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Descriptive Finding

Early unintended childbearing and unsecured debt in the United States

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Abstract

BACKGROUND

Unsecured debt is increasingly recognized as a unique financial stressor with serious implications for health and well-being. While research has documented its consequences, few studies have examined the life course factors that contribute to unsecured debt accumulation. One such factor is unintended childbearing, a major yet underexplored life event that can disrupt educational and economic trajectories.

OBJECTIVE

The objective of this study is to examine whether early unintended childbearing is associated with higher levels of unsecured debt in midlife (about ages 40–60) in the United States while accounting for socially patterned differences previously found to be associated with unintended childbearing and the risk of unsecured debt.

METHODS

This study uses data from the National Longitudinal Survey of Youth 1979, a nationally representative sample of people in the United States born between 1956 and 1964. We focus on women who experienced at least one childbirth (N = 2,435). We define early unintended childbirths as births occurring before age 25 that were reported as mistimed or unwanted, and we define unsecured debt as credit card debt or debt owed to other businesses between 2004 and 2020. To account for selection bias, we estimate both ordinary least squares (OLS) regression and propensity score matching (PSM) models.

RESULTS

Unintended childbearing is associated with increased levels of unsecured debt. After adjusting for key sociodemographic factors, women with an early unintended birth hold,

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on average, \$2,746 more in unsecured debt than mothers with no unintended childbirth. PSM estimates confirm the robustness of this association, with treated individuals showing an average increase of \$2,121.

CONCLUSIONS

For women in the United States, early unintended childbearing is associated with increased unsecured debt beyond background risk factors.

CONTRIBUTION

This study identifies unintended childbearing as a critical life event shaping financial insecurity, underscoring the need for policies that support reproductive agency and address long-term economic consequences for mothers.

1. Introduction

A significant amount of research has identified the impact of unsecured debt on health, recognizing debt as a unique stressor with substantial consequences for long-term well-being, particularly in the United States (Clayton, Liñares-Zegarra, and Wilson 2015; Fitch *et al.* 2011). Type of debt, time spent indebted, and internalized feelings about the cause of debt are all sources of stress, contributing to adverse health outcomes throughout the life course (Drentea and Reynolds 2015; Wolfe *et al.* 2022). Some research addresses how different types of debt, including unsecured debt, affect the likelihood of experiencing various life course events, such as divorce (Dew 2011). Unsecured debt (loans not backed by collateral, meaning the debtor has not pledged any property or assets to the creditor) is particularly stressful and deleterious for overall well-being and has a negative effect on individuals and families (Berger and Houle 2016; Zurlo, Yoon, and Kim 2014). Secured loans (mortgages and auto loans) are not typically considered negative financial outcomes as they often represent investments; thus they generally do not have the same deleterious consequences (Berger and Houle 2019; Frech, Houle, and Tumin 2021; Sun and Houle 2020). Unsecured debt is generally more expensive than secured debt, and interest rates are typically higher than those for debts backed by principal (Berger, Collins, and Cuesta 2016). More than 50% of Americans report owing any amount of unsecured debt (Shah 2025), and in the first quarter of 2025, the average unsecured personal debt was \$11,631, totaling \$253 billion across the US population (Caporal 2025).

Despite the growing attention paid to unsecured debt, less attention has been paid to the predictors of unsecured debt – in particular, what life events may put a person at greater risk of experiencing high levels of unsecured debt. Within existing research, specific life course events, such as having a child with a disability and having contact

with the criminal justice system, have been shown to increase a person's unsecured debt levels (Houle and Berger 2017; Warner, Houle, and Kaiser 2021). Identifying the life course precursors to unsecured debt is a necessary step for designing policy interventions to ultimately reduce these levels of debt.

In this study, we focus on unintended childbearing as a life event that may increase a person's risk of unsecured debt across the life course, specifically within the United States. Previous scholarship has not explicitly tested associations between unintended childbearing and unsecured debt, but there are multiple reasons to expect a strong connection. Specifically, studies find that having personal control over when to enter parenthood leads to better health and economic opportunities for women (Herd et al. 2016; Miller, Wherry, and Foster 2023). Additionally, how and when women transition to motherhood plays a key role in shaping later-life health outcomes (Thomeer, Reczek, and Ross 2022). Studies have also identified that unintended childbearing negatively impacts multiple outcomes that matter for women's financial well-being. Negative impacts include lower levels of educational attainment, worse later-life health, and less social support (Kavanaugh et al. 2017; Newmyer 2024; Thomeer et al. 2023).

