Abstract Title Page
Not included in page count.

Title: Inequalities in Parental Spending on Young Children: 1980-2010

Authors and Affiliations: Sabino Kornrich, Department of Sociology, Emory University

Background / Context:
Description of prior research and its intellectual context.

In recent years, scholars and the public have grown more worried about rising income inequality in the United States, particularly because inequality is now higher than at any time since before the Great Depression (Piketty and Saez 2003; 2013). For some, high inequality is worrying because it may negatively affect health, crime, social cohesion, and other outcomes in the present day (Fischer et al. 1996; Van de Werfhorst and Salverda 2012). Yet for others, high current inequality is most problematic because it could lead to reduced social mobility in future generations by creating different opportunities for children at the top and bottom of the income distribution (cf. Neckerman and Torche 2007). Increasing inequality may harden the class structure if it affords children different experiences that influence their future trajectories.

Some evidence suggests that the United States class structure is already more likely to reproduce inequalities than in the past. For example, Reardon (2011) finds that the income-based gap in achievement scores has increased over time. Scores for children at the 90th percentile of the income distribution are better than in the past, but scores for children at the 10th percentile of the distribution are stagnant. Increases in the income-based achievement gap are not solely the result of class differences in schooling, because the gap exists already when children enter kindergarten (Reardon 2011). A stronger association between class and test scores suggests greater difficulty for children raised by parents at the bottom of the income distribution since achievement test scores help predict future earnings (Farkas 1996; Farkas and Vicknair 1996; Jencks and Philips 1999).

One potential explanation for the increasing size of the income-based achievement gap among children entering school is increased inequality of parental spending during the early years of childhood. Spending could link increasing income inequality to increasing inequality in child achievement, since parents can directly use resources to transmit advantage to their children. While little evidence shows that spending on children boosts later achievement, it is plausible that parental spending on the home environment and child care can do so. Of children who are in regular child care arrangements, fifty-three percent spend time in nonrelative care (Laughlin 2013). For this large segment of children, the quality of nonrelative child care should be important for development, since attending high-quality formal child care centers is associated with improved outcomes (NICHD ECCR 2000; Ramey et al. 2000; Schweinhart et al. 1993). The measurement and evaluation of the quality of child care arrangements has proven difficult, but child care environments which provide children with responsive and sensitive caregivers, and in which there are learning activities and appropriate equipment available, more often improve outcomes for children, although effects are often small (Helburn and Howes 1996; Ruzek et al. 2014). Beyond child care, the quality of the home environment also influences children's achievement (Danziger and Waldfogel 2000; Bradley and Corwyn 2004). Increased inequality of spending might thus offer an explanation for increasing inequality in achievement.

It is unclear whether spending on young children has become more unequal or what drove change any changes that occurred. Existing evidence shows that the gap in parents' monetary investments in children has grown over the last half century between those at the top and bottom the income distribution (Kornrich and Furstenberg 2013). However, this evidence comes from spending on all children under the age of 25, and much of the increase in spending

over time is on higher education, and thus offers less evidence about trends for younger children. The growth of the income-based achievement gap among children just entering school suggests a need for attention to parental investments in young children as well.

If investments have grown more unequal, understanding the sources of these determinants is important for any attempt to reduce future inequalities. Increases in income at the top of the income distribution suggest that increases in spending on children among top earners are likely related to increases in income. Yet changes in income may explain only some of the changes in parental expenditures. Increases in women's labor force participation, marital homogamy, and increases in men's work hours could lead to increased spending. For example, high-income families may have less time to spend with children, because they are more likely now than in the past to be dual-career families in which both spouses work long hours and require more non-familial care. Beyond compositional changes, parents today may spend more because of changing norms regarding childhood education and development and a general diffusion of ideologies of intensive motherhood and concerted cultivation (Hertz 1997; Lareau 2003).

Purpose / Objective / Research Question / Focus of Study:
Description of the focus of the research.

This paper investigates changes in the income-based gap in monetary investments in children under the age of six, when most children typically have entered school in the United States. One strength of the paper beyond its focus on only young children is that it provides continuous data over time, showing when spending changed or remained stable, unlike previous research that examined limited sets of years (e.g. Bianchi et al. 2004; Kornrich and Furstenberg 2013). I examine spending on day care, baby-sitting, and goods for children.

Setting:
Description of the research location.

The research examines the United States between 1972 and 2010.

Population / Participants / Subjects:
Description of the participants in the study: who, how many, key features, or characteristics.

I use a sample of all households which have non-missing values for total expenditures and which have any children present under the age of six.

Intervention / Program / Practice:
Description of the intervention, program, or practice, including details of administration and duration.

Not applicable.

Research Design:
Description of the research design.

