

Mangiavacchi, Lucia; Piccoli, Luca; Stillman, Steven

Working Paper

Casting a Long Shadow: How Parental Risky Behaviors Impair Child Development in Russia

IZA Discussion Papers, No. 18242

Provided in Cooperation with:

IZA – Institute of Labor Economics

Suggested Citation: Mangiavacchi, Lucia; Piccoli, Luca; Stillman, Steven (2025) : Casting a Long Shadow: How Parental Risky Behaviors Impair Child Development in Russia, IZA Discussion Papers, No. 18242, Institute of Labor Economics (IZA), Bonn

This Version is available at:

<https://hdl.handle.net/10419/333681>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

DISCUSSION PAPER SERIES

IZA DP No. 18242

**Casting a Long Shadow:
How Parental Risky Behaviors Impair
Child Development in Russia**

Lucia Mangiavacchi
Luca Piccoli
Steven Stillman

OCTOBER 2025

DISCUSSION PAPER SERIES

IZA DP No. 18242

Casting a Long Shadow: How Parental Risky Behaviors Impair Child Development in Russia

Lucia Mangiavacchi

University of Perugia and IZA

Luca Piccoli

University of Trento and IZA

Steven Stillman

Free University of Bozen/Bolzano and IZA

OCTOBER 2025

Any opinions expressed in this paper are those of the author(s) and not those of IZA. Research published in this series may include views on policy, but IZA takes no institutional policy positions. The IZA research network is committed to the IZA Guiding Principles of Research Integrity.

The IZA Institute of Labor Economics is an independent economic research institute that conducts research in labor economics and offers evidence-based policy advice on labor market issues. Supported by the Deutsche Post Foundation, IZA runs the world's largest network of economists, whose research aims to provide answers to the global labor market challenges of our time. Our key objective is to build bridges between academic research, policymakers and society.

IZA Discussion Papers often represent preliminary work and are circulated to encourage discussion. Citation of such a paper should account for its provisional character. A revised version may be available directly from the author.

ISSN: 2365-9793

IZA – Institute of Labor Economics

Schaumburg-Lippe-Straße 5–9
53113 Bonn, Germany

Phone: +49-228-3894-0
Email: publications@iza.org

www.iza.org

ABSTRACT

Casting a Long Shadow: How Parental Risky Behaviors Impair Child Development in Russia

This paper estimates the short-run impact of parental risky behaviors on multiple dimensions of child development using 30 years of data from a representative Russian longitudinal survey. We use factor analysis to construct a composite index of parental risky behaviors and health habits. The panel nature of the data allows us to implement individual and household fixed-effects models, which control for all time-invariant unobserved heterogeneity that might correlate with both parenting and child outcomes. We find that exposure to parental risky behaviors adversely affects children's educational attainment (grade-for-age) and increases their propensity for risky behaviors, specifically smoking and drinking. Conversely, we find no significant impact on soft skills and only weak evidence of negative health outcomes. These impacts are more pronounced for older children and those in higher-income households.

JEL Classification: D1, I1, I2, I3

Keywords: risky behaviors, child development, intergenerational transmission, parental role model

Corresponding author:

Steven Stillman
Faculty of Economics and Management
Free University of Bozen-Bolzano
Piazza Università 1
39100 Bolzano
Italy
E-mail: steven.stillman@unibz.it

1 Introduction

There is extensive evidence of links between parents and their children in both human capital (i.e., education and health) and economic primitives (i.e., preferences, attitudes, and beliefs) and that these links contribute to intergenerational correlations in economic outcomes (for reviews, see [Black et al. \(2011\)](#); [Björklund and Salvanes \(2011\)](#) and preferences [Dohmen et al. \(2011\)](#); [Zumbuehl et al. \(2021\)](#)). One important channel that has been identified for explaining these findings is the role of imitation or role modelling within the family.¹ While most of this literature has focused on the imitation of positive behaviors, such as trust, time preferences, risk taking, entrepreneurship and gender norms, there is also a branch that considers the impact of problematic parental behaviors, such as drinking, smoking, or unhealthy habits on child development.²

In this paper, we examine the short-run impact of a wide-range of parental risky behaviors and health habits on several domains of child development, including education, health, soft skills and own risky behaviors. Uniquely, we examine this question using 30 years of data from a longitudinal representative survey of the Russian population that collects extensive data on risky behaviors, parental investments and child outcomes across many domains. We first use factor analysis to define an index of parental risky behaviors (PRB in short), which allows us to account for the strong correlation among many parental behaviors. We then estimate individual or household fixed effects models which link short-run changes in child outcomes to short-run changes in parental risky behaviors. These approaches control for all time-invariant observed characteristics of individuals and their families that could be related to both parental behavior and child outcomes.

Individual fixed effects will estimate the causal impact of *short-run changes* in parental risky behaviors on child outcomes as long as there are no time-varying characteristics that are correlated with both parents behavior and child outcomes. Household fixed effects will estimate the causal impact of *differences between siblings as well as over time* in PRB on child outcomes as long as there are no family characteristics that are correlated with both parents behavior and child outcomes. Finding similar results using these two methods will be reassuring given the different identifying assumptions. We also estimate Oster bounds to examine whether time-varying unobservables that are correlated with both PRB and child outcomes are likely to bias our estimates ([Oster, 2019](#)). The main downside of both of the approaches that we take is that neither considers the long-run, dynamic or cumulative impacts that parental risky behaviors might have on children, which could be more important than the short-run impacts.

To better understand the underlying mechanisms behind our findings, we next examine whether the relationship between PRB and child outcomes depend on the gender or age of the child, or household income. These heterogeneity analyses allow us to speculate whether impacts in

¹Examples include [Albanese et al. \(2016\)](#), [Mancini et al. \(2017\)](#) and [Giménez-Nadal et al. \(2019\)](#), [Chowdhury et al. \(2022\)](#).

