JOURNAL ARTICLE DISCUSSION #10

EPID 6228 – Survey Design Spring 2021 Sarah Grunblatt

EARLY CHILDHOOD POVERTY AND ADULT BODY MASS INDEX

(Ziol-Guest, 2009)

BACKGROUND

- Given the **high prevalence** and **high cost** of adult excess body mass, it is important to **identify the factors that predict adult overweight**, particularly those factors that might be amenable to intervention.
- Several early-life interventions appear to provide practical and cost-effective approaches to promoting human capital development.
- If we can identify the specific associations between income in childhood and adult health, there may be a greater chance of implementing targeted interventions for low-income children in the United States.





"The goal was to estimate associations between **poverty** in early, middle, and later **childhood** and **adult body mass index** to further elucidate the effects of socioeconomic status on health."





METHODS

 Conducted secondary analyses of data from men and women (N=885) born between 1968 and 1975 who were tracked between their prenatal and birth years and adulthood in the nationally representative Panel Study of Income Dynamics (PSID) administered by the University of Michigan.

• Two key features give the PSID its unique analytic power:

- Individuals are **followed over very long time periods** and in the context of their family setting
- 2. Families are tracked across generations, with interviews often conducted simultaneously with multiple generations of the same families.

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PSID: CONTENT

In response to the growing length of the questionnaire (which had reached an average of 90 minutes in 2011); a continued effort from 2013 was made to **reduce** respondent burden while maintaining as much **consistency** as possible with prior waves.

Table 4. Average Interview Length (minutes) by Section, Main PSID Interview 2017										
Topic	Questionnaire Section	2017 7.2								
Housing, utilities, computer usage/internet access	A									
Employment	B, C, D, E	19.6								
Housework, food expenses, food assistance, transportation, education expenses, other expenditures	F	17.0								
Income	G	9.4								
Health status, health behaviors, health expenditures	H	15.5								
Marriage/fertility	J	2.1								
New head/wife background	K,L	3.0								
Philanthropic giving and volunteering, religiosity, help received	М	2.6								
Pensions	Р	2.9								
Off-year income and public assistance	R	*n/a								
Wealth and active savings	W	5.8								
New immigrant language proficiency	IMMIG	**0.3								
*In 2017, total off-year earned income (R2) was moved into Section G and the remainder of Section	R was dropped.									
**Asked for new immigrant sample only and averaged 5.6 minutes for that sample.										

- In 2017, the **mean questionnaire length was 85.8 minutes**.
- An additional 14.4 minutes were spent updating the household roster and collecting respondent contact and payment information, leading to a total mean respondent burden of 100.2 minutes.