Untangling the association between unintended childbearing and unsecured debt requires careful consideration of the multiple selection factors that put a person at risk of experiencing an unintended childbirth *and* having higher levels of unsecured debt. Key predictors of having an unintended childbirth include lower levels of socioeconomic status, typically indicated by education, wealth, and family background (Iseyemi et al. 2017; Su and Addo 2018; Wise, Geronimus, and Smock 2017). Thus, to identify whether and to what extent unintended childbirth is associated with later-life debt, we must take into account multiple confounding factors. Specifically we draw attention to family background factors, such as parents' socioeconomic status, childhood family structure, childhood adversity experiences, and childhood cognitive abilities, as each serves to shape the risk of experiencing both an unintended birth *and* high levels of unsecured debt.

We aim to better understand the long-term consequences of unintended childbearing by examining the association between unintended childbirth and unsecured debt at midlife (about ages 40–60). Due to concerns regarding selection, we estimate these associations using causal inference techniques, specifically propensity score matching (PSM). We analyze longitudinal data to test the relationship between early-life unintended childbirth and midlife debt. This study highlights the importance of recognizing how family experiences – specifically contexts around childbearing – have long-term implications for women's economic well-being and security.

2. Methods

2.1 Data

In this study we analyze data from the National Longitudinal Survey of Youth 1979 (NLSY79). The NLSY79 is a longitudinal, nationally representative sample of people in the United States born between 1956 and 1964, meaning that respondents were between 15 and 23 years old at the first wave, in 1979. This dataset includes comprehensive fertility and socioeconomic measures from a decades-long collection process that ranges from respondents' adolescence well into midlife. Economic data in the NLSY79 have been found to closely align with the same measures in data from the Social Security Administration (Bick, Blandin, and Rogerson 2024), highlighting the NLSY79 as an important resource for capturing measures of financial well-being. For this study we narrow the focus to only women who had at least one childbirth and reported debt information in at least four waves in the 2004–2020 waves ($N = 2,435$).

2.2 Variables

Unsecured debt: Unsecured debt is a constructed measure that includes respondents' credit card debt and/or additional debts they reported owing to other businesses. For credit card debt, respondents were asked, "After the most recent [credit card] payment, roughly what was the balance still owed on all of these accounts together? If you paid off all of these accounts, please report \$0." For debts to other businesses, respondents were asked, "Do you [or spouse/partner's name] currently owe money to any other businesses, such as stores, doctor's offices, hospitals, or banks? Please include any installment plans, rent-to-own accounts, or any other business that you owe money to."

Because unsecured debts may fluctuate across time, our measure consists of the mean of all survey waves from 2004–2020. It is important to note that questions focusing on debts were not asked in the 2018 survey wave and are therefore not included in our analysis. Additionally, some respondents ($N = 574$) did not report debt information in at least one wave. For these respondents, missing values are ignored in the mean calculation. Respondents who were missing debt information for more than four waves were dropped from the analysis ($N = 114$). The average amount of credit card debt was \$3,423, and the average debt owed to other businesses was \$5,340.

Early unintended childbirth: For each childbirth a respondent reported, they were asked about their pregnancy intentions. If a respondent reported that a pregnancy was wanted but not at that time, or that pregnancy was unwanted and they were under the age

of 25 at the time, they are coded as having an unintended childbirth (Guzzo and Hayford 2011).

Covariates: Models adjust for race/ethnicity (White, Black, and Hispanic); marital history at age 50 (never married, married without disruptions, married with past disruptions, divorced/separated, and widowed); birth year; education; and income, calculated as mean family income across all survey waves (Wolfe, Thomeer, and Reczek 2023)

2.3 Analytic strategy

We use two complementary statistical methods to examine the relationship between unintended childbirth and midlife unsecured debt. First, we use ordinary least squares (OLS) regression to estimate the effect an unintended childbirth has on midlife unsecured debt. The models include a range of control variables that are established predictors of fertility outcomes, but OLS regression assumes that the treatment – in this case unintended childbirth – is randomly assigned (Williams et al. 2015). This assumption is problematic because unintended childbearing is influenced by numerous factors that are both socially patterned and strongly predictive of its likelihood (Koren and Mawn 2010; Su and Addo 2018). As a result, unintended childbirth must be treated as a non-random event. Directly comparing individuals with and without unintended childbirth can introduce selection bias due to these systematic differences (Rosenbaum and Rubin 1983).

