The Impact of Monthly Unconditional Cash on Food Security, Spending, and Consumption: Three Year Follow-up Findings from the Baby's First Years Study

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Abstract
The U.S. food-based safety net has proven successful in reducing food insecurity and decreasing hunger. Nevertheless, many families remain financially stretched to meet nutrition and food needs. This paper summarizes previously published findings coupled with new analyses of data through the third year of follow-up on the effects of a monthly unconditional cash gift on outcomes related to food security, spending, and consumption from the Baby's First Years study.

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Increasing food security and decreasing child hunger has been a motivating force for the U.S. social safety net since the 1960s.[1] This legacy continues today with the U.S. Department of Agriculture (USDA) food subsidy programs, including the Supplemental Nutrition Assistance Program (SNAP)[2] and the Special Supplemental Nutrition Program for Women, Infants and Children (WIC),[3] in addition to other federal safety-net programs. While the U.S. food-based safety net has proven successful in reducing food insecurity and decreasing hunger, many families remain financially stretched to meet nutrition and food needs.[4] Meeting nutritional needs is one of several broader social and substantive contexts of food acquisition and consumption that intersect with family interactions and children's development.[5,6] This study is a curation of findings on the impacts of monthly unconditional cash on food security, consumption, and food-related needs and experiences, among families with low income and young children in the Baby's First Years randomized control study.

The Baby's First Years (BFY) study is a randomized controlled trial designed to identify the causal impact of a poverty reduction intervention on early childhood development. One thousand mothers with incomes at or near the official federal poverty line and their newborns were recruited from 12 hospitals in four ethnically and geographically diverse U.S. communities in 2018 and 2019. Families were randomized to receive a high ($333/month) or low ($20/month) cash gift for the first several years of their child's life, automatically deposited each month to a debit Mastercard with a "4MyBaby" logo.[7] Details of the study design, preregistration of measures, and analyses can be found at www.babysfirstyears.com.

We summarize previously published and new findings on the impact of the BFY cash gift, using follow-up data from the first three years of receipt (2019–2022), on reports of household food security,[8] receipt of federal food subsidies (SNAP/WIC), receipt of free meals from community organizations like schools and food pantries, children's nutritional consumption,[9] and spending on food and eating out.[10] We include new analyses related to the financial burden of food expenditures, as well as descriptive patterns of food-venue and related transactions using the BFY money (with the transaction data from the BFY 4MyBaby debit card) between June 2018 and August 2022.

We find that the majority of BFY families reported receiving benefits from government subsidized food programs—WIC and SNAP—at the time of their child's birth and through the three years after their child's birth. High-cash gift families reported similar receipt of WIC and SNAP as low-cash gift families. Over the first three years of the child's life, rates of very low food security, as defined by USDA (see Appendix B), were low among BFY families, dropping from 10% in year 1 (2019–2020) to 7% in year 3 (2021–2022). There was no evidence of differences in household food security between families receiving the high- and low-cash gift. Using survey data, we found that spending on food at home is similar for high- and low-cash gift families. However, high-cash gift families reported spending more money (about $25 more on average per month) on food eaten out. On net, however, high-cash gift families reported a lower share of income spent on food than low-cash gift families. A lower share of income spent on food means more to spend on other priorities which is consistent with BFY findings of increased spending on child focused goods.[11] Impacts across these food spending and food security outcomes are substantively similar across each of the four BFY sites.

We also examine transaction data collected from the BFY 4MyBaby debit card and found that among the high-cash gift families, 10%–15% of spending can be traced specifically to food venues, primarily grocery stores and supermarkets, typically occurring within days of receipt of the monthly cash gift. These findings should be considered in the context of the COVID-19 pandemic, as many BFY families were eligible for additional government support through temporary expansions of existing programs.

Background

Economic models focus on the ways in which cash may increase household net income and investments that support children's development. One way in which cash can be converted into positive gains in development is by increasing the amount and/or quality of food consumption and/or time spent preparing or shared food experiences with children.[12] Specifically, unconditional cash may enable (1) increased consumption or access to more nutrient-rich food, (2) purchasing of prepared foods that conserve time and energy for other purposes, including meeting children's other physical and developmental needs, and/or (3) reduced dependence on and time spent securing assistance from food pantries or other types of food subsidies.[13] Family stress models posit that reductions in economic hardship, including food hardship, will reduce financial and psychological stress that may then free up energy and time to support nurturing and positive parenting.[14]

USDA Federal Food Assistance Programs

The USDA defines household food security as "access by all people at all times to enough food for an active, healthy life."[15] Low food security, or food insecurity, is when a household's ability to acquire adequate food is limited by a lack of money and other resources, which may be temporary or long-lasting.[16]

For more than 50 years, the U.S. social safety net has aimed at increasing food security and decreasing child hunger. Indeed, the official federal poverty measure is based on a low-cost food plan proposed by the USDA in the 1960s.[17] Since 1964, the United States has funded a national program to improve the levels of nutrition among lower-income households. Originally known as the food stamp program, SNAP now provides electronic benefits for the purchase of food to eligible lower-income individuals and families (family income at or below 130% of the federal poverty line and other requirements as determined by states). Benefit amount is tied to family size and income.

The federal WIC program, introduced in 1974, provides supplementary funding for nutritious food for pregnant women, new mothers, and children under age five whose family incomes meet eligibility requirements (below 100%–185% of the federal poverty level by state of residency, and determination of "nutritional risk" by a health professional). Benefits cover specific foods each month based on category of eligibility. States have the option to restrict participation in WIC to citizens and qualified immigrants. Only U.S. citizens and some lawfully present noncitizens may receive SNAP benefits.