PSID: SAMPLE QUESTIONS

	99-2017			
Domain	Question Text	Waves Available: (Head, Wife, Family Unit Member)		
T-2 Total	R23. What was the total income from all sources (for you and your family living there)?	1999		
Family	R24. Was it about the same as in [PPY-1], much lower, slightly lower, slightly higher, or much higher?	1999-2001		
Income	R24a-c. Would income amount to \$25,000 or more/\$40,000 or more/\$65,000 or more?	2003		
T-2 Individual Earnings	R26/R33/R41/(2005-R2). About how much did (you/he) earn altogether from working at [that/those job(s)]?	H, W, FUM 18+: 1999-2007; H, W: 2009-2017		
	R2(2005). Accuracy of earnings	H, W: 2005-2017		
	R27/R34/R42/ (2005-R12). About how many weeks did (you/he) work [on any jobs]?	H, W: 1999-2001; FUM 18+: 1999-2007; H, W: 2009-2017		
	R28/R35/R43/(2005-R13). During which months of [PPY] did you earn that income?	H, W: 1999-2001, 2005- 2007; FUM 18+: 1999-2007;		
	Total months receiving earnings	H, W: 1999-2001; FUM 18+: 1999-2003		
	R29/R36/R44/(2005-R14). During the months that you worked, about how many hours did you usually work per week?	H, W: 1999-2001; FUM 18+: 1999-2007; H,W: 2009-2017		
	Accuracy of hours/week worked	H, W: 2009-2017		
	R30/R37/R45/(2005-R15). Were there any months in which you were unemployed and looking for work at least one week?	H, W: 1999-2001; FUM 18+: 1999-2007;		
	Weeks Unemployed	H, W: 2009-2017		
	Weeks Out of the Labor Force	H, W: 2009-2017		
T-2 Asset	R4 (2005). Did you receive any income from rent, dividends, interest, trust funds or royalties?	H, W, FUM 18+: 2005-2007		
Income	R4. Type of asset income	H, W: 2005		
	R5 (2005). How much did you receive altogether from (all of) these assets?	H, W, FUM 18+: 2005; H, W, FUM 18+: 2007		
	R6 (2005). During which months did you receive any of this income?	H, W, FUM 18+: 2005; H, W, FUM 18+: 2007		
T-2 Transfer Income	R1/(2005 - R41). At any time, even for one month, did you (or anyone else living with you) receive any public assistance or welfare navments from the state or local welfare office?	1999-2017		
	R2/(2005-R42). Who received that public assistance or state or local welfare?	1999 -2007		
	R3/(2005-R43). In which state were you living at the time you received that public assistance?	1999 -2007		
	R4/(2005-R44). Which type of public assistance did you receive?	1999 -2007		
	R5/(2005-R45). How much did you receive altogether from all of the public assistance or welfare program(s) you just mentioned?	1999-2001; 2003-2007		
	R6/(2005-R46). During which months did you receive any type of public assistance or welfare?	1999-2001; 2003-2007		
	Total months receiving public assistance	1999-2001		
	Annualized public assistance amount	1999-2001		
	Accuracy of annualized public assistance amount	1999-2001		

T-2 Income and Transfers in Main Interview: 1999-2017

		Waves Available: (Head,			
Domain	Question Text	Wife, Family Unit Member)			
T-2 Transfer	R37 (2005). At any time did you (or anyone else living with you) receive income from Workers	2005-2017			
Income	Compensation?				
	R38 (2005). Who received that Workers Compensation in?	2005-2007			
	R39 (2005). How much did you receive altogether from Workers Compensation?	2005-2007			
	R40 (2005). During which months did you receive this income?	2005-2007			
	R51 (2005). At any time did you (or anyone else living with you) receive income from any other welfare or assistance program?	2005-2017			
	R52 (2005). Who received that?	2005-2007			
	R53 (2005). How much did you receive altogether from other welfare?	2005-2007			
	R54 (2005). During which months did you receive it?	2005-2007			
	R63 (2007). Did you (or anyone else in your family there) receive any other income from anything else?	2007			
	R64 (2007). Who was that?	2007			
	R65 (2007). What was that other income from?	2007			
	R66 (2007). How much did you get altogether from other income?	2007			
	R67 (2007). During which months did you get this other income?	2007			
T-2 Use of Assistance	R48. Since January, was there any time when you, or anyone receiving benefits, stopped receiving welfare or public assistance checks for more than one month?	1999-2003			
Programs	R48a. Who was that?	1999-2003			
0	R49. The last time that happened, did the welfare office cut you off, or was it your decision to leave welfare?	1999-2003			
	R50. Why did you leave welfare?	1999-2003			
	R51. Why did the welfare office cut you off?	1999-2003			
	R52. Have you ever reapplied for public assistance since then?	1999-2003			
	R53. Why didn't you reapply?	1999-2003			
	R54. Is anyone in the family receiving public assistance right now?	1999-2003			
	R55. Is anyone in the family required to work, go to school, or do anything else to receive these benefits?	1999-2003			
	R56. What are you/they required to do?	1999-2003			
	R58. Since January, was there any time when you, or anyone receiving food stamps, stopped for more than one month?	1999-2003			
	R58a. Who was that?	1999-2003			
	R59. The last time that happened, did the food stamp office cut you off or was it your decision to leave the food stamp program?	1999-2003			
	R60. Why did you leave the food stamp program?	1999-2003			
	R61. Why did the food stamp office cut you off?	1999-2003			
	R62. Have you/they ever reapplied for food stamps since then?	1999-2003			
	R63. Why didn't you reapply?	1999-2003			
	R64. Are you (or anyone else in the family) receiving food stamp benefits right now?	1999-2003			

What issues and/or concerns might arise from administering a 1.5+ hour long survey of questions like these?