To address potential selection bias, we also employ propensity score matching. PSM allows us to compare individuals who share similar probabilities of experiencing unintended childbirth based on observable characteristics, thereby reducing bias in our estimates (Reynolds and Brady 2012; Rosenbaum and Rubin 1983). The PSM approach involves estimating propensity scores using logistic regression, where each individual's likelihood of experiencing unintended childbirth is calculated based on a range of covariates. Treated individuals – those who experienced unintended childbirth – are matched with untreated individuals who have similar propensity scores. This matching ensures that comparisons are made between comparable groups.

Nearest-neighbor matching is applied in cases with insufficient overlap between the treatment and control groups. This method pairs each treated case with the closest control case based on propensity scores, reducing bias (Dehejia and Wahba 2002). We apply a caliper of 0.25 standard deviations of the calculated propensity scores, following established guidelines (Stuart and Rubin 2008; Stuart 2010). In our analysis, this translates to a maximum allowable propensity score difference of approximately 0.06, or

6% (Bauldry 2015). We calculate propensity scores, determine caliper sizes, and perform matching using the *teffects* commands in Stata 18 (StataCorp 2023).

2.4 Propensity score variables and construction

To construct propensity scores focusing on a respondent's likelihood of having an unintended pregnancy, we rely on past scholarship and include multiple variables associated with unintended childbirth. These include parents' occupational prestige, family construction (nuclear or non-nuclear), Armed Forces Qualification Test (AFQT) score (standardized), mother's education (in years), reading materials received in the childhood home (newspapers, magazines), library card for the childhood home, at least one alcoholic parent, non-English-speaking childhood home, southern residency during childhood, involvement in extracurricular activities, and amount of SNAP benefits received during childhood (England, McClintock, and Shafer 2011; Guzman et al. 2010; James-Hawkins et al. 2014; Rajan et al. 2017; Su and Addo 2023).

Current scholarship is divided when it comes to selecting key variables to include in the propensity score equation. We rely on suggestions provided by Brookhart et al. (2006) and do not include variables that increase the likelihood of the treatment (unintended fertility) but are likely not related to the outcome (unsecured debt). Such variables include religiosity, fertility intentions, and traditional gender values (Ajzen and Klobas 2013; Hayford and Morgan 2008; Shang and Yin 2020).

3. Results

Table 1 shows the descriptive statistics for the entire sample. Around 41% of the sample report having an unintended childbirth before the age of 25. The average amount of unsecured debt was \$8,696, with the unintended childbirth group reporting around \$400 more in debt. A majority of our sample was White and married, with those in the unintended group being more likely to report never being married (16% compared to 6%) and more likely to report at least a marital disruption or being divorced at age 50. Based on background characteristics, the average likelihood of having an unintended childbirth was 0.63 (scores closer to 1 indicate increased likelihood), with those who reported an unintended childbirth having a higher propensity.

Table 1: Mean or proportion of variables stratified by early (before age 25) unintended childbirth (NLSY79; N = 2,435)