In addition to in-kind transfers provided through WIC and SNAP, federal programs provide free or subsidized meals to children and adults attending school or daily care programs. This includes the National School Lunch Program, the Child and Adult Care Food Program, and the Summer Food Service Program. In total, the USDA operates 15 nutrition assistance programs to increase food security and decrease hunger,[18] including two that target babies, young children, and women.[19]

USDA food subsidy programs, including SNAP and WIC, have proven effective by contributing to reductions in child poverty[20,21] and hunger,[22] increases in nutritional food intake,[23] and long-term benefits for children's schooling and health.[24,25,26] Nevertheless, many families with low incomes struggle to cover food costs, sometimes relying on aid from private, faith-based, and philanthropic organizations.[27] Many families who use food pantries (64%) and emergency kitchens (74%) also report receiving SNAP or WIC benefits. Food represents up to 24% of core expenditures among families with young children residing at or below 200% of the poverty line.[28]

State and Local Variation Among BFY Study Sites

Many state and local factors interact with food access, quality, and security. This includes labor market conditions, the response of local and state governments to the COVID-19 pandemic, state SNAP eligibility criteria, prevalence of food deserts, local assistance programs such as food pantries and soup

kitchens, and free or reduced-price school meal programs (while BFY focal children are not yet school-aged, many have siblings who are).

At the time of study enrollment, BFY families resided in four locations (New York City; New Orleans, Louisiana; the greater Omaha, Nebraska, metropolitan area; and the Twin Cities of Minneapolis and St. Paul, Minnesota) that varied across these dimensions. For SNAP, in 2019 about 89% of eligible individuals in New York received SNAP, compared with 85% in Louisiana, 83% in Nebraska, and 80% in Minnesota.[29] With regard to WIC, in 2020 52% of those eligible in New York received WIC, compared with 61% in Minnesota, 53% in Nebraska, and just 38% in Louisiana.[30] While NYC has provided universal free school lunch since 2017,[31] Minnesota and Omaha only mandated it in 2023,[32,33] and there is no universal program in Lousiana.[34]

The four BFY study sites also vary in access to food, the presence of food deserts,[35] and the intersection of these factors with racial and ethnic inequities in food access that are historically rooted (e.g., racial redlining).[36] Black and Latino families face persistently lower levels of food security compared with White families,[37] and studies suggest that receipt of SNAP benefits reduces racial disparities in food security.[38] Families with resident non-U.S. citizens may face different types of barriers to food subsidy programs related to immigration status and citizenship requirements for program eligibility.[39]

COVID-19 Pandemic Context

The effect of the BFY unconditional cash gift on food security and consumption should also be considered in the context of the COVID-19 pandemic[40,41,42] as many BFY families were eligible for additional government support through temporary expansions of existing programs including unemployment insurance, SNAP and WIC, and the expanded 2021 Child Tax Credit (CTC).[43] Estimates suggest that the CTC expansion decreased food hardship[44] and increased spending at grocery stores and restaurants.[45] In 2021, the share of households with food-insecure children fell to about 6%, the lowest recorded level since a peak of 11% in 2008.[46] However, with the expiration of CTC payments and retraction of SNAP benefit expansions, rates of child poverty increased in 2022.[47,48]

Methods

Findings from three types of analyses are presented. First, Table 1 presents causal estimates (i.e. ITT estimates) of the impact of the BFY high-cash gift on outcomes measured in the annual follow-up survey over the 2019–2022 period (see full definitions and methodology notes in Appendix B). We apply estimation protocols as preregistered to generate intent-to-treat (ITT) estimates (American Economic Association identifier AEARCTR-0003262 and ClinicalTrials.gov identifier NCT03593356). Next, Tables 2 and 3 show descriptive patterns from the three waves of longitudinal BFY survey data on selected measures of hunger, receipt of food aid and food security at different thresholds among the low-cash gift group (the counterfactual absent the BFY high-cash gift intervention) for each of the four study sites. These estimates are adjusted for a host of family and related characteristics that were collected at BFY study entry.

Figures 1 to 4 show descriptive patterns of BFY cash money from transactions on the 4MyBaby debit card coded into merchant categories.[49] Among mothers who consented to using their transaction data (n=900), information on each point-of-sale transaction from the 4MyBaby debit card is collected. This information includes merchant name, the state in which the merchant is located, date of purchase, transaction status (e.g., approved/denied), and transaction amount. The names of merchants were cleaned and coded into 90 different merchant categories (e.g., grocery store/supermarket, restaurant) based on Visa Merchant Category Classification (MCC) codes.

Findings

BFY Impacts on food subsidy program receipt, food security and food spending

Nationally, WIC is estimated to reach approximately 57% of those eligible,[50] and SNAP is estimated to reach approximately 82% of those eligible. Among BFY families receiving the low-cash gift, from 2019-2022, WIC receipt is approximately 55% and SNAP receipt approximately 68%. Only 13% of mothers reported not receiving SNAP at all over the 2018–2022 period, and an even smaller share, 11%, reported not receiving WIC. Thus, only 3% of BFY families reported no assistance from federal food programs. BFY families may have also benefited from pandemic expansions in SNAP, which expired in 2023: SNAP receipt increased from 58% in year 1 to 69% in year 3 among low-cash gift families. As expected, the share reporting WIC receipt decreases as the child gets older. Receipt of SNAP or WIC did not differ between high-cash and low-cash gift families.

In addition to receiving support through federal nutrition programs, 12% of BFY families reported receiving free meals from sources like food pantries and soup kitchens. Reported receipt of free meals varied significantly by site (see Table 2), with just 6% of families in NYC receiving free food, compared with 9% in New Orleans, 16% in Omaha, and 25% in the Twin Cities. Nationally, in 2021, about 7% of households with children used food pantries, which represents a rise over recent years. Notably food pantry use is higher among low-income families and those with single parents.[51,52] There is no evidence of differences in receipt of free meals family cash gift receipt (−0.02 SD effect size; nonsignificant).