PSID: METRICS

Year	Number of families	<u>Field</u> Start	Period End	% by telephone	Mean (median) # of calls to complete a case**	% calls 8+ "	
1968	4.002	4-Mar	10-Jun	1100	2.5(2.0)	19	
1969	4,460	10-Mar	9-Mau	NA	2.3(2.0)	1.6	
1970	4,645	1-Mar	31-May	1.2	2.5(2.0)	2.8	
1971	4,840	1-Mar	1-Jul	2.4	2.2(2.0)	1.7	
1972	5,060	1-Mar	1-Jul	2.6	2.1(1.0)	1.6	
1973	5,285	1-Mar	1-Jul	76.6	2.6 (2.0)	3.7	
1974	5,517	5-Mar	1-Jul	82.5	2.6 (2.0)	4.2	
1975	5,725	1-Mar	1-Jul	84.5	2.7 (2.0)	4.6	
1976	5,862	1-Mar	1-Jul	91.4	2.8 (2.0)	5.9	
1977	6,007	1-Mar	1-Jul	83.9	2.7 (2.0)	5.4	
1978	6,154	1-Mar	1-Jul	85.9	2.8 (2.0)	6.3	
1979	6,373	1-Mar	1-Jul	88.4	3.0 (2.0)	8.0	
1980	6,533	1-Mar	1-Jul	89.2	3.3 (3.0)	10.3	
1981	6,620	1-Mar	29-Oct	91.9	3.4 (3.0)	12.0	
1982	6,742	2-Mar	29-Sep	92.8	3.4 (3.0)	11.6	
1983	6,852	21-Feb	11-Oct	93.4	3.4 (3.0)	12.3	
1984	6,918	27-Feb	31-Oct	92.1	3.7 (3.0)	15.2	
1985	7,032	4-Mar	31-Oct	91.2	14.4 (4.0)	19.6	
1986	7,018	24-Feb	31-Oct	92.0	9.9 (3.0)	15.5	
1987	7,061	3-Mar	25-Aug	91.8	11.5 (3.0)	14.6	
1988	7,114	3-Mar	19-Sep	91.5	9.8 (3.0)	16.3	
1989	7,114	2-Mar	16-Nov	91.7	7.3 (3.0)	18.1	
1990	9,371	24-Feb	30-Nov	88.7	5.5 (3.0)	18.3	
1991	9,363	18-Mar	24-Nov	93.9	6.4 (3.0)	22.4	
1992	9,829	2-Mar	8-Dec	95.9	7.9 (4.0)	29.0	
1993	9,977	20-Apr	22-Dec	97.3	6.7 (4.0)	26.4	
1994	10,765	24-Feb	23-Dec	95.7	8.8 (5.0)	35.3	
1995	10,401	20-Feb	20-Oct	97.9	5.9 (4.0)	24.1	
1996	8,511	1-Feb	30-Jul	97.4	5.1(3.0)	18.9	
1997	6,747	13-Feb	13-Oct	97.5	5.9 (4.0)	22.6	
1999	6,997	31-Jan	31-Oct	na	na	na	
2001	7,406	3-Mar	17-Nov	97.0	na	na	
2003	7.822	14-Mar	7-Nov	96.2	10.6 (6.0)	39.6	
2005	8.002	14-Mar	8-Nov	96.6	10.7(6.0)	37.4	
2007	8 289	12-M-r	31-Dec	97.5	112(6.0)	38.0	
2009	9 690	19_M_	27-Dec	97.4	12.6(6.0)	41.2	
2003	0,030	2 Mar	21-Dec	00.0	12.0 (0.0)	41.2	
2011	8,307	3-Mar	31-Dec	38.6	13.2 (6.0)	43.6	
2013	9,063	10-Mar	31-Dec	97.3	14.2 (7.0)	44.8	
2015	9,048	3-Mar	31-Dec	97.0	20.3 (8.0)	51.6	
2017	9,607	1-Mar	31-Dec*	95.5%	17.9 (9.0)	56.6	

*End date not exact for years 1969-1980, 2017 Core data collection ended 12/31/2017. Data collection for immigrant families va serviced to Fob 15, 2019 to ad oblingual interview ser taft to meet tersponse rate goals. **2017 uses total attempts relephone calls, emails, text messages *** Call top coded 8+ for years 1968-1984; NA=not applicable, na=not available. Cell values were determined using relevant variables from the Data Center, with the variable names for 1950 as follows * Number of interview ers=v18044. Field dates=v18046. Telephone=v17703=1. Number of calls=v18857. Spanish interview = v1855=1.