	Full sample % (SD)	No unintended childbirth % (SD)	1+ unintended childbirth % (SD)	p-value
N (%)	2,437	1,446 (59.3%)	991 (40.7%)	
Total unsecured debt	8,696.05 (19,064.83)	8,618.94 (18,572.02)	8,989.05 (19,769.32)	0.638
Unintended childbirth propensity	.63(.23)	.54(.22)	.77(.23)	<0.001
Race				<0.001
White	49%	56%	38%	
Black	31%	22%	45%	
Hispanic	20%	23%	17%	
Marital history at 50				<0.001
Never married	9%	6%	14%	
Married without disruptions	37%	45%	26%	
Married with disruptions	22%	21%	24%	
Divorced/separated	29%	26%	34%	
Widowed	3%	2%	3%	
Birth year	1960.56 (2.20)	1960.52 (2.19)	1960.61 (2.20)	0.366
Education				<0.001
Less than high school	7%	5%	9%	
High school	41%	37%	46%	
Some college	28%	28%	30%	
College+	24%	30%	15%	
Income (natural log)	10.44 (0.73)	10.60 (0.71)	10.21 (0.69)	<0.001
Propensity score matching variables				
Parents' SEI	509.0 (324.6)	492.0 (314.8)	534.1 (337.2)	0.002
Nuclear family	68%	74%	58%	<0.001
AFQT score	-0.01 (0.98)	0.15 (1.02)	-0.25 (0.87)	<0.001
Self-control	40%	37%	44%	<0.001
Self-esteem	-0.03 (0.97)	0.03 (0.97)	-0.12 (0.96)	<0.001
Mother's education	10.60 (3.17)	10.77 (3.35)	10.35 (2.86)	0.001
No reading materials	19%	17%	22%	<0.001
Library card (ref = no)	72%	75%	69%	0.003
Alcoholic parent	25%	23%	29%	0.002
Non-English-speaking home	23%	25%	19%	<0.001
Southern	41%	39%	45%	<0.001
After-school activities	66%	69%	62%	<0.001

Notes: Data are from the NLSY79. Standard deviations are in parentheses. Matching variables are all based on respondents' childhoods. P-value represents difference between groups. Unintended childbirth propensity was calculated using logistic regression and the matching variables. SEI = Socioeconomic Index.

Table 2 shows the effects of unintended birth on average unsecured debt between the 2004 and 2020 survey waves. In the unadjusted model, Model 1, having an unintended childbirth at any time leads to an increase of \$377 in unsecured debt in adulthood. However, after adjusting for sociodemographic and socioeconomic variables, having an early unintended childbirth is associated with a \$2,746 increase in unsecured debt.

Table 2: Estimated unsecured debt between 2004 and 2020 from linear regression (NLSY79; N = 2,435)

	Model 1		Model 2		Model 3	
	Coefficient SE	p-value	Coefficient SE	p-value	Coefficient SE	p-value
1+ early unintended childbirth	376.770 (780.685)	0.629	1842.769 (808.617)	0.023	2745.971 (814.426)	0.001
Race (ref = White)						
Black			-5224.290 (948.788)	0.000	-3785.181 (981.147)	0.000
Hispanic			-3173.464 (1013.311)	0.002	-2116.680 (1019.569)	0.038
Marital status (ref = never married)						
Married without disruptions			4014.478 (1487.078)	0.007	245.461 (1577.653)	0.876
Married with disruptions			4110.786 (1567.398)	0.009	1122.104 (1620.308)	0.489
Divorced/separated			2678.495 (1470.764)	0.069	1303.387 (1471.977)	0.376
Widowed			1140.558 (2703.494)	0.673	125.938 (2683.515)	0.963
Birth year			353.307 (173.383)	0.042	354.326 (171.915)	0.039
Education (ref = < high school)						
High school					431.743 (1597.894)	0.787
Some college					1093.452 (1688.036)	0.517
College+					1313.630 (1838.195)	0.475
Income (natural log)					4057.574 (716.525)	0.000
Constant	8.54E+03 (-4.96E+02)	0.00	-6.86E+05 (-3.40E+05)	0.044	-7.29E+05 (-3.37E+05)	0.031

Note: Standard errors in parenthesis.

Table 3 presents similar results but includes controls for matching variables. Even in these fully controlled models, there is still a large association between early unintended childbearing and debt.

Table 3: Estimated unsecured debt between 2004 and 2020 from linear regression and full childhood controls (NLSY79; N = 2,435)