²Examples include [Snow Jones et al. \(1999\)](#), [Balsa \(2008\)](#), [Mangiavacchi and Piccoli \(2018\)](#), [Srivastava and Trinh \(2021\)](#). Clearly, some of these negative behaviors can also have direct impacts on children, for example consuming alcohol or smoking while pregnant has been shown to lead to a host of negative development outcomes for children ([von Hinke Kessler Scholder et al., 2014](#); [Simon, 2016](#); [Nilsson, 2017](#); [Costi et al., 2024](#)).

particular domains are likely to be generated by negative role model effects, as opposed to other more direct mechanisms, such as lesser parental investments (for example, not helping with homework or preparing healthy meals) or stress caused by negative shocks to household resources. Examining how our results vary across the different domains discussed above is also useful in understanding potential mechanisms.

We find that parental risky behaviors has negative causal impacts on grade-for-age and own risky behaviors, specifically smoking and drinking. We find no impact on soft skills and some weak evidence for negative impacts on health outcomes. These results are confirmed by our bounding analysis and are statistically significant when accounting for multiple hypothesis testing. We find limited gender differences; negative impacts on health are larger and more significant for girls and PRB does not impact smoking for boys. We also find that these impacts are generally larger for older children and richer households suggesting that role model effects are the most important pathway between PRB and child outcomes, at least when examining short-run impacts.

Our paper contributes to the large literature that studies the role of parental decisions in the intergenerational transmission of socioeconomic status. In particular, we add to the literature that examines the impact of specific behaviors, such as smoking and drinking, on child outcomes. This includes papers that look at the quantity of time parents spent with children, those analyzing the quality of parent-child relationships, and research devoted to specific parental behaviors. The first strand of the literature finds that parental time is an important determinant of skill formation and later life outcomes (Hsin and Felfe, 2014; Zumbuehl et al., 2021; Harris et al., 1998; Mangiavacchi et al., 2021). The second strand finds the parenting styles matter for child outcomes with warmth, consistency and effective discipline found to be positively correlated with both cognitive and non-cognitive skills (Dooley and Stewart, 2007; Fiorini and Keane, 2014; Del Bono et al., 2016; Cobb-Clark et al., 2019; Lanari et al., 2024). The third strand finds that specific behaviors such as smoking, drinking and unhealthy eating are transmitted to children primarily via a role model effect (Loureiro et al., 2010; Göhlmann et al., 2010; Schmidt and Tauchmann, 2011; Stoklosa et al., 2018; Rodríguez-Planas and Sanz-de Galdeano, 2019).

We make two important contributions to this literature. First, instead of focusing on the impact of specific behaviors, we look more generally at the role of parental risky behaviors as defined using a factor analysis that combines a wide-range of parental behaviors and health habits. Papers that focus on the impact of specific behaviors likely suffer from omitted variable bias as parents who drink excessively are also likely smoke or have unhealthy lifestyles in other domains. We show that in Russia there is a very strong correlation between these risky behaviors that makes it difficult to examine the separate impact of any one behavior. Second, we show that the timing of PRB matters. Impacts become stronger as children age. This suggests that the main explanation for our findings is that parental risky behaviors are seen as role models. Also supporting this interpretation, we find larger impacts for wealthier households.

The rest of the paper is organized as follows. Section 2 describes the empirical strategy, including a discussion on possible identification issues and details the data, sample selection and variables used. Section 3 presents the results, the robustness and heterogeneity analyses. Lastly

Section 4 concludes.

2 Empirical Strategy

2.1 Data and Sample Selection

Our empirical analysis uses 28 mostly annual waves (from 1994 to 2023) of the Russia Longitudinal Monitoring Survey (RLMS-HSE). The survey is conducted by the Higher School of Economics and ZAO Demoscop together with the Carolina Population Center and follows the same individuals and their families over time.³ Households participating in the survey were initially selected through a multi-stage probability sampling procedure in order to guarantee cross-sectional national representativeness. Within each selected primary sample unit, the population was stratified into urban and rural substrata. The survey covers approx 5,000 households; 12,000 adults and 2,000 children per wave. Our sample is composed of a panel of children aged 0 to 21, using all available waves and parental variables are computed at the specific child age. We focus on a sample of 8,985 children who live with both of their parent (6,703 families) and do not have missing information in at least two waves of data. For the outcomes missing the least observations, we have nearly 23,000 observations on 5,333 children.

2.2 Measuring Parental Risky Behaviors

We begin by using factor analysis to derive a unique measure of parental risky behaviors. RLMS was originally designed to monitor the health impact of economic transition in Russia, so it contains detailed information about healthy and unhealthy behaviors and conditions of respondents for all waves. For example, it includes detailed information on individual alcohol consumption of different types of beverages, smoking behavior, physical exercise, height, weight and health status.⁴ Using this information, we build an index of Parental Risky Behaviors (PRB) using a factor analysis of both mother’s and father’s behaviors.

Table 1 reports the factor loading and uniqueness variances of each variable with the first factor produced. The corresponding eigenvalue is reported at the end of the table. Looking at factor

³More information can be found in the RLMS-HSE site: <http://www.cpc.unc.edu/projects/rlms-hse>.

⁴RLMS collects self-reported information on how many grams of beer, wine, fortified wine, home-made liquor, vodka, and other alcoholic beverages a respondent usually drink per day during the last 30 days. Following Baltagi and Geishecker (2006), these amounts are adjusted for pure alcohol content in order to make the various types of alcoholic beverages comparable and then summed up to compute total individual alcohol consumption. To reduce the influence of possible outliers we compute alcohol consumption quintiles, rather than using the continuous variable directly. We also include a separate dummy for whether the mother or the father actually drinks is included. Whether an individual smokes and how many cigarettes per day is measured for both parents. Indications about eating behavior are included through a dummy indicating whether the mother or the father have a BMI larger than 30 (which is the standard for obesity according to the WHO). The individual BMI is compute using variables on height and weight of individuals (recorded by the interviewer). Physical activity is reported in details in the RLMS. There are questions about whether the individual practice jogging, walking, cycling, swimming, dance, basket, badminton, box and other activities. For each of these activities, the questionnaire asks about weekly hour and minutes of practice. We aggregate all activities and include whether each parent practices sport and for how many hours per week. The questionnaire also asks about the overall intensity of the physical exercise (not detailed by category), that we also include in the factor analysis. Finally, we also include years of education of mother and father, as directly provided by the RLMS.