(ear	Incentive (\$)	% of interviews in Spanish	% of interviews by Head/Reference Person	% of interviews provided by a sample person
1968	5.00	NA	00.1	99.2
1969	5.00	NA	93.6	97.9
1970	5.00	NA	92.8	95.5
1971	5.00	NA	92.7	93.6
1972	5.00	NA	92.5	91.8
1973	7.50	NA	90.2	90.2
1974	7.50	NA	88.8	89.7
1975	7.50	NA	88.3	88.8
1976	7.50	NA	92.6	85.7
1977	7.50	NA	90.0	86.5
1978	7.50	NA	90.2	85.1
1979	7.50	NA	88.5	85.4
1980	9.00	NA	85.8	85.2
1981	10.00	NA	84.3	86.0
1982	10.00	NA	83.8	86.5
1983	10.00	NA	82.2	86.1
1984	10.00	NA	81.0	86.1
1985	10.00	NA	87.1	73.4
1986	10.00	NA	81.5	84.2
1987	12.50	NA	79.0	85.2
1988	12.50	NA	76.9	86.0
1989	12.50	NA	76.2	85.9
1990	15.00	13.5	74.1	87.3
1991	15.00	13.1	72.1	87.3
1992	15.00	13.5	70.7	86.8
1993	15.00	12.1	69.5	85.2
1994	15.00	11.9	69.3	81.6
1995	20.00	8.8	68.5	80.8
1996	20.00	0.2	69.6	78.8
1997	20.00	0.1	69.0	79.2
1999	40.00	4.9	68.2	80.6
2001	55.00	4.7	66.5	79.1
2003	55.00	4.4	67.2	78.3
2005	60.00	4.6	65.6	80.1
2007	60.00	4.4	66.4	79.9
2009	65.00	3.0	67.0	79.9
2011	65.00	2.9	68.7	77.9
2013	70.00	2.8	69.6	79.2
2015	70.00	2.7	69.9	84.5
2017	variable*	4.3%	69.3	85.2

Notes: Type of respondent=1 (Head/Heterence Person) provided in Tamly file. NA=not applicable. For all years except 1368, 1385–1395 sample member vas determined using Pespondent=yes from individual file and ER30002=1-163. For years 1368, 1385–1395 sample member vas determined using Who vas Respondent from the family file, linking that vith Relation to Head, and including only those individuals vho

ranged from \$75-150 for Core sample, and up to \$300 for some immigrant families

- PSID "**sample persons**" include all persons living in the PSID families in 1968 plus anyone subsequently born to or adopted by a sample person.
- PSID families also include many "non-sample persons." Ex. new spouses not already in or born into original sample.

