better’ (Heckman et al., 2000)
- Those who choose 100% certainty in survival have better psychosocial characteristics
 - Yet white males who chose 100% have better health
- Racial differences in how long individual expect to live may account for differences in social and economic behavior and outcomes, irrespective of actual longevity differentials

Thank you!



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