Table 1: Factor loadings and unique variances

Variable	Factor 1	Uniqueness
Father’s alcohol quintile	0.61	0.63
Father drinks	0.57	0.67
Mother drinks	0.63	0.60
Mother’s alcohol quintile	0.66	0.56
Father smokes	0.48	0.77
Mother smokes	0.48	0.77
Father’s number of cigarettes	0.49	0.76
Mother’s number of cigarettes	0.47	0.78
Mother has BMI larger than 30	0.03	1.00
Father has BMI larger than 30	0.00	1.00
Mother does some sport	0.01	1.00
Father does some sport	-0.05	1.00
Mother’s weekly hours of sport	0.01	1.00
Father’s weekly hours of sport	-0.05	1.00
Mother’s exercise level	-0.05	1.00
Father’s exercise level	-0.13	0.98
Eigenvalue	2.500	

loadings, it appears evident that the first factor is clearly capturing parental risky behaviors, as is positively correlate with detrimental variables (such ad drinking and smoking) and negatively correlated with good behaviors (sport and education). An eigenvalue larger that 2.5 indicates the high relevance of the factor. Not reported in the table are other factors with an eigenvalue larger than one but still substantially smaller than the first factor (the second factor has an eigenvalue of 1.68 and the third 1.02), and whose correlations were of no meaningful use in this study.

2.3 Empirical Specification

Our analysis examines the impact of our index of parental risky behaviors on different domains of child development (o_{it}). Our main specification includes age and year fixed effects, as well as either individual or family fixed effects. In the first case, we examine how changes in PRB impact changes in outcomes controlling for a child’s age. In the second case, we compare children in the same family who experiencing PRB at different ages.

More specifically, the individual fixed effects model to be estimated can be written:

$$o_{it} = PRB_{it}\beta + \mathbf{x}_{it}\gamma + \alpha_i + \alpha_{age} + \alpha_t + \epsilon_{it} \quad (1)$$

where different outcomes o_{it} are regressed on PRB_{it} the explanatory variable of interest, the index of parental risky behaviors controlling for household controls, \mathbf{x}_{it} including mother’s and

father’s hourly wages, employment, daily work hours, mother depression, father depression and the birth of a sibling, individual (α_i), age (α_{age}) and time (α_t) fixed effects. When we instead estimate family fixed effects models, α_i is replaced by α_f , a fixed effect for each family (only family/years with at least two children are included in these regressions). Standard errors are clustered at both the individual and family level allowing for arbitrary correlation of outcomes over time and within families.

Individual fixed effects will estimate the causal impact of short-run changes in PRB on child outcomes as long as there are no time-varying characteristics that are correlated with both parenting and child outcomes. Household fixed effects will estimate the causal impact of differences between siblings as well as over time in PRB on child outcomes as long as there are no family characteristics that are correlated with both parenting and child outcomes.

2.4 Outcomes

We examine several outcomes related to different domains of child development. In the domain of human capital development, we measure grade-for-age (the completed grades of general school + 6 - age). If a child loses a year at school grade for age becomes negative. We forward this variable one year because any effect on grade-for-age will be observed in the next academic year and we consider it for sample children aged 6 to 18. Also in this domain, we examine hours of studying (daily hours of study, available only for waves 1994-2000 and 2006-2009) for a sample of children older than 5, and hours of sport (the sum of time devoted to different types of sport as karate, track, other sports, and other physical activities outside school) for a sample of children older than 4 (see [Del Boca et al., 2017](#)).

In the domain of non-cognitive skills, we examine depression status, life satisfaction (recorded in a single question in a 5 points scale that we standardize) for children older than 12, self-esteem (constructed using the Rosenberg Scale questions, the sum of 10 separate questions ranging from 1 to 4, from absolutely disagree to absolutely agree, and ranges from 10 to 40) and mastery (constructed using the Pearling scale questions, the sum of 7 separate questions ranging from 1 to 4, from absolutely disagree to absolutely agree, and ranges from 7 to 28), both for children older than 12.

We examine several variables related to child health: a dummy variable indicating whether the child had any health problem in the last 30 days and is observed for the most general sample; a similar variable for minor health problems; whether the child has any chronic disease (computed aggregating a list many diseases); the number of visits to the doctor in the last year; height-for-age (standardized); whether the child suffers of diabetes, allergies, anemia, hypertension; body-mass index (standardized); and whether the child is underweight (BMI<18.5), overweight (BMI>25) or obese (BMI>30).

For the sample of children older than 12, we examine the impact on three measures of adolescent’s risky behaviors: teens pregnancy, having given birth or aborted in the last year (using direct questions for girls younger than 14), smoking (direct questions on whether she smokes and on the number of cigarettes per day), and drinking (whether she drinks, the grams of alcohol per

day and the frequency of drinking alcohol).

3 Results

This section presents the results of the regression analyses to evaluate whether negative parental behaviors impact child development. We first present the baseline results estimated using individual fixed effects and family fixed effects. We then examine whether our results are robust to potential omitted variable bias using Oster bounds and to multiple hypothesis testing using Romano-Wolf step-down p-values. Finally, we examine heterogeneity by child gender, child age and family income.