				- SI	D		Latino (19	90-95)/1	997 Immig	rant (1997-p	resent)		2017	Immigrant	(2017)	
		Re-	Re-	Split-	Re-contact		Re-	Re-		Re-contact		Re-	Re-		Re-contact	
Year	Total	interview	contact	off	split-off	Total	interview	contact	Split-off	split-off	Total	interview	contact	Split-off	split-off	To
1968	76.0															
1969	81.4	89.0		60.4		81.4										
1970	95.7	97.0		84.0		95.7										
1971	96.5	97.0		86.0		96.5										
1972	97.8	98.5		88.0		97.8										
1973	97.8	98.5		88.9		97.8										
1974	97.6	98.0		92.5		97.6										
1975	97.8	98.4		88.6		97.8										
1976	97.0	98.0		87.0		97.0										
1977	97.6	98.0		90.3		97.6										
1978	98.0	98.3		90.0		98.0										
1979	97.5	98.2		86.5		97.5										
1980	97.6	98.0		90.0		97.6										
1981	97.7	98.3		85.7		97.7										
1982	98.0	98.8		86.0		98.0										
1983	98.0	98.3		88.3		98.0										
1984	97.7	98.0		92.4		97.7										
1985	97.3	97.7		92.0		973										
1986	97.1	97.4		89.5		97.1										
1987	97.2	97.8		82.9		97.2										
1988	97.6	98.0		87.2		97.6										
1989	97.4	97.9		83.3		97.4										
1990	91.7	98.3		89.2		98.0					748					
1991	96.1	98.2		86.1		97.8	92.3		64.7		90.2					
1992	96.0	98.0		85.7		976	92.6		66.7		90.4					
1993	92.2	95.5	52.1	67.9	47.4	94.7	87.7	200	54.5	na	84.5					
1994	na	95.9	na	na	na	na	na	na	na	na	na					
1995	na	97.0	na	na	na	70.0	T/A	na	na	na	na					
1996	na	97.6	na	na	na	20.0										
1997	na	95.7	na	na	na	na					na					
1000	90.7	96.0	54.6	823	50.0	931	82.8	32.9	65.5	205	66.4					
2001	01 7	96.7	52.0	70 7	0.0	93.0	28.5	31.1	61.4	200	76.4					
2003	92.7	96.6	57.6	79.6	42.9	93.4	93.9	48.9	58.1	0.0	83.9					
2005	03.0	97.4	58.2	81.4	42.9	946	931	38.5	67.7	na	85.4					
2007	03.2	96.4	463	85.5	71.4	03.0	023	317	73.7	667	85.1					
2009	043	97.0	53.5	22.7	53.8	947	05.5	44.4	846	0.0	20.2					
2011	03.3	96.0	20.0	9/10	25.0	03.0	03.4	28.0	77.9	100.0	00.0					
2013	01 7	040	46.2	91.1	40.0	01.9	05.4	50.0	75.4	0.0	00.9					
2015	90.1	02.8	42.1	77.2		90.1	021	46.5	65.6	4	20.0					
2012	07.1	74.0	45.1	20.2	40.0	07.1	95.1	27.4	55.7	"	93.6					75
2017	0.00	74.1	40.2	70.7	0.00	20.1	21.1	61.4	22.1		0.00					15

TOTAL SURVEY ERROR: MEASUREMENT

TOTAL SURVEY ERROR: MEASUREMENT

CONSTRUCTS:

- Early Childhood Poverty (Economic Conditions)
- Adult Body Mass Index (Anthropometric Measures)

MEASUREMENT:

• The Panel Study of Income Dynamics (PSID) is the longest running longitudinal household survey in the world.

CONSIDERATIONS:

- Began in 1968 and now administered every other year in both English and Spanish to people in all 50 states
- In 1997/1999, approximately 500 immigrant families were added
- Completed by a trained interviewer over the phone while using computer software
- Takes 1.5 hours to complete on average
- Questions include income and health status/behaviors **VALIDITY**:
- To what extent does the measure relate to the underlying construct?
 - Construct validity?
 - Content validity?
 - Face validity?

TOTAL SURVEY ERROR: MEASUREMENT

MEASUREMENT:

• The Panel Study of Income Dynamics (PSID) is the longest running longitudinal household survey in the world.

RESPONSES:

- **EXPOSURE MEASURE:** Used the PSID's edited measure of annual total family income, collected via **self-report** in each survey year for the previous calendar year's income.
- Included all cash income received by all household members from all sources—earnings, transfers, and income from assets.
- **OUTCOME MEASURE:** Adult BMI was derived from **self-reports** in the 2005 survey of heads and wives of their **weight** in pounds and **height** in feet and inches.

CONSIDERATIONS:

- Questionnaire **development and testing** questionnaire -now every other year when not conducting the interviews.
- Detailed objectives have been developed for every question.
- Interviewers now review digital training material prior to an in-depth in-person training session
- Since 1972, nearly all of interviews have been conducted via telephone.
- A **single primary adult** has typically served as the sole respondent and provides information about himself/herself and about all other family members.
- Since 1993, the survey has been administered using a **computer-assisted telephone interview** (CATI).