As shown in Table 2, in addition to differences in receipt of free food, reports of hunger and participation in SNAP and WIC benefits vary by site. Reports of hunger were the highest among BFY Twin Cities families at about 19%, more than twice what was reported in NYC (7%).

Table 3 shows that levels of low and very low household food security among BFY families decreased from year 1 (2019–2020) to year 3 (2021–2022) of the study (in other words food security increased), a pattern consistent with the increased food and cash aid available to families in response to the COVID-19 pandemic. In the 2021–2022 data, 24% of BFY households had low (17%) or very low food (7%) security. However, some individual items of the household food security scale had higher unfavorable reports than others: for example, 32% reported that the food they bought did not last and that they sometimes or often did not have money to get more. In years 2 and 3, 10% of BFY families reported that in the last 12 months they were hungry and could not afford to eat.

Nevertheless, BFY family reports of food insecurity are lower than national estimates. In 2021, one in three households with low income (defined as <130% of the federal poverty level) and with children under age 6 reported having low food security, and one in ten households reported very low food security. (More detail on measurement and interpretation of food security can be found in Appendix B.)

Findings (see Table 1) show no evidence of the BFY high-cash gift affecting household food security (0.06 SD effect size; nonsignificant).

High- and low-cash gift group families reported similar levels of spending on food, around $790 a month (−0.00 SD effect size; nonsignificant). High-cash gift families, however, were less likely to spend more than 30% of their income on food (-0.1 SD effect size; $p<.05$). As shown in a companion study, [53] high-cash gift families have higher net family income on average than low-cash gift families; thus, high-cash gift families have more income available to spend in other ways, as demonstrated by other BFY findings showing increased spending on child-specific goods such as books and toys. High-cash gift families were also more likely to report that the BFY focal child at age 2 consumes healthy foods like fruits and vegetables (.17 SD effect size; $p<.05$).[62]

BFY high-cash gift families reported spending $237 a month eating out, approximately $26 (about 10%) more than low-cash gift families (0.10 SD effect size; $p = 0.03$). In addition to providing nutrients, consuming food prepared by others can conserve time and effort to be spent on other activities. Eating at

restaurants may also have social meaning, such as celebrating family gatherings or events, or may provide time savings during stressful times. While increases in SNAP, WIC, and free school meal programs represent assistance that can only be spent on food, unconditional cash can be spent anywhere, and thus families may be spending gift money on restaurant food that cannot be paid for with these other forms of assistance.[54,55] As previously mentioned, BFY high-cash gift families also show increased spending on other goods, including books and toys for children.[56]

Debit card transactions from the BFY high-cash gift money

Figure 1 shows that in an average month between June 2018 and August 2022, about 10%–15% of transactions using the BFY money (among high-cash gift families) occurred at food-related venues (most commonly at grocery stores, supermarkets, and restaurants), not including Walmart or wholesalers. These estimates are similar to those of other data on use of cash transfers in the U.S., such as the Stanford Guaranteed Income Pilots Dashboard. When including Walmart and related wholesale outlets, 20%–25% of transactions using the BFY money among high-cash gift families would be considered as occurring at food-related venues (i.e. making an assumption that transactions at Walmart are for food items). While it is not possible to identify what was purchased in the BFY transaction data, other studies show that grocery spending makes up about 60% of Walmart sales.[57]

As shown in Figure 2, on average, BFY high-cash gift transactions at food venues peak around three to five days after receipt of the monthly high-cash gift. This differs from ATM cash withdrawals, which peak within a day or two of receipt. Figure 3 highlights that this pattern holds across sites. Notably, high-cash gift spending transactions at food venues are lower among New Orleans families than in other sites, though this difference disappears when transactions from Walmart and wholesalers are included (not shown), highlighting the role that such establishments play as locations where food is purchased. This role seems to be larger in New Orleans compared with the other sites.

Figure 4 shows that 49% of food venue transactions using the BFY high-cash gift are at grocery stores. The second most common locations are fast-food chains (30%), and restaurants and other eating places (10%). These three categories make up 89% of food-venue related transactions. There are a number of considerations in interpretating these food-venue related transactions. Fast-food options can be more accessible, especially in low-income areas, and provide affordable and easy options that free up time that would otherwise be spent on food shopping and preparation. Such considerations are important given the context where those with lower incomes and SNAP participants spend more time on food preparation, clean-up, shopping, and food-related travel.[58,59,60] Additionally, to avoid normative judgement, these categories were coded based on Visa MCC codes. Visa MCC codes define fast-food restaurants as merchants who "sell prepared food and beverages for consumption either on the premises or packaged for carry out. Orders are typically made and paid for at a counter, kiosk, or drive-through window."[61] The definition does not include any mention of the food's nutritional value. As such, coffee shops (e.g., Starbucks) and fast-causal restaurants (e.g., Panera Bread)—both of which often offer healthy options—are categorized as fast-food merchants. Since we cannot identify the specific items being purchased within food venue categories, BFY money spent on relatively healthy meals at fast-causal restaurants such as Chipotle, for example, would be categorized as fast-food spending, while BFY money spent on soda or chips at a supermarket is categorized as grocery store spending.

The transaction categorization scheme also lacks the ability to portray the meaning ascribed to these food purchases. For example, there are instances in which the BFY money is spent at a snack stand at an amusement park or zoo that are categorized as fast-food, yet this categorization fails to capture the enriching context in which this purchase was made. We see mothers use the BFY card at candy/confectionary stores and bakeries, where they could be buying treats for their children or a cake for a celebration. Purchases of such treats can hold important value to families, providing opportunities for parents to make their children feel special and to feel good about the ways in which they are caring for their children.[62,63,64]

Discussion

The majority of BFY families reported receiving benefits from government subsidized food programs—WIC and SNAP—at the time of their child's birth and through the three years after their child's birth. Over the first three years of the child's life, rates of food insecurity among BFY families were low, with rates of low food security dropping from 10% in year 1 (2019–2020) to 7% in year 3 (2021–2022). We find no evidence of differences in household food security between families receiving the high- and low-cash gift. Overall spending on food at home is similar for high- and low-cash gift families. However, high-cash gift families reported spending more money (about $25 more on average per month) on food eaten out. On net, however, high-cash gift families reported a lower share of income spent on food than low-cash gift families.