3.1 Main Results

Table 2 presents the main results using the estimator described in Section 2.3. The first column presents pooled OLS estimates for reference, the second family fixed effect and the third column child fixed-effects. All regressions include the full set of covariates described in the previous Section.⁵

The three specifications are increasingly conservative, as identifying variation comes from a more limited source of variation. The OLS estimator indicates that there is association between virtually all outcomes under investigation and PRB. Some of these associations, however, may emerge as a result of unobservable specific child and/or family characteristics. This source of endogeneity is partially addressed through family and child fixed-effect models, which account for time invariant-family and child characteristics, respectively. The results from these two estimators are remarkably similar. Children outcomes negatively affected by parental risky behaviors include educational aspects (grade for age), well-being and mental health (life satisfaction and depression), health outcomes (through several indicators) and risky behaviors (obesity, smoking and drinking).

The only variable available in RLMS to proxy educational achievement is grade-for-age, i.e. whether the child stays in the expected grade according to her age. A positive number indicates that the child is advancing faster than expected, while a negative value reflect repetition of one or more grades. Our fixed effects estimates indicate that having 1 standard deviation (SD) riskier parents leads to a almost 6% increase in the likelihood that a child repeats a grade. Among non-cognitive indices, i.e. life satisfaction, self-esteem, mastery and depression, having 1 SD riskier parents significantly reduces life satisfaction by 0.05 SDs and slightly increases the probability of been diagnosed with depression by 0.6 percentage points (pp). The association with mastery and self-esteem is negative but not statistically different from zero with fixed effect estimators.

The impact on health is significant for several indicators: having had any health problem in the previous month, having had minor health problems, whether the child has any chronic disease, and allergies. The magnitude of these impacts are relatively small. For instance, having 1 SD riskier parents increases the probability of having had any health problem by just over 3 pp and

⁵The Tables included in the main text only report the coefficient of the PRB variable, full estimates tables are available upon request.

Table 2: Impact of parental risky behavior on children outcomes

	N. Obs.	OLS		Fam. FE		Ind. FE	
		Coeff	SE	Coeff	SE	Coeff	SE
Grade for age	4,791	-0.0591***	(0.0179)	-0.0591**	(0.0236)	-0.0579***	(0.0192)
Study hours	1,075	-0.0622	(0.0440)	-0.0485	(0.137)	-0.0483	(0.0843)
Sport hours	9,584	0.273***	(0.0592)	0.123	(0.0938)	0.106	(0.0818)
Life satisfaction	4,704	0.00825	(0.0185)	-0.0215	(0.0285)	-0.0303	(0.0231)
Depression	16,882	0.00988***	(0.00208)	0.00424	(0.00281)	0.00471*	(0.00264)
Self esteem	968	0.0255	(0.0358)	0.0288	(0.102)	0.0392	(0.0721)
Mastery	968	0.109***	(0.0381)	0.00971	(0.0992)	0.00409	(0.0709)
Any health problem	23,045	0.0619***	(0.00437)	0.0291***	(0.00628)	0.0301***	(0.00557)
Minor health problems	13,532	0.0292***	(0.00372)	0.0121*	(0.00623)	0.0116**	(0.00543)
Chronic disease (any)	23,045	0.0240***	(0.00467)	0.00982**	(0.00486)	0.0106**	(0.00430)
Visits to doctor	17,041	0.0584***	(0.0111)	0.0160	(0.0133)	0.0210*	(0.0115)
Anemia	4,746	0.00859***	(0.00247)	0.00375	(0.00458)	0.00348	(0.00387)
Allergies	13,083	0.00686*	(0.00394)	0.00693	(0.00443)	0.00734*	(0.00398)
Height-for-age	20,534	0.0700***	(0.0130)	0.00345	(0.0136)	-0.000329	(0.0116)
BMI	21,606	-0.0265**	(0.0105)	-0.00871	(0.0116)	-0.00955	(0.0100)
Overweight	21,606	-0.00278	(0.00220)	-0.00438	(0.00317)	-0.00382	(0.00279)
Obese	21,606	-0.00105	(0.00106)	0.000458	(0.00164)	0.000871	(0.00145)
Underweight	21,606	0.00741	(0.00466)	0.00226	(0.00585)	0.00211	(0.00523)
Smokes	4,757	0.0497***	(0.00686)	0.0176*	(0.00933)	0.0205**	(0.00828)
N. of cigarettes/day	4,738	0.0946***	(0.0152)	0.0417*	(0.0227)	0.0472**	(0.0203)
Drinks	5,856	0.0581***	(0.00539)	0.0406***	(0.00917)	0.0414***	(0.00786)
Frequency of drinking	3,866	0.274***	(0.0423)	0.126*	(0.0761)	0.105	(0.0657)
Grams of alcohol/day	3,944	0.343***	(0.0312)	0.175***	(0.0528)	0.173***	(0.0453)
Pregnant, gave birth or aborted	3,909	0.00225**	(0.00115)	0.000933	(0.00200)	0.00108	(0.00174)

Notes: The table reports the coefficients of the index of parents risky behaviors variable on several children outcomes in Russia for years 1994-2023. All estimates include the following set of control variables: mother's and father's hourly wages, employment status, daily work hours, whether they are diagnosed with depression, the birth of a sibling and age and wave fixed effects. In addition, column "Fam. FE" includes family fixed effects, and column "Ind. FE" includes individual fixed effects. Standard errors, reported in parentheses, are clustered at family and individual level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

of having depression by 0.5 pp. Similar results emerge for risky behaviors: 1 SD riskier parents increases the probability of smoking by 2.1 pp, and that of drinking by 4.1 pp. It is important to note that we are examining the short-run impact of parental risky behaviors and that continuous exposure may have cumulative effects that could be quite relevant (see, for instance [Mangiavacchi and Piccoli, 2018](#), for the case of alcohol consumption).

