User Guide for the BFY Age-2 Data collection [December 16, 2022]

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INTRODUCTION:

About this User Guide

This User Guide is for secondary analysts using the Age-2 follow-up data collected by the Baby's First Years project. For full information on the study's design and Baseline data collection, please see the "User Guide for the Baseline Data Collection" available on the study's ICPSR's website. Full information on the one-year follow-up is available in the "User Guide for the BFY Age-1 Data collection".

We begin this User Guide with a brief description of the Baby's First Years project, followed by additional information about the Age-2 data. The Age-2 data are follow-up data collected approximately 24 months after Baseline data collection, timed to coincide with the focal child's second birthday. We then describe noteworthy features of specific variables important for analysts.

The current Age-2 data deposit includes

- this User Guide document;
- Age-2 survey instruments in English and Spanish;
- Age-2 data file that combines survey data and data collected from a short form of the MacArthur Communicative Development Inventories (MCDI);
- STATA .do file that creates the Age-2 data file; and
- ICPSR's electronic and pdf codebooks.

The Age-2 deposit and documentation follow the structure of the Age-1 deposit and documentation, but differ from Baseline data documentation. As with Age-1, in this Age-2 deposit, we do not provide a separate codebook as we did at Baseline because ICPSR provides an electronic and pdf codebook. Instead of having a single "Noteworthy Features" section, we distribute this content across several sections that follow the structure and sequence of the survey instrument.

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Title of the Study

Baby's First Years (abbreviated here as "BFY"; the study is also known as "Household Income and Child Development in the First Three Years of Life")

Funding sources:

Source	PI	Grant number
National Institutes of Health	Duncan, Magnuson,	R01HD087384

	Noble	
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Jacobs Foundation	Duncan	102535
JPB Foundation	Noble	1132
J-PAL North America	Duncan	S5341
Lozier Foundation	Noble	
New York City Mayor's Office for Economic Opportunity	Noble	CT1 069 20201415397
Office of Planning, Research, and Evaluation	Duncan, Magnuson, Noble	R01HD087384A
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W.K. Kellogg Foundation	Noble	P3031579
Three Anonymous donors	Duncan and Magnuson	N/A

Data Collector

The data were collected by the Survey Research Center (SRC), Institute for Social Research, University of Michigan, Ann Arbor, Michigan, under a contract from the University of California, Irvine, running from September 2017 through August 2022. Data collection for Baseline data began in May 2018 (exact date suppressed to preserve participant anonymity); data collection for Age-1 began in July 2019. Data collection for Age-2, which is the focus of this user guide, began in July 2020. SRC data collection

operations are overseen by: Stephanie Chardoul, Director of Survey Research Operations and Piotr Dworak, Senior Survey Specialist, Survey Research Operations.

PROJECT DESCRIPTION:

Summary description of the intervention and its data collection plan

The overall goal of the Baby's First Years study is to assess the causal role played by household income in affecting children's early cognitive, socio-emotional, and brain development. Recent advances in developmental neuroscience suggest that experiences early in life have profound and enduring impacts on the developing brain. Family economic resources shape the nature of many of these experiences, yet the extent to which they affect children's development is unknown. The Baby's First Years project is the first randomized controlled trial to provide estimates of the causal impacts of unconditional cash gifts on the cognitive, socio-emotional, and brain development of infants and toddlers in low-income U.S. families.

Specifically, 1,000 mothers of infants with incomes below the federal poverty line were recruited in 12 birth hospitals in four diverse U.S. communities and began to receive monthly cash gift payments by debit card. Mothers were initially told the gifts would last for the first 40 months of their child's life, but we have secured funding to continue the payments through child-age 6 (i.e., for a total of 76 months). Parents in the high cash gift group (n=400 in the study sample) are receiving a cash gift of $333 per month ($4,000 per year), while parents in the low cash gift group (n=600) are receiving a nominal monthly gift payment of $20 ($240 per year), also for 76 months.

In order to measure the impacts of the unconditional cash gift income on children's development, using measures of EEG, cognitive, language, memory, self-regulation, and socio-emotional development, we are assessing high and low cash gift group differences at age 4. EEG was also gathered at age 1. A small subset of other measures, all through maternal reports, were administered at ages 1, 2 and 3. In order to understand the processes by which child impacts emerge, we are measuring a host of family process measures summarized in our pre-registration chart included in Appendix Table