How do these patterns and findings on food related spending line up with findings on consumption or quality of food? Using monthly data on breastfeeding through the first year after birth, findings show that, among the high-cash gift group, BFY mothers who did not intend to breastfeed were more likely to meet this intention, pointing toward increased opportunity to purchase and/or use infant formula.[65] High-cash gift mothers also reported an increase in their child's consumption of fruits and vegetables in year 2, when the focal children were toddlers.[66] This is consistent with research which shows that consumption of healthy foods might be constrained among children in families with lower incomes by parents who do not want to waste food when their kids will not eat it.[67,68] Similarly, consumption of healthy foods may be constrained among families living in food deserts, where access to supermarkets that accept SNAP and provide healthy food is limited.[69,70] The high-cash gift may alleviate constraints by allowing families to feel comfortable purchasing certain types of food and/or paying for transportation to and delivery from establishments that provide greater access to fruits and vegetables. So far, there are no other detected health impacts of the BFY high-cash gift on overall child health, sleep, or healthcare utilization. This is perhaps unsurprising as BFY infants were reasonably healthy at birth (per eligibility criteria of the study, which specified infants of full gestational age and not requiring the NICU).

During the years of BFY data examined here (2019–2022), the United States enacted policies (mostly temporary expansions of existing programs including SNAP, school meal programs, and the CTC) in response to the economic insecurity caused by the COVID-19 pandemic. These expansions meant that in addition to the unconditional monthly cash gift, most BFY families were getting more support through in-kind benefits earmarked for food spending than ever before. It is possible that these resources marked an improvement in household food security among both groups (consistent with observed decreases from year 1 to year 3) and allowed different types of food spending with the BFY monthly cash gift, including eating out or improving access for purchasing nutritious foods and formula. This interpretation is consistent with companion BFY findings that show increased spending on child-specific goods such as books and toys.[71]

Limitations

Although this study provides substantial insight into spending of unconditional cash among families with young children, there are some limitations to the findings. First, the measures of food security do not distinguish between child food security separately from household food security. Thus, we cannot capture whether parents and adults in households may be reducing or shifting their consumption or purchase of foods in ways that buffer food insecurity or hunger of children. Second, the BFY cash gift does not adjust for cost of living or changing circumstances of the family over time, including changes in the number of children. In this way, the cash gift differs from other safety-net assistance and tax credits; and, the purchasing power of the BFY cash gift for foods and other basic necessities decreased over some of the time period of analysis. Third, the findings might not generalize to families in other contexts or circumstances or to different payment frequency, methods, or sources. Cash aid or income support offered in the form of government safety-net programs may differ from lump sum or alternative distribution of tax credits.

Finally, this study summarizes patterns and impacts through three years of cash gift receipt. Families are continuing to receive the BFY cash gift for a total of 76 months. Impacts of the high-cash gift may change over time as children age and circumstances shift, including expiration of temporary pandemic-era supports.

Conclusion

BFY families, like many families with young children and very low income, juggle tight financial resources and face difficult trade-offs to meet expenses such as bills and rent as well as meet other demands of parenting and employment. While the safety net has been successful in increasing food security, especially in recent years, many families and children continue to live with limited resources and struggle to meet food consumption needs.

BFY findings so far show that the monthly unconditional cash gift may have expanded options for spending on food-related items without the restrictions imposed by typical eligibility criteria for in-kind food-based programs or options available from food pantries. BFY families appear to be changing the types of food their children eat or spending on other food experiences.

BFY papers that include findings on food-related outcomes:

Barnes, C., Halpern-Meekin, S., & Hoiting, J. (2023). "I used to get WIC... but then I stopped": How WIC participants perceive the value and burdens of maintaining benefits. *RSF: The Russell Sage Foundation Journal of the Social Sciences*, *9*(5), 32–55. https://doi.org/10.7758/RSF.2023.9.5.02

Gennetian, L. A., Duncan, G., Fox, N. A., Magnuson, K., Halpern-Meekin, S., Noble, K. G., & Yoshikawa, H. (2022). *Unconditional cash and family investments in infants: Evidence from a large-scale cash transfer experiment in the U.S.* (Working Paper No. w30379). National Bureau of Economic Research. https://doi.org/10.3386/w30379

Halpern-Meekin, S., Gennetian, L., Stilwell, L., & Meyer, L. (2024). Monthly unconditional income supplements starting at birth: Experiences among mothers of young children with low incomes in the U.S. *Journal of Policy Analysis and Management.* https://doi.org/10.1002/pam.22571

Magnuson, K., Yoo, P., Duncan, G., Yoshikawa, H., Trang, K., Gennetian, L. A., Halpern-Meekin, S., Fox, N., & Noble, K. (2022). *Can a poverty reduction intervention reduce family stress among families with infants? An experimental analysis.* SSRN. http://dx.doi.org/10.2139/ssrn.4188131

Sperber, J. F., Gennetian, L. A., Hart, E. R., Kunin-Batson, A., Magnuson, K., Duncan, G. J., Yoshikawa, H., Fox, N. A., Halpern-Meekin, S., & Noble, K. G. (2023). Unconditional cash transfers and maternal assessments of children's health, nutrition, and sleep: A randomized clinical trial. *JAMA Network Open*, *6*(9), e2335237. https://doi.org/10.1001/jamanetworkopen.2023.35237