3.2 Robustness

Although fixed effect models rule out estimation bias induced by time-invariant unobservable characteristics, omitted variable bias could still occur if there are time-varying unobservables associated with both parental risky behaviors and child outcomes. Additionally, because we are examining the impact on a wide-range of outcomes, we also could be finding false positive effects. Table 3 reports the coefficient and standard error of the child fixed-effect model in Table 2 only for those outcomes with a significant impact of PRB plus the results from two types of robustness

analysis: to unobserved heterogeneity and to multiple hypothesis testing.

To verify whether the results hold under different potential amounts of unobservable heterogeneity, we follow the approach introduced in [Oster \(2019\)](#) and examine how the coefficient estimates change when varying the degree of potential omitted variable bias. Columns 4 and 5 of Table 3 provide estimates of the lower and upper bounds of the parameter values where the lower bound allows the importance of unobservable heterogeneity to be 1.3 times the importance of observables and the upper bound assumes all residual variance comes from unobservables. When both bounds have the same sign as the estimated parameter, it is unlikely that the significance of the parameter is due to unobservable factors. The results confirm that selection on unobservables is not an issue for most of the outcomes we examine. The exceptions are for certain health outcomes: depression, health problems, visit to the doctor and allergies.

Table 3: Robustness analysis: Oster Bounds and Multiple Hypothesis Testing

	Coeff	SE	Oster LB ¹	Oster UB ²	R-W p-val ³
Grade for age	-0.0579***	(0.0192)	-0.0926	-0.103	0.003
Depression	0.00471*	(0.00264)	0.00416	-0.133	0.166
Any health problem	0.0301***	(0.00557)	0.0235	-0.815	0.003
Minor health problems	0.0116**	(0.00543)	0.00862	-1.205	0.060
Chronic disease (any)	0.0106**	(0.00430)	0.0125	0.294	0.017
Visits to doctor	0.0210*	(0.0115)	0.0189	-0.0368	0.150
Allergies	0.00734*	(0.00398)	0.00691	-8.861	0.150
Smokes	0.0205**	(0.00828)	0.0221	0.0931	0.017
N. of cigarettes/day	0.0472**	(0.0203)	0.0516	0.179	0.030
Drinks	0.0414***	(0.00786)	0.0471	0.128	0.003
Grams of alcohol/day	0.173***	(0.0453)	0.190	0.512	0.003

Notes: 1. Computed using $\bar{R}^2 = 1.3 * R^2$; 2. Computed using $\bar{R}^2 = 1$; 3. Romano-Wolf step-down adjusted p-values with bootstrapped (300 reps) standard errors. The first two columns report the coefficients of the main regression with individual fixed effects. Standard errors in parentheses are clustered at family and individual level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

In addition, because we are estimating the impact of many outcomes that may be correlated, we also provide Romano-Wolf p-values which are adjusted to account for multiple hypothesis testing ([Romano and Wolf, 2016](#)). These p-values for the coefficients of interest are reported in the last column of Table 3. Again, most of our results remain significant, only the impact on chronic disease loses significance. For several outcomes, the significance level reduces, passing from 1% to 5% or from 5% to 10%, but for several of them even a 1% significance level is preserved when accounting for multiple hypothesis testing, such as having had health problems, being a drinker and the total grams of alcohol per day.

The outcomes for which PRB has a robust negative impact are: grade-for-age, being a smoker, the number of cigarettes, being a drinker and the grams of alcohol per day. Impacts on health outcomes are less robust. This may occur for two reasons: first, health consequences from negative

Table 4: Heterogeneity by Child Gender

	Girls		Boys	
	Coeff	SE	Coeff	SE
Grade for age	-0.0564**	(0.0271)	-0.0596**	(0.0273)
Study hours	0.105	(0.122)	-0.194*	(0.110)
Sport hours	0.0114	(0.109)	0.220*	(0.120)
Any health problem	0.0262***	(0.00784)	0.0341***	(0.00783)
Chronic disease (any)	0.0147**	(0.00586)	0.00650	(0.00629)
Anemia	0.000411	(0.00489)	0.00683	(0.00616)
Allergies	0.0118**	(0.00559)	0.00292	(0.00557)
Overweight	-0.00758*	(0.00421)	-	-
Smokes	0.0285**	(0.0140)	0.0117	(0.00763)
N. of cigarettes/day	0.0734**	(0.0358)	0.0186	(0.0149)
Drinks	0.0360***	(0.0111)	0.0474***	(0.0108)
Frequency of drinking	0.105	(0.108)	0.106*	(0.0641)
Grams of alcohol/day	0.154**	(0.0664)	0.194***	(0.0607)

Notes: The table reports the coefficients of the index of parents risky behaviors variable for significant children outcomes by gender of the child and estimated using child fixed effects. All estimates include the following set of control variables: mother's and father's hourly wages, employment status, daily work hours, whether they are diagnosed with depression, the birth of a sibling and age and wave fixed effects. Standard errors, reported in parentheses, are clustered at family and individual level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

parental behaviors are likely to emerge in the longer-run, while the fixed effect estimator capture short-run variation; second, health outcomes may be more likely to be affected by unobservable environmental factors that may also influence parental behavior.

3.3 Heterogeneity

We next examine heterogeneity by child gender, child age and family income with the goal of better understanding the mechanisms behind our findings. Table 4 examines whether the impact of PRB parenting differs for boys and girls.⁶

We find limited gender differences. The impact of PRB on grade-for-age, on any health problems and on drinking are nearly identical for boys and girls. We find differences in other health domains where impacts on health are larger and more significant for girls. We also find no impact of PRB on smoking for boys.

We next examine how impacts vary by child age. If PRB impacts children via reduced resources or parental time investment, we might expect larger effects at younger ages, while if the main transmission mechanism is via a role model effect, then we might expect larger effects at older

⁶We also examined the impact separately by parent-child dyads. The overall results are similar but no robust patterns are revealed by this analysis.