I begin by presenting descriptive evidence on spending over time for households at different points in the income distribution. I group households into income quintiles for each year. I then separate the top quintile into two deciles in order to illustrate different patterns in the top and second decile.

To extend these descriptive results, I investigate why spending among rich households changes. To do so, I use a regression-based decomposition analysis (Blinder 1973; Jones and Kelley 1984). Decomposition analysis allows the examination of differences or changes between two samples. In this case, I only examine changes among households in the top decile of earnings since these households increase their spending while most other households' spending changes little. To investigate change over time, I compare spending among the rich for the first and last waves of data. I use the 1972-3 CES survey because it is the oldest survey which maintains good comparability with later surveys. I then use pooled data from 2008-2010, the three most recent years of survey data available. I use three years of pooled data to ensure adequate sample sizes for regression models.

Data Collection and Analysis:
Description of the methods for collecting and analyzing data.

I use data from the Consumer Expenditure Survey (CES), a nationally representative survey of spending conducted by the Bureau of Labor Statistics. The CES was conducted annually between 1980 and the present day. Before 1980, surveys were conducted sporadically, with the most recent wave from 1972-73. While there are waves of the CES at earlier points in time, for example 1960-61, these waves do not contain sufficiently detailed expenditure data to compare them with present data. For example, spending on child care – both nursery school and other domestic service – is combined with other household spending, such as on ice and paper supplies. Thus, I use data from the 1972-73 survey, with a gap between these data and later data, and then rely on annual data from 1980 to the present day for most descriptive statistics.

Findings / Results:
Description of the main findings with specific details.

The article finds that inequality across the income distribution in parental spending on young children has grown steadily over the years since the early 1970s, and that greater gaps between households at the top of the income distribution and other portions of the income distribution result from greater spending by the rich. Results from a decomposition analysis suggest that small growth in spending occurred because of changes in wives' role in the household and parental education, but that the largest share of change is attributable to increased income at the top of the income distribution. High-income parents today have higher incomes and are more likely to use those high incomes to spend on their young children. Indeed, the steeper estimated regression slope in the late 2000s suggests that comparable increases in income in the present day will lead to more spending than they would have in the early 1970s, in some sense suggesting that there is no ceiling for parental spending

Conclusions:
Description of conclusions, recommendations, and limitations based on findings.

Rich children today appear to be in an enviable position. Before they enter school, their parents spend substantially more on them than poor parents do, and substantially more than rich parents in the past. They then begin their school years with a greater advantage over poor children than before (Reardon 2011). As they age, their parents continue to invest resources in them, with more now spent on private education and college as well (Kornrich and Furstenberg 2013). Given the rise of winner-take-all labor markets and a range of other labor market features that have increased inequality (Frank and Cook 1995), there is reason to be nervous about the future of inequality in the United States. While income inequality has already increased substantially, nothing in the existing data suggests any slowdown in this increase without substantial shifts in children's inputs or labor market policy.

Of course, this conclusion is predicated on the assumption that parental spending matters for children's outcomes. There is evidence that higher-quality child care leads to better outcomes and that higher-quality care costs more. However, it is difficult to find data that contain useful measures of both parental monetary investment and child achievement (though see Kaushal, Magnuson, and Waldfogel 2011). It is plausible to think that higher spending increases child achievement, but it is important to note that there could be other reasons that children of high-income parents do better now than in the past. Parents appear to be more interested in strategies of concerted cultivation (Lareau 2003) and also spend more time in direction interaction with their children than they did in the past (Bianchi 2000; Gauthier, Smeeding, and Furstenberg 2006). While these are no doubt important, children spend substantial periods of time not in parental care. Given the high prevalence and the long hours children often spend in child care, parental spending is likely of importance. Future research that can attempt to investigate the effects of additional spending on future child outcomes might offer useful insights on some of these issues.

One policy implication of these results is the potential importance of well-funded universal child care. Universal child care would mean that children from low-income households would have, at least in theory, the same opportunities as children from high-income households. While high-income parents could still purchase other experiences for their children, at least early child care would be equalized across the income distribution. Such a system would mean that the quality of investments in children during their early years would no longer be determined by an accident of birth – by where their parents fell in the income distribution.

Appendices
Not included in page count.

Appendix A. References
References are to be in APA version 6 format.

Bianchi, Suzanne. 2000. "Maternal employment and time with children: dramatic change or surprising continuity?" *Demography* 37(4):401-14.

Danziger, Sheldon and Jane Waldfogel, eds. 2000. *Securing the Future: Investing in Children from Birth to College*. New York: Russell Sage Foundation.

Farkas, George. 1996. *Human Capital or Cultural Capital? Ethnicity and Poverty Groups in an Urban School District*. Aldine Transaction.