Stilwell, L., Morales-Gracia, M., Magnuson, K., Gennetian, L., Fox, N., Halpern-Meekin, S., Noble, K., & Yoshikawa, H. (in press). Impacts of unconditional cash gifts on meeting intentions across breastfeeding, child care, and employment. *Social Service Review.*

Table 1: ITT Estimates of Food-Related Outcomes (Birth to Age 3)

	Age 1 (2019–2020)	Age 1 *p*-value	Age 2 (2020–2021)	Age 2 *p*-value	Age 3 (2021–2022)	Age 3 *p*-value	Low Cash Gift Mean (2019–2022)	Birth to Age 3 (2019–2022)	Birth to Age 3 *p*-value	Birth to Age 3 Effect Size
Food security index	0.230+ (−0.004, 0.464)	0.054	−0.003 (−0.237, 0.231)	0.981	0.047 (−0.174, 0.267)	0.677	1.134	0.101 (−0.079, 0.280)	0.271	0.06
Sometimes/often didn't have enough food	0.045 (−0.022, 0.113)	0.189	0.011 (−0.051, 0.073)	0.730	0.049 (−0.014, 0.112)	0.126	0.323	0.039 (−0.008, 0.086)	0.103	0.08
Sometimes/often couldn't afford balanced meals	0.086** (0.021, 0.150)	0.009	0.005 (−0.058, 0.067)	0.879	0.020 (−0.039, 0.080)	0.499	0.280	0.038 (−0.008, 0.084)	0.101	0.08
Ever ate less than felt they should	0.043 (−0.015, 0.101)	0.149	0.017 (−0.038, 0.072)	0.534	−0.008 (−0.055, 0.038)	0.724	0.191	0.020 (−0.019, 0.058)	0.315	0.05
Ever cut size of meals or skipped meals	0.044 (−0.012, 0.100)	0.124	−0.014 (−0.066, 0.037)	0.581	−0.004 (−0.048, 0.040)	0.863	0.169	0.010 (−0.026, 0.045)	0.602	0.03
Frequency of cutting meals: 3 or more months	0.013 (−0.034, 0.061)	0.584	−0.008 (−0.048, 0.031)	0.678	0.010 (−0.026, 0.046)	0.595	0.104	0.006 (−0.024, 0.035)	0.710	0.02
Was hungry but couldn't afford to eat			−0.011 (−0.052, 0.030)	0.592	−0.018 (−0.054, 0.017)	0.313	0.104	−0.014 (−0.045, 0.018)	0.391	−0.04
Received SNAP	−0.024	0.425	−0.022	0.449	−0.046	0.121	0.683	−0.032	0.164	−0.07

	Age 1 (2019–2020)	Age 1 *p*-value	Age 2 (2020–2021)	Age 2 *p*-value	Age 3 (2021–2022)	Age 3 *p*-value	Low Cash Gift Mean (2019–2022)	Birth to Age 3 (2019–2022)	Birth to Age 3 *p*-value	Birth to Age 3 Effect Size
Received WIC	−0.004 (−0.065, 0.057)	0.898	−0.030 (−0.098, 0.037)	0.382	−0.038 (−0.102, 0.026)	0.249	0.546	−0.021 (−0.068, 0.026)	0.386	−0.04
Received free groceries or a free meal in an average week over the last month (household)					−0.005 (−0.046, 0.036)	0.805	0.118	−0.005 (−0.046, 0.036)	0.805	−0.02
Amount spent on food in average month (household)	9.596 (−42.835, 62.028)	0.720	−6.254 (−55.038, 42.530)	0.801	−4.972 (−63.496, 53.551)	0.868	794.490	−0.401 (−36.299, 35.496)	0.982	−0.00
Amount spent eating out in average month (household)	27.395+ (−2.168, 56.958)	0.069	12.396 (−20.891, 45.684)	0.465	35.915+ (−0.251, 72.082)	0.052	210.919	25.595* (1.979, 49.211)	0.034	0.10
Binary food expenditure burden (food expenditure/(income + SNAP) > 0.3)	−0.029 (−0.092, 0.034)	0.367	−0.047 (−0.109, 0.016)	0.143	−0.067* (−0.130, −0.003)	0.039	0.621	−0.049* (−0.091, −0.006)	0.025	−0.10
Binary food expenditure burden (food expenditure/(income + SNAP) > median)	−0.020 (−0.084, 0.043)	0.525	−0.075* (−0.138, −0.012)	0.020	−0.047 (−0.111, 0.017)	0.152	0.554	−0.048* (−0.092, −0.005)	0.030	−0.10
SNAP amount	8.542 (−20.257, 37.340)	0.561	−20.908 (−60.193, 18.377)	0.296	−18.147 (−67.341, 31.047)	0.469	272.563	−10.688 (−38.061, 16.684)	0.444	−0.03

	Age 1 (2019–2020)	Age 1 *p*-value	Age 2 (2020–2021)	Age 2 *p*-value	Age 3 (2021–2022)	Age 3 *p*-value	Low Cash Gift Mean (2019–2022)	Birth to Age 3 (2019–2022)	Birth to Age 3 *p*-value	Birth to Age 3 Effect Size
			(0.075, 0.664)					(0.075, 0.664)		
Consumption of unhealthy foods index			0.060	0.671			3.446	0.060	0.671	0.03
			(−0.217, 0.337)					(−0.217, 0.337)		
Min. sample size	901		789		837		901	901		
Max. sample size	931		922		922		2775	2775		

+ $p < 0.10$; * $p < 0.05$; ** $p < 0.01$.

Notes: 95% confidence intervals in parentheses. Covariates from baseline survey: mother's age, completed schooling, household income, net worth, general health, mental health, race and ethnicity, marital status, number of adults in the household, number of other children born to the mother, smoked during pregnancy, drank alcohol during pregnancy, father living with the mother, child's sex, birth weight, and gestational age at birth. Other covariates not measured at baseline include interview method (phone/in person) and child age at interview (in months above target age).