MEASUREMENT ERROR:

- Is there a difference between the measured quantity and its true value?
 - Interviewer bias?
 - Response bias: Social Desirability and/or Recall?

TOTAL SURVEY ERROR: MEASUREMENT

RESPONSES:

• Used the PSID's edited measure of annual total family income, collected in each survey year for the previous calendar year's income.

EDITED RESPONSES:

- **EXPOSURE MEASURE:** Income inflated to 2005 levels according to the Consumer Price Index.
- Annual income reports were averaged across 3 periods over the years during which the family participated in the survey.
- **OUTCOME MEASURE:** BMI calculated based on standardized formula
- Categorized into standard BMI groups (overweight, obese, etc.)

CONSIDERATIONS:

- The perinatal interval (i.e., the prenatal year and the birth year) was chosen to isolate poverty effects for very early childhood.
- Considerable experimentation showed that the latter 2 childhood intervals best balanced the need to control for economic conditions beyond the perinatal period in a flexible way but without introducing undue multicollinearity into our regression models. **PROCESSING ERROR:**
 - Did any faulty implementation of the methods occur?
 - Transcription Error?
 - Misreading Error?
 - Transportation Error?

TOTAL SURVEY ERROR **REPRESENTATION**

TOTAL SURVEY ERROR: REPRESENTATION

TARGET POPULATION:

• People in the United States

SAMPLING FRAME:

US Panel Study of **Income Dynamics** (PSID) -- a longitudinal survey consisting of individuals (men, women, and children) and the families in which they reside beginning in 1968.

CONSIDERATIONS:

- Longest running longitudinal study of household income in the US
- Collects detailed economic and demographic information across the life course.
- A nationally representative sample of approximately 5000 US households. Annually from 1968 to 1996 and biennially from 1997 to 2005, all members of the original households (including children) in the study, regardless of whether they were living in the same dwelling or with the same people, were tracked in the study.
- The **oversampling** of low-income families in the late 1960s resulted in a sizable subsample of African American families (of the original 4802 families, **33% were African American**).

COVERAGE ERROR:

- Did the sampling frame match the target population (a one-to-one correspondence)?
 - Under-coverage?
 - Over-coverage?

TOTAL SURVEY ERROR: REPRESENTATION

SAMPLING FRAME:

• US Panel Study of Income Dynamics

SAMPLE:

- PSID as of 2005: 7435 families
- Target study sample consisted of the 2358 individuals born into PSID households between 1968 and 1975, who thus were between 30 and 37 years of age in 2005.

CONSIDERATIONS:

PSID was designed to comprise 2 independent samples, a cross-sectional national sample and a supplemental sample of low-income families.
Cohorts were chosen to meet the dual needs of being observed during their prenatal years and well into early adulthood (minimum age of 30 years in 2005).

SAMPLING ERROR:

- Did the sample match the sampling frame?
 - Sampling bias?
 - Non-sampling error?

TOTAL SURVEY ERROR: REPRESENTATION

SAMPLE:

 Target study sample consisted of the 2358 individuals born into PSID households between 1968 and 1975, who thus were between 30 and 37 years of age in 2005.

ADJUSTMENTS & RESPONDENTS:

- Only 1014 survey respondents classified as heads or spouses of heads in 2005 provided the height and weight information needed to calculate adult BMI.
- 2 restrictions eliminated 129 individuals, leaving an analysis sample of 885 adults.

CONSIDERATIONS:

- Eliminated individuals who were **missing any of the childhood control variables.**
- To ensure sufficient income data across childhood, eliminated families of individuals who failed to participate in at least 12 of the 17 surveys conducted between the individual's prenatal year and 15th birthday.
- PSID overall item non-response is low -- very few questions missing responses for more than 3-4% of cases.

ADJUSTMENT ERROR:

• Was the sample adjusted (improved) to account for other errors?

NONRESPONSE ERROR:

- Did the actual respondents differ from the sample? Could those that were not included have answered differently?
 - Selection bias?
 - Item or unit nonresponse error?
 - Surrogate response error?