Farkas, George and Kevin Vicknair. 1996. "Appropriate Tests of Racial Wage Discrimination Require Controls for Cognitive Skill: Comment on Cancio, Evans, and Maume." *American Sociological Review* 61:557-560.

Fischer, Claude S.; Hout, Michael; Jankowski, Martin Sanches; Lucas, Samule R; Swidler, Ann, and Kim Voss. 1996. *Inequality by Design: Cracking the Bell Curve Myth*.

Gauthier, Anne H., Timothy M. Smeeding, and Frank F. Furstenberg. 2004. "Are Parents Investing Less Time in Children? Trends in Selected Industrialized Countries." *Population and Development Review* 30(4):647-672.

Helburn, Suzanne W. and Carollee Howes. 1996. "Child Care Cost and Quality." *The Future of Children* 6(2):62-82.

Kornrich, Sabino and Frank Furstenberg. 2013. "Investing in Children: Changes in Spending on Children, 1972 to 2007." *Demography* 50(1):1-23.

Neckerman, Kathryn M. and Florencia Torche. 2007. "Inequality: Causes and Consequences." *Annual Review of Sociology* 335-357.

Piketty, Thomas and Emmanuel Saez. 2003. "Income Inequality in the United States, 1913-1988." *Quarterly Journal of Economics* 88(1):1-39.

Piketty, Thomas and Emmanuel Saez. 2013. "Tables and Figures updated to 2012" Retrieved September 12, 2013 online at http://elsa.berkeley.edu/~saez/.

Reardon, Sean F. (2011). "The widening achievement gap between the rich and the poor: New evidence and possible explanations." In R. M. Murnane & Greg Duncan (Eds.), *Whither opportunity: Rising inequality, schools, and children's life chances* (pp. 91–116). New York: Russell Sage Foundation Press.

Appendix B. Tables and Figures
Not included in page count.

Table 1: Characteristics of households in the bottom and top income deciles

| | 1972-3 | | 2008-10 | |
	Bottom Decile	Top Decile	Bottom Decile	Top Decile
Income	12145	116553	8495	206464
Two-parent family	41.7	99.2	30.2	93.9
Single-father	1.5	.3	2.3	.8
Single-mother	54.2	.5	44.9	.4
Other family	2.6	0	22.6	4.7
Wife's work hours	12.3	15.9	15.7	29.5
Husband's work hours (where present)	32.3	39.7	27.8	46.5
Education				
No high school degree	56.8	11.0	37.6	1.7
High school graduate	34.8	20.2	28.2	8.0
Some College	5.6	18.4	26.0	18.4
College and greater	2.8	50.4	8.2	71.8

Table 2: Decomposition results

Parameter	1972-3 Coefficient	1972-3 Mean	2008-10 Coefficient	2008-10 Mean	(1) Slopes	(2) Means	(3) Interaction	Total change (1+2+3)	% of total difference	Rank
Intercept	1099.24		719.77		-379.46			-379.46		
Age of youngest child	326.23	2.48	1364.90	2.44	2576.75	-14.80	-47.11	2514.84		
Age squared	-52.27	9.12	-333.74	9.00	-2565.67	5.93	31.96	-2527.78		
Household income (in 1000s)	6.77	124.25	17.60	202.50	1345.84	529.91	847.60	2723.35	91.05	1
% of earnings from wife	2503.90	.10	2095.84	.31	-41.97	509.65	-83.06	384.62	12.86	4
Wife works part-time	243.96	.27	1445.65	.29	319.63	5.02	24.71	349.36	11.68	5
Wife works full-time	347.68	.17	1934.10	.35	263.73	63.19	288.31	615.23	20.57	2
Reference person attended some college	401.54	.18	170.34	.19	-42.57	4.20	-2.42	-40.79	-1.36	11
Reference person is college graduate	445.37	.50	971.61	.71	265.14	93.44	110.41	468.99	15.68	3
Single mother household	853.97	.01	16966.00	.01	82.41	0.06	1.11	83.58	2.79	7
Single father household	1033.28	.00	3833.53	.01	7.16	5.39	14.61	27.17	0.91	9
Other household	0	-	528.41	.04	.00	.00	23.63	23.63	0.79	10
Mixed gender of children	-431.58	.20	520.46	.27	187.49	-30.96	68.29	224.82	7.52	6
Children only girls	-549.02	.60	-616.73	.47	-40.34	67.38	8.31	35.35	1.18	8
Number of children in home	-308.36	2.95	-1127.34	2.15	-2412.94	246.60	654.94	-1511.39	-50.53	12

(1) is the difference in coefficients multiplied by the 1972-3 mean, (2) is the difference in means multiplied by the 1972 coefficients, and (3) is the difference in coefficients multiplied by the difference in means.

Figure 1: Spending on children by income decile.