Table 2: Selected outcomes by site, among BFY families receiving the low-cash gift

	Twin Cities	New Orleans	Omaha	New York City
Hunger	19%	11%	9%	7%
Free meals	25%	9%	16%	6%
WIC receipt	65%	41%	54%	65%
SNAP receipt	69%	73%	58%	73%

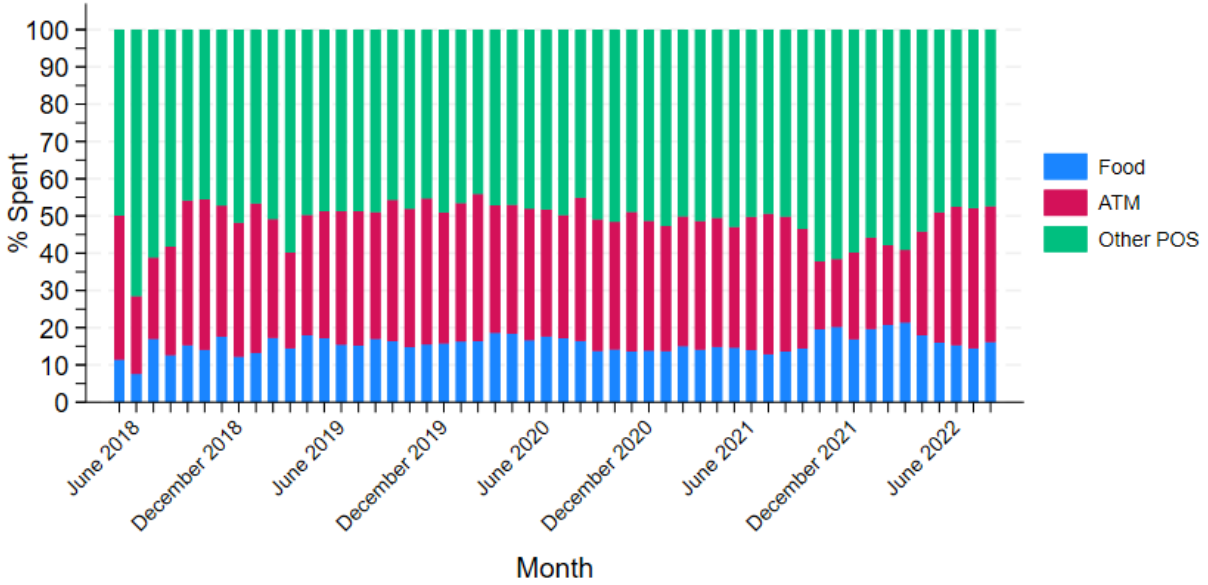
Note: Estimates represent adjusted marginal predictions among the low-cash gift group, calculated using versions of the pooled regression models (2019–2022) for each individual site. Covariates from baseline survey: mother's age, completed schooling, household income, net worth, general health, mental health, race and ethnicity, marital status, number of adults in the household, number of other children born to the mother, smoked during pregnancy, drank alcohol during pregnancy, father living with the mother, child's sex, birth weight, and gestational age at birth. Other covariates not measured at baseline include interview method (phone/in person) and child age at interview (in months above target age).

Table 3: Share of BFY low-cash gift families facing low and very low food security by survey wave

	Very low food security	Low food security	Low or very low food security
Year 1 (2019-2020)	10%	24%	34%
Year 2 (2020-2021)	6%	23%	29%
Year 3 (2021-2022)	7%	16%	23%

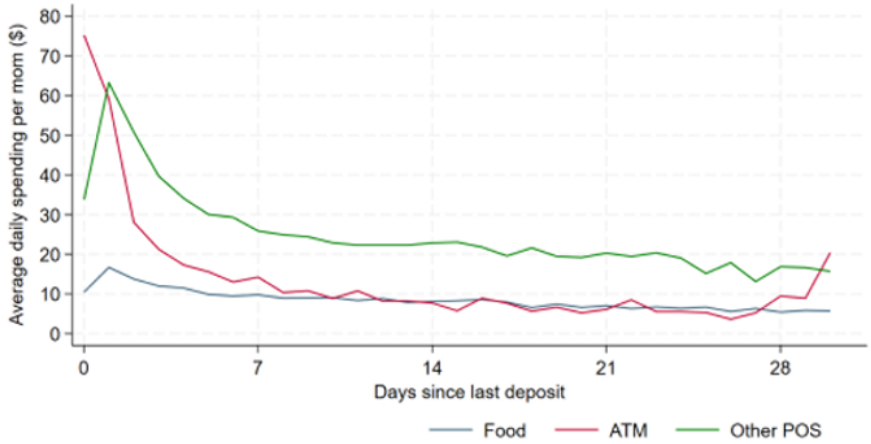
Note: Estimates represent adjusted marginal predictions among full BFY sample, calculated using versions of the regression models for each year (2019-2021). Covariates from baseline survey: mother's age, completed schooling, household income, net worth, general health, mental health, race and ethnicity, marital status, number of adults in the household, number of other children born to the mother, smoked during pregnancy, drank alcohol during pregnancy, father living with the mother, child's sex, birth weight, and gestational age at birth. Other covariates not measured at baseline include interview method (phone/in person) and child age at interview (in months above target age).