	Model 1		Model 2		Model 3		Model 4	
	Coefficient SE	p-value	Coefficient SE	p-value	Coefficient SE	p-value	Coefficient SE	p-value
1+ early unintended childbirth	376.77 (780.68)	0.629	1842.77 (808.62)	0.023	2745.97 (814.43)	0.001	2818.84 (818.96)	0.001
Race (ref = White)								
Black			-5224.29 (948.79)	0.000	-3785.18 (981.15)	0.000	-3437.23 (1145.05)	0.003
Hispanic			-3173.46 (1013.31)	0.002	-2116.68 (1019.57)	0.038	-4762.98 (1768.69)	0.007
Marital status (ref = never married)								
Married without disruptions			4014.48 (1487.08)	0.007	245.46 (1577.65)	0.876	242.89 (1589.23)	0.879
Married with disruptions			4110.79 (1567.40)	0.009	1122.10 (1620.31)	0.489	1144.31 (1635.46)	0.484
Divorced/separated			2678.49 (1470.76)	0.069	1303.39 (1471.98)	0.376	1331.09 (1478.46)	0.368
Widowed			1140.56 (2703.49)	0.673	125.94 (2683.52)	0.963	-311.92 (2700.52)	0.908
Birth year			353.31 (173.38)	0.042	354.33 (171.91)	0.039	375.51 (175.69)	0.033
Education (ref = < high school)								
High school					431.74 (1597.89)	0.787	291.13 (1630.79)	0.858
Some college					1093.45 (1688.04)	0.517	559.36 (1777.09)	0.753
College+					1313.63 (1838.20)	0.475	114.14 (1980.87)	0.954
Income (natural log)					4057.57 (716.52)	0.000	3872.90 (767.62)	0.000
Childhood controls								
Parents' SEI							-1.05 (1.21)	0.384
Nuclear family							1047.26 (879.67)	0.234
AFQT score							850.89 (587.88)	0.148
Self-control							-478.11 (806.26)	0.553
Self-esteem							225.64 (429.70)	0.600
Mother's education							70.42 (155.19)	0.650
No reading materials							2418.14 (1091.96)	0.027
Library card (ref = no)							-101.38 (922.63)	0.913
Alcoholic parent							1009.45 (881.26)	0.252
Non-English-speaking home							3569.73 (1602.68)	0.026
Lives in South							1882.64 (817.36)	0.021
Enrolled in after-school activities							-1.65 (870.71)	0.998
Constant	8.54E+03 (-4.96E+02)	0.00	-6.86E+05 (-3.40E+05)	0.044	-7.29E+05 (-3.37E+05)	0.031	-7.71E+05 (-3.45E+05)	0.025

Note: Standard errors in parenthesis.

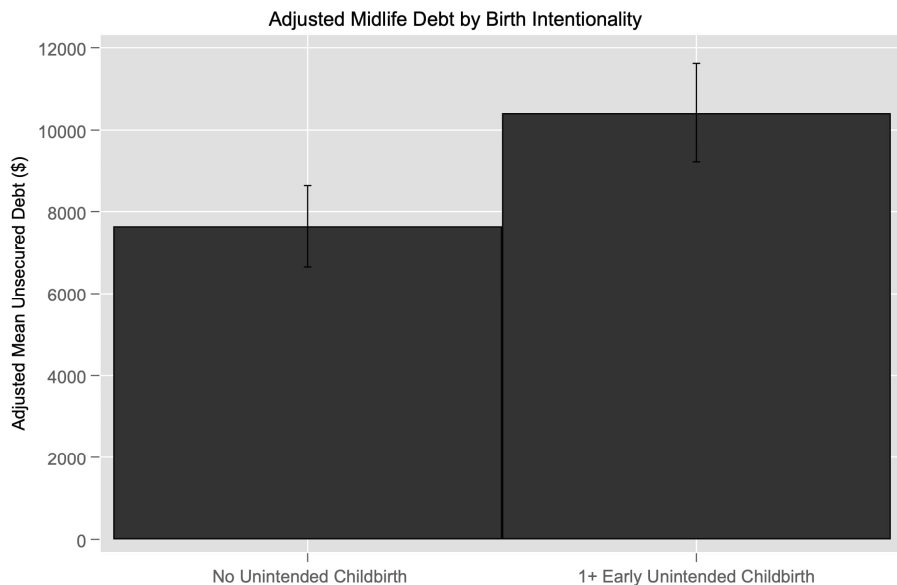
Table 4 shows results for the average treatment effect on the treated (ATT), estimated using propensity score matching. These results also show that having an unintended childbirth is related to increases in midlife debt, even among those with a similar likelihood of having an unintended childbirth. The coefficient in the matched sample shows a smaller, but still large, increase in unsecured debt due to unintended childbearing after matching (\$2,745 versus \$2,120), meaning that an unintended pregnancy impacts individuals in slightly different ways, based on the selected observable characteristics, but is still an important predictor for unsecured debt.