SURVEY FINDINGS

ATTRITION

- A variety of strategies are used to **minimize sample attrition** including incentive payments, study letters, off year address update mailings, tracking, respondent newsletters, and more.
- Without adjustment for **differential attrition**, the analysis sample was somewhat more advantaged than was the group of individuals born between 1968 and 1975 whose outcomes were not observed in 2005.
- Because of the sampling strategy, used **probability-of-selection weights**, which correct for unequal selection probabilities as well as differential attrition, in analyses.
- The PSID's attrition adjusted weights **reduced or completely eliminated the demographic differentials** between the 2 groups.



ADJUSTMENTS & ANALYSES

- Included **dichotomous variables** that distinguished African Americans, Whites, and other races/ethnicities.
- Controlled for other family characteristics, including income in other periods of childhood, that could also be important determinants of weight. Such as:
 - Gender
 - Two-parent or Single-parent household
 - \circ $\,$ Parents' years of completed schooling $\,$
 - \circ Whether the child lived in the South
 - \circ $\,$ Reports of a physical or nervous condition that limited activity $\,$
 - Whether the child's parents were married and living together
 - Age of the mother and total number of children born to the child's mother
 - Covariates during time period of birth that were identified in literature as impacting childhood, BMI, or both
- Used multivariate regression techniques and spline models to estimate the relationship between income in different stages of childhood and adult body mass index, overweight, and obesity.



RESULTS



- Mean annual family income in the prenatal and birth years (conception to less than 1 year of age) for children whose annual family incomes averaged less than \$25000 was significantly associated with increased adult body mass index.
- Mean annual family income between 1 and 5 years of age and between 6 and 15 years of age was **not**.

CONCLUSION

- The results indicated that economic conditions in the earliest period of life (during the prenatal and birth years) may play an important role in eventual anthropometric measures.
- In fact, obesity prevalence determined by self-report is usually underreported.
- These findings may be lower-bound estimates of the relationship between early childhood poverty and adult BMI.
- NOTE: Associations between childhood income and adult BMI may differ for more recent cohorts (compared to those of the 1960s and 1970s).



DISCUSSION

- First study to link high-quality income data (measured yearly) across the entire childhood period, with adult BMI measured as late as age 37 years on a nationally representative US sample.
- Findings of the particular importance of income during the prenatal and birth years for adult BMI is consistent with the hypothesis that fetal programming induced by early stimulants and insults has long-lasting implications for physiology and disease risk.
 - Epigenetic modifications could be responsible for these associations.
- These findings provide initial evidence that social and environmental influences may be especially relevant for individuals vulnerable to weight gain, suggesting that genotypes may moderate children's sensitivity to environmental insults.

FUTURE ACTION

- Findings indicate efforts should focus on those who are the most economically disadvantaged, such as the Earned Income Tax Credit, Temporary Assistance for Needy Families, and the child tax credit in the United States.
- Virtually all other countries have a variety of tax and transfer programs that redistribute income.
- Targeting these transfers, or similar programs, to families with the youngest children may offer the largest benefit for health and well-being.



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JOURNAL ARTICLE DISCUSSION #10

EPID 6228 – Survey Design Spring 2021 Sarah Grunblatt

PSID: DATA COLLECTION

- Beginning in 2003, Blaise software was used to program the questions and SurveyTrak, software developed at ISR, was used to manage sample and administrative information about the family.
- The **Event History Calendar** (EHC), which provides 2-year long timelines of employment, residence, and features of employment across job transitions, was introduced in 2003.
 - Having 2 years of data in these content areas has **helped fill the gap of data** caused by moving the study to a biennial data collection.
 - The fine-grained EHC timeline data can be used to support the construction of traditional measures such as weeks of employment, unemployment, and time out of the labor force in each year.
 - Methodological research has shown that the EHC interviewing approach leads to consistently higher quality retrospective reports in comparison to traditional standardized question-asking methods.

DISCUSSION

PSID lacks key mediational measures during childhood, such as BMI (of the child or the parent), physical activity, stress exposure, health risk behaviors, diabetic status of the mother at the time of the child's birth, and breastfeeding practices, all of which might help provide an understanding of the process by which early economic conditions matter.

Despite this limitation, existing literature about the role of these childhood measures finds that they are associated with children's health but do not explain the relationship between socioeconomic status and health.