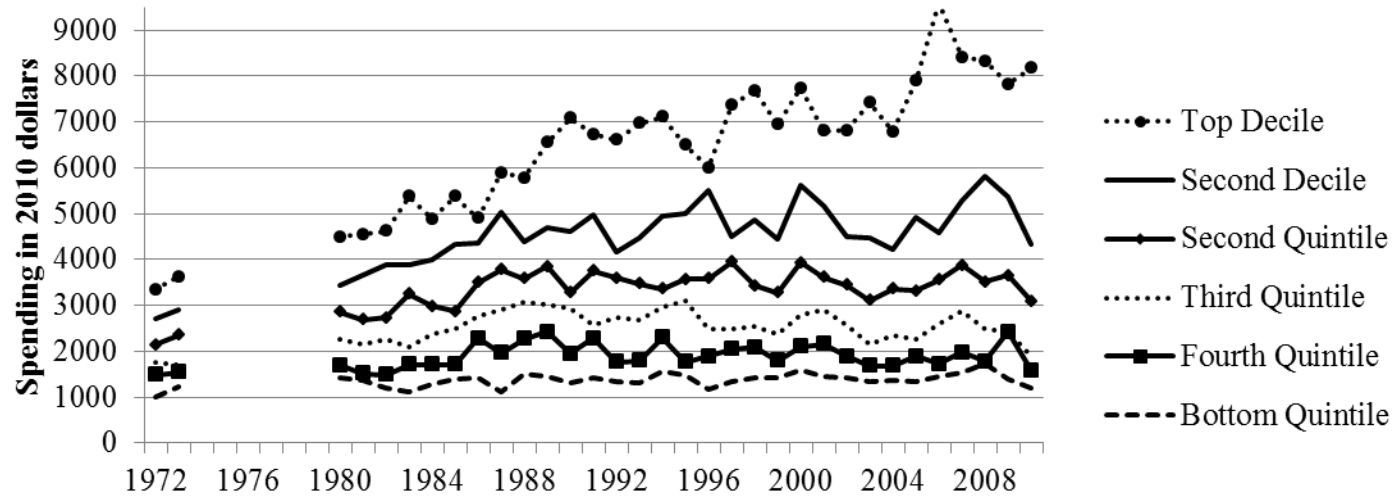Panel A: Spending per young child
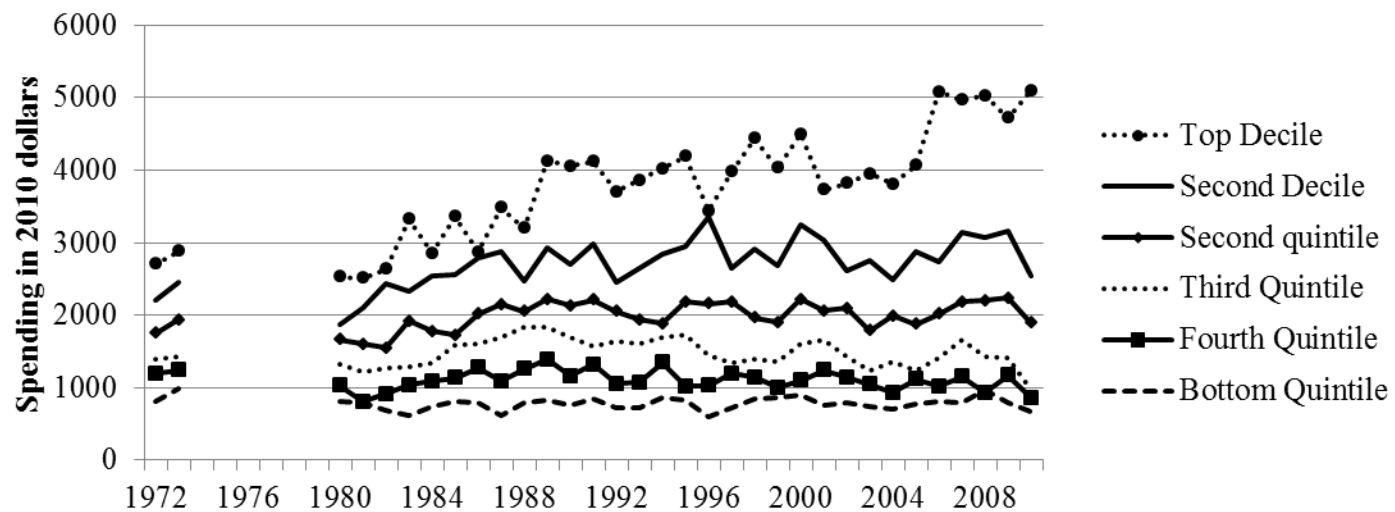
Panel B: Total spending on young children

Figure 2: Components of 90-10 spending gap per child