Table 4: ATT of unintended birth on unsecured debt (NLSY79; N = 2,435)

	ATT		
	Coefficient	Robust SE	p-value
Unintended birth	2120.89	(913.91.98)	< 0.020

Note: Variables used for matching: race, marital status, birth year, education, income, parents' Socioeconomic Index score, childhood family status, AFQT score, non-adult birth, feelings of low life control, self-esteem score, parents' education, reading in childhood home, library access in childhood home, alcoholic parent, English as primary language in childhood home, region, active in high school vocational clubs.

Figure 1: Adjusted midlife unsecured debt by early unintended childbirth (NLSY79; N = 2,435)



Note: Model controlled for race, marital history, birth year, education, and income.

4. Discussion

Our results reveal the importance of childbearing histories for understanding debt at midlife. Specifically, we demonstrate that having any unintended birth is associated with increased levels of unsecured debt at midlife. Previous studies have shown how unintended births contribute to worse emotional, psychological, and physical well-being for women at midlife (Herd et al. 2016; Miller, Wherry, and Foster 2023). We extend this by drawing specific attention to how unintended births are associated with unsecured debt – a type of debt with a robust association to poor health across multiple studies (Berger and Houle 2019; Sun and Houle 2020). Because we recognize multiple unobserved factors that increase the risk of both unintended births and unsecured debt, we use PSM techniques – a causal inference strategy (Stuart 2010) – and find that the association between unintended pregnancy and unsecured debt is generally robust and is not driven by socially patterned differences between individuals who are more likely to have an unintended childbirth and are also more likely to have greater levels of unsecured debt. Our results suggest that the experience of unintended childbearing itself – not just the structural disadvantages associated with a higher likelihood of having such a birth – contributes to increased debt.

Importantly, our study focuses on the United States, although we expect that some of our findings may extend to other country contexts. While certain types of debt – student loan and medical debt – may be particularly pronounced in the US context, debts specifically classified as unsecured, such as credit card debts and payday loans, are common across OECD countries (Badarinza, Campbell, and Ramadorai 2016; Zinman 2015). In general, levels of unsecured debt within the United States are relatively similar to levels in other OECD countries (International Monetary Fund 2025), although rates of unintended childbearing tend to be considerably higher in the United States (Bearak et al. 2022). This suggests that the findings presented here may have broader relevance beyond a strictly US setting, but future research should still incorporate national comparisons into models when possible.

Our study should be interpreted in light of its limitations. First, our focus is on depicting associations between unintended childbearing and unsecured debt, not on identifying the specific pathways underlying this association. Future analysis should consider possible mechanisms to develop a richer, more life course-oriented understanding of unintended childbearing and unsecured debt. We are also not fully accounting for selection, as our matching technique is limited; it is unlikely that we accounted for all relevant confounders. Second, we are unable to account for trajectories of unsecured debt into midlife and later in life, missing possible shifts in unsecured debt across the life course. Future studies should identify dynamics in both unsecured debt and its correlates, such as employment and income trajectories (Ross 2024). Third, we

focus on unsecured debt exclusively but suggest that studies incorporate other types of debt into their analysis and compare the consequences of different types of debt. Finally, unintended childbirth occurs for multiple reasons, which likely differ systematically across populations, and the different reasons for unintended childbirth may moderate the association between unintended childbirth and unsecured debt. The ordering of the unintended birth (first birth, second birth, and so on), age of the mother, and other contextual factors likely matter for how the birth shapes later debt. We suggest future studies using a different dataset to explore the heterogeneous effects of unintended childbirth on unsecured debt, by reasons for unintended childbirth, contexts of the birth, and different sociodemographic groups.

Our results demonstrate the importance of supporting childbearing people throughout the life course through policies that promote reproductive justice and agency, as this would likely reduce unintended births and in turn reduce unsecured debt and increase financial stability in mid- and later life. Additionally, we argue for policies that reduce unsecured debt among populations with histories of unintended childbearing, as reducing unsecured debt would likely have intergenerational benefits for those women and their children.

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