Figure 1: Percentage of high-cash gift transactions at food vendors, ATM withdrawals, or other point-of-sale (POS) transactions from BFY money, among BFY high-cash gift families



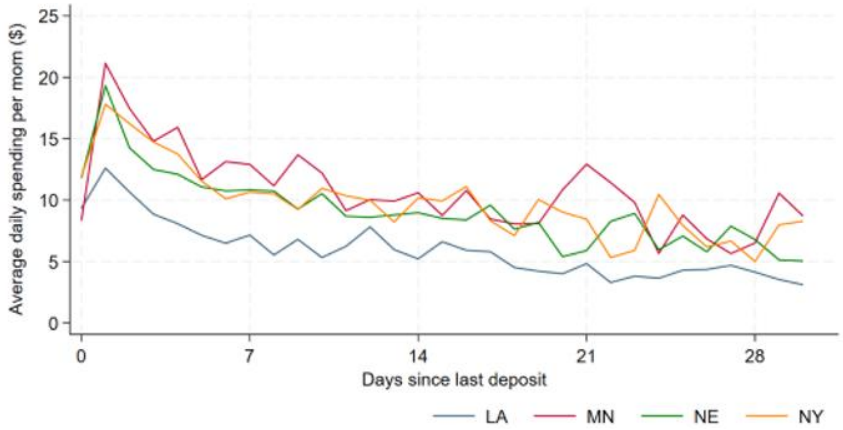
Note: Food expenditures include the following categories: bakery, candy/confectionary, convenience/misc. food store, grocery store/supermarket, fast food, other eating place/restaurants, and unspecified delivery food. It does not include wholesale, Walmart, or bars/taverns. Data included cover June 2018 through August 2022. Transaction data are missing for March 2019. Sample includes only the high-cash gift group who consented to use of transaction data (n=370). Other POS refers to all other point-of-sale transactions that were not food.

Figure 2: Average daily spending ($) at food vendors, ATM withdrawals, or other POS transactions from BFY money by days since deposit of the cash gift (among high-cash gift families)



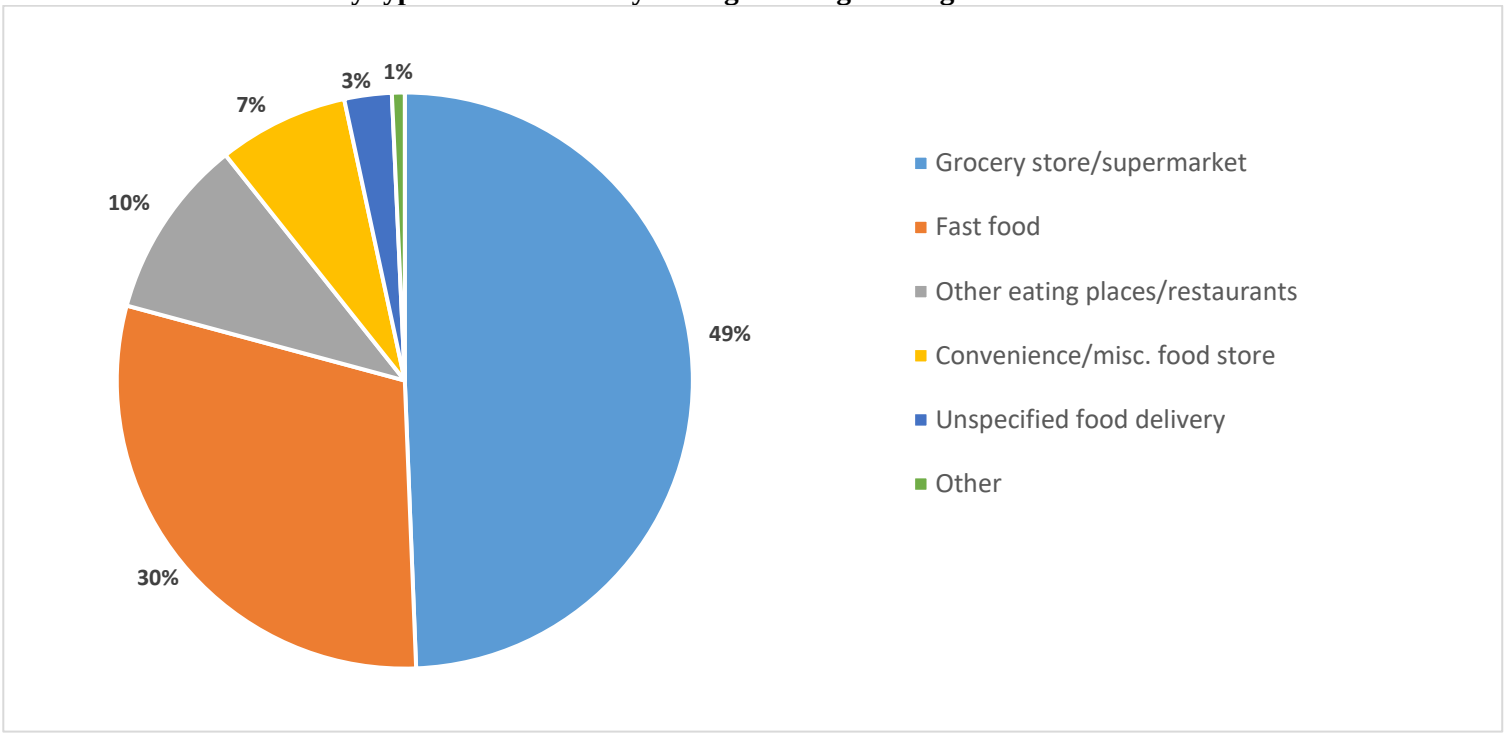
Note: Food expenditures include the following categories: bakery, candy/confectionary, convenience/misc. food store, grocery store/supermarket, fast food, other eating place/restaurants, and unspecified delivery food. It does not include wholesale, Walmart, or bars/taverns. Data included cover June 2018 through August 2022. Transaction data are missing for March 2019. Sample includes only the high-cash gift group who consented to use of transaction data (n=370). Other POS refers to all other point-of-sale transactions that were not food.