Figure 1: Heterogeneity by Child Age: Education and Health Outcomes

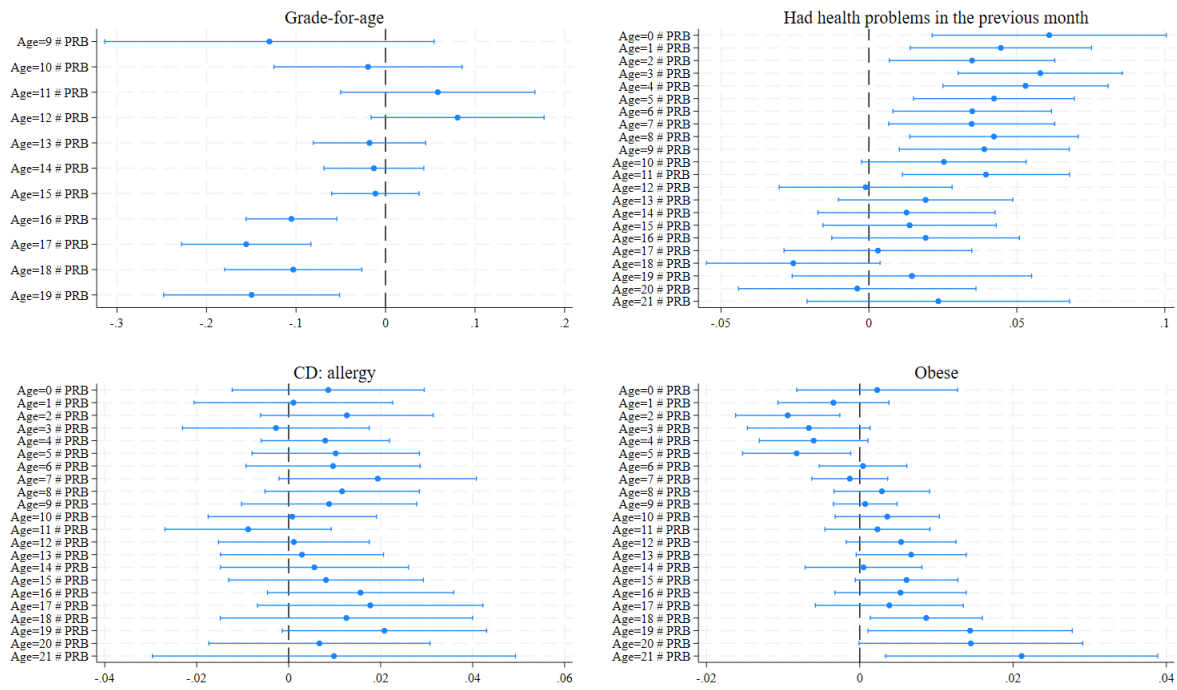
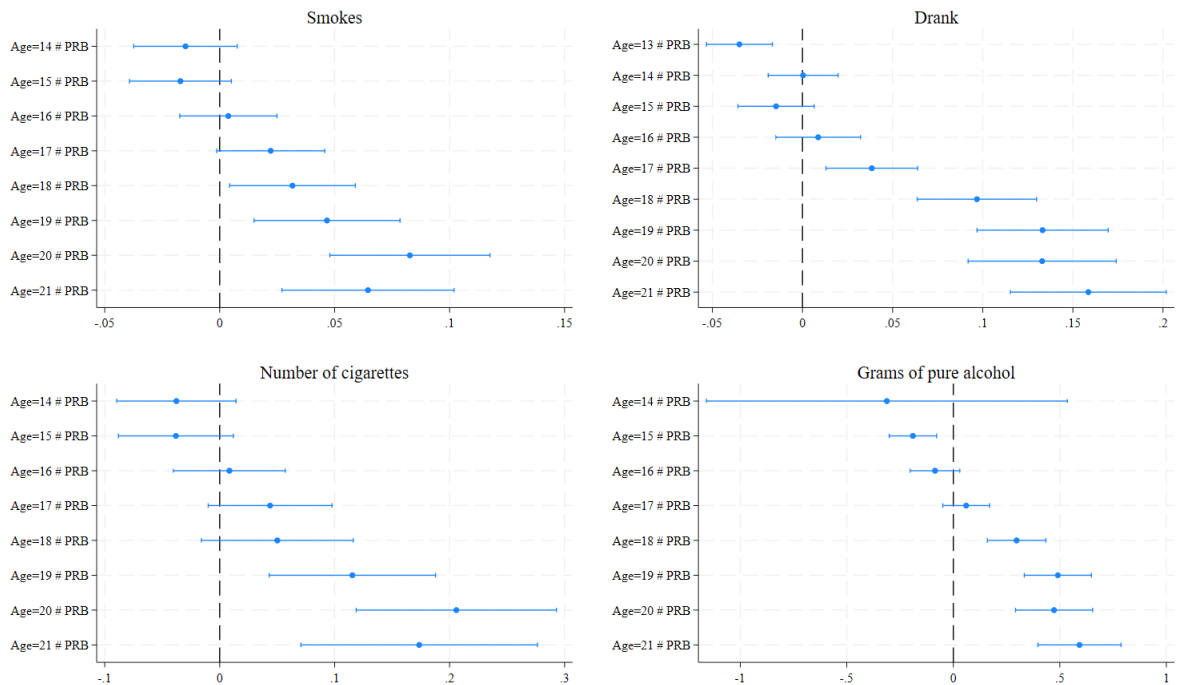


Figure 2: Heterogeneity by Child Age: Risky Behaviors



ages. Figures 1 and 2 show the results. For educational outcomes, obesity and risky behaviors, we find larger impacts on older children consistent with parental risky behaviors being negative role models. For health problems and allergies, we find stronger impacts at younger ages also supporting a more direct pathway between PRB and child outcomes.