Figure 3: Average daily transactions at food vendors from BFY money by days since timing of monthly high-cash gift deposit on debit card, BFY high-cash gift families by site



Note: Food expenditures include the following categories: bakery, candy/confectionary, convenience/misc. food store, grocery store/supermarket, fast food, other eating place/restaurants, and unspecified delivery food. It does not include wholesale, Walmart, or bars/taverns. Data included cover June 2018 through August 2022. Transaction data are missing for March 2019. Sample includes only the high-cash gift group who consented to use of transaction data (n=370).

Figure 4: Food vendor transactions by type with BFY money among BFY high-cash gift families



Note: Food expenditures include the following categories: bakery, candy/confectionary, convenience/misc. food store, grocery store/supermarket, fast food, other eating place/restaurants, and unspecified delivery food. It does not include wholesale, Walmart, or bars/taverns. Data included cover June 2018 through August 2022. Transaction data are missing for March 2019. Sample includes only the high-cash gift group who consented to use of transaction data (n=370). Other = candy/confectionary and bakery.

Appendix B: Definitions and Measures

Definitions and descriptions of the measures included in Appendix Table 1 are below. Outcomes that are preregistered (American Economic Association identifier AEARCTR-0003262 and ClinicalTrials.gov identifier: NCT03593356) are indicated by "[PreR]" and are available in the papers on which this brief is based.

Household Food Security [PreR]

The USDA has developed an 18-item scale to measure household food security, which can be broken into 10- and 6-item subscales. BFY surveys include the 6-item subscale, whereby households are coded as having very low food security if they answer affirmatively on 5 or 6 questions, low food security if they answer affirmatively on 2 to 4 questions, and high or marginal food security if they answer affirmatively to 1 question or no questions. (In addition to reporting impacts on the overall food security measure, Table 1 includes the impact on each individual item.)

The items of the subscale are as follows. In the year 1 survey the question on hunger was unintentionally excluded. To ensure consistency in the analyses of time trends in food security, this item was removed from the index in waves 2 and 3.

For the following statements, please say whether the statement was often true, sometimes true, or never true for you or your household in the last 12 months — that is, since last [current month]:

1. "The food that we bought just didn't last, and we didn't have money to get more."
2. "We couldn't afford to eat balanced meals."

In the last 12 months, did you…

3. ever eat less than you felt you should because there wasn't enough money for food?
4. or other adults in your household ever cut the size of your meals or skip meals because there wasn't enough money for food?

5. How often did this happen? Almost every month/some months but not every month/only 1 or 2 months
6. In the past 12 months, were you ever hungry, but didn't eat, because there wasn't enough money for food?

Note that the measures of food security collected through BFY surveys pose challenges to interpretation. First is that the six-question measure used in the BFY study is slightly modified from the USDA six-question short form. These questions ask the mother to recall experiences over the 12 months preceding the child's birthday and for the entire household. Other studies like the U.S. Census's Household Pulse Survey measure "food insufficiency" through a single question that asks about the last seven days, with household food intake characterized as "enough of the kinds of food we wanted to eat," "enough, but not always the kinds of food we wanted to eat," "sometimes not enough to eat," or "often not enough to eat." Despite the shortcomings of the six-question short form, analyses have shown effectiveness in correctly identifying levels of household food security, and while it is slightly less effective in identifying *child* food security, it still performs fairly well.

Food Expenditure Burden

In addition to assessing levels of food security, BFY surveys collect information on household income and expenditures on certain goods, enabling measurement of the share of income spent on food. Food expenditure burden is an indicator of whether the reported dollars spent on food divided by total household income is greater than 30%, and then separately on whether it is greater than the median which is approximately 38%. Food expenditures and total household income plus the cash gift are reported in other papers. The share of income spent on food has not been previously reported.

SNAP and WIC Receipt

Reports of receipt of SNAP, WIC, and free food from sources such as pantries, food banks, and free school lunch programs are available from the survey items listed below. Two of these items—receipt of SNAP and WIC—are included in a preregistered outcome of the total number of social assistance benefits received (published separately).

I am going to read a list of services, government benefits, and support. Please tell me after each one if you receive it or not.

- *Food stamps SNAP / EBT*
    - *Followed up by a question which asks, "How much did you or anyone else living in your household receive in SNAP food stamp benefits last month, altogether?"*
- *Women, Infants and Children*

In an average week over the past month, did you or anyone in your household get free groceries or a free meal? IF prompted: could include free meals through the school or other programs aimed at children; Food pantry or food bank; Home-delivered meal service like Meals on Wheels; Church, synagogue, temple, mosque or other religious organization; Shelter or soup kitchen; Other community program; or Family, friends, or neighbors.

Note: In the wave 1 follow-up survey, the subset of mothers who reported receiving SNAP but also reported that no one else in the household was receiving SNAP were not asked about SNAP benefit amounts and were not provided the prompt to exclude food stamp benefits in their reporting of the amount spent on food per week. Thus, for this subset of mothers, food purchased through SNAP benefits may or may not be included in overall spending on food. While this affects the interpretation of overall expenditures on food, it should not affect the impact estimate since mothers and households in high-cash gift families do not statistically differ in reported receipt of SNAP benefits.

Food Expenditures

Weekly spending on food eaten at home and away from home are collected via the survey items below. Results on these measures have been published in previous BFY papers.

Thinking about the past month, in addition to what you buy with food stamp benefits, do you or anyone else in your household spend any money on food that you use at home?

In the past month, how much did you and everyone else in your household spend on food that you use at home in an average week?

In the past month, about how much did you and everyone else in your household spend EATING OUT in an average week? Include any carry-out or drive-through orders, too.

Consumption of Healthy/Unhealthy Foods Index [PreR]

Child consumption of healthy and unhealthy foods are collected via the survey items below that are combined to create a preregistered index.

On an average day, about how many times does [CHILD NAME] eat:

- *fruits (not including fruit juices)?*
- *vegetables?*
- *sweets or sweetened foods, such as sweetened cereals, fruit bars, Pop-Tarts, donuts, cookies, or candies?*

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