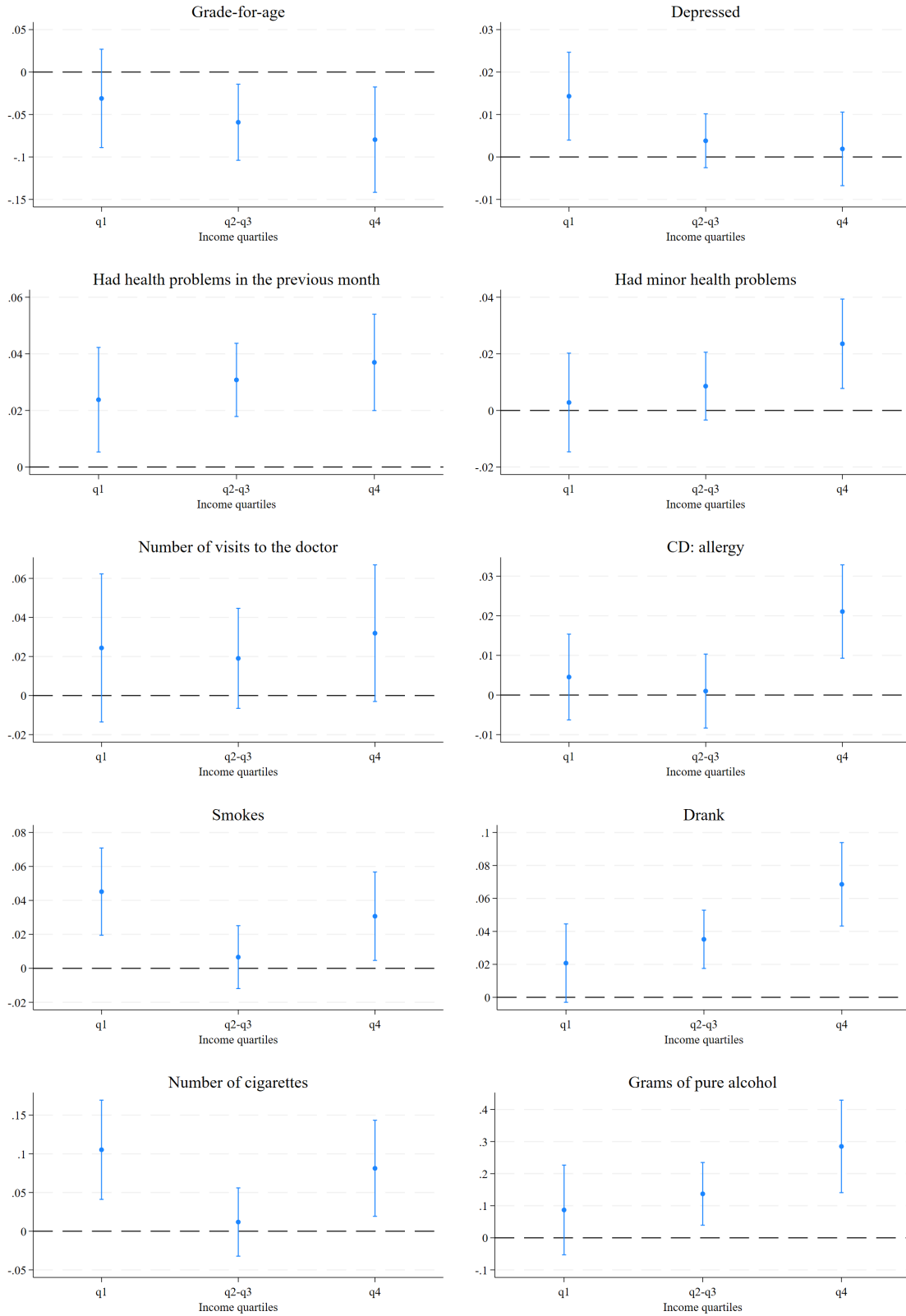
Finally, we examine how impacts vary by socioeconomic conditions of the family. If parental risky behaviors impacts children via reduced resources or parental time investment, we might expect larger effects for poorer households. Results in the other direction are more supportive of other channels being more important. Figure 3 plots the impact of PRB on child outcomes depending on the household ranking according to family income: first quartile of the distribution, second and third, or fourth quartile. We generally find that impacts are larger in *richer* households suggesting that role model effects are main pathway between parental risky behaviors and negative child outcomes (it could also be that richer households find it easier to spend less time with their children by substituting formal care arrangement.)

4 Conclusion

This study leverages a 30-year panel of Russian households to establish a causal link between parental risky behaviors and adverse child development outcomes. Our fixed-effects models, which account for all time-invariant unobserved heterogeneity, demonstrate that an index of parental risky behaviors has a significant negative impact on a child’s academic progression and fosters the intergenerational transmission of risky behaviors, such as adolescent smoking and drinking. Conversely, we find no statistically significant effects on the development of soft skills and only weak evidence of an impact on health outcomes.

The mechanism behind these effects appears to be primarily related to parental role modeling, rather than resource constraints. This interpretation is supported by our finding that the negative impacts are more pronounced among older, more impressionable children and are stronger in more affluent households. In families where basic material needs are met, the behavioral example set by parents becomes a more salient influence. These findings carry important policy implications, suggesting that interventions must look beyond economic support and target the powerful influence of parental modeling across all socioeconomic strata to effectively disrupt the cycle of risky behavior.

Figure 3: Heterogeneity by Family Income



References

- Albanese, G., G. De Blasio, and P. Sestito (2016). My parents taught me. evidence on the family transmission of values. *Journal of Population Economics* 29(2), 571–592. [2](#)
- Balsa, A. I. (2008). Parental problem-drinking and adult children’s labor market outcomes. *Journal of Human Resources* 43(2), 454–486. [2](#)
- Baltagi, B. H. and I. Geishecker (2006). Rational alcohol addiction: evidence from the Russian longitudinal monitoring survey. *Health Economics* 15(9), 893–914. [4](#)
- Björklund, A. and K. G. Salvanes (2011). Education and family background: Mechanisms and policies. In *Handbook of the Economics of Education*, Volume 3, pp. 201–247. Elsevier. [2](#)
- Black, S. E., P. J. Devereux, et al. (2011). Recent developments in intergenerational mobility. *Handbook of Labor Economics* 4, 1487–1541. [2](#)
- Chowdhury, S., M. Sutter, and K. F. Zimmermann (2022). Economic preferences across generations and family clusters: A large-scale experiment in a developing country. *Journal of Political Economy* 130(9), 2361–2410. [2](#)
- Cobb-Clark, D., N. Salamanca, and A. Zhu (2019). Parenting style as an investment in human development. *Journal of Population Economics* 32(4), 1315–1352. [3](#)
- Costi, C., G. Migali, and E. Zucchelli (2024). Intergenerational persistence of education, smoking and birth weight: evidence from three generations. Technical report, IZA Discussion Papers. [2](#)
- Del Boca, D., C. Monfardini, and C. Nicoletti (2017). Parental and child time investments and the cognitive development of adolescents. *Journal of Labor Economics* 35(2), 565–608. [6](#)
- Del Bono, E., M. Francesconi, Y. Kelly, and A. Sacker (2016). Early maternal time investment and early child outcomes. *The Economic Journal* 126(596), F96–F135. [3](#)
- Dohmen, T., A. Falk, D. Huffman, and U. Sunde (2011). The intergenerational transmission of risk and trust attitudes. *The Review of Economic Studies* 79(2), 645–677. [2](#)
- Dooley, M. and J. Stewart (2007). Family income, parenting styles and child behavioural–emotional outcomes. *Health economics* 16(2), 145–162. [3](#)
- Fiorini, M. and M. P. Keane (2014). How the allocation of children’s time affects cognitive and noncognitive development. *Journal of Labor Economics* 32(4), 787–836. [3](#)
- Giménez-Nadal, J. I., L. Mangiavacchi, and L. Piccoli (2019). Keeping inequality at home: The genesis of gender roles in housework. *Labour Economics* 58, 52–68. [2](#)
- Göhlmann, S., C. M. Schmidt, and H. Tauchmann (2010). Smoking initiation in germany: the role of intergenerational transmission. *Health economics* 19(2), 227–242. [3](#)

- Harris, K. M., F. F. Furstenberg, and J. K. Marmer (1998). Paternal involvement with adolescents in intact families: The influence of fathers over the life course. *Demography* 35(2), 201–216. [3](#)
- Hsin, A. and C. Felfe (2014). When does time matter? maternal employment, children’s time with parents, and child development. *Demography* 51(5), 1867–1894. [3](#)
- Lanari, D., L. Mangiavacchi, L. Piccoli, and L. Pieroni (2024). Parenting styles, social norms and the development of risky behaviors. Technical report, SSRN Working Paper 5018804. [3](#)
- Loureiro, M. L., A. Sanz-de Galdeano, and D. Vuri (2010). Smoking habits: like father, like son, like mother, like daughter? *Oxford Bulletin of Economics and Statistics* 72(6), 717–743. [3](#)
- Mancini, A. L., C. Monfardini, and S. Pasqua (2017). Is a good example the best sermon? children’s imitation of parental reading. *Review of Economics of the Household* 15(3), 965–993. [2](#)
- Mangiavacchi, L. and L. Piccoli (2018). Parental Alcohol Consumption and Adult Children’s Educational Attainment. *Economics & Human Biology* 28, 132–145. [2](#), [8](#)
- Mangiavacchi, L., L. Piccoli, and L. Pieroni (2021). Fathers matter: Intrahousehold responsibilities and children’s wellbeing during the covid-19 lockdown in Italy. *Economics & Human Biology* 42, 101016. [3](#)
- Nilsson, J. P. (2017). Alcohol availability, prenatal conditions, and long-term economic outcomes. *Journal of Political Economy* 125(4), 1149–1207. [2](#)
- Oster, E. (2019). Unobservable selection and coefficient stability: Theory and evidence. *Journal of Business & Economic Statistics* 37(2), 187–204. [2](#), [9](#)
- Rodríguez-Planas, N. and A. Sanz-de Galdeano (2019). Intergenerational transmission of gender social norms and teenage smoking. *Social Science & Medicine* 222, 122–132. [3](#)
- Romano, J. P. and M. Wolf (2016). Efficient computation of adjusted p-values for resampling-based stepdown multiple testing. *Statistics & Probability Letters* 113, 38–40. [9](#)
- Schmidt, C. M. and H. Tauchmann (2011). Heterogeneity in the intergenerational transmission of alcohol consumption: A quantile regression approach. *Journal of Health Economics* 30(1), 33–42. [3](#)
- Simon, D. (2016). Does early life exposure to cigarette smoke permanently harm childhood welfare? evidence from cigarette tax hikes. *American Economic Journal: Applied Economics* 8(4), 128–159. [2](#)
- Snow Jones, A., D. J. Miller, and D. S. Salkever (1999). Parental use of alcohol and children’s behavioural health: a household production analysis. *Health Economics* 8(8), 661–683. [2](#)

- Srivastava, P. and T.-A. Trinh (2021). The effect of parental smoking on children’s cognitive and non-cognitive skills. *Economics & Human Biology* 41, 100978. [2](#)
- Stoklosa, M., K. Shuval, J. Drope, R. Tchernis, M. Pachucki, A. Yaroch, and M. Harding (2018). The intergenerational transmission of obesity: The role of time preferences and self-control. *Economics & Human Biology* 28, 92–106. [3](#)
- von Hinke Kessler Scholder, S., G. L. Wehby, S. Lewis, and L. Zuccolo (2014). Alcohol exposure in utero and child academic achievement. *The Economic Journal* 124(576), 634–667. [2](#)
- Zumbuehl, M., T. Dohmen, and G. Pfann (2021). Parental involvement and the intergenerational transmission of economic preferences, attitudes and personality traits. *The Economic Journal* 131(638), 2642–2670. [2](#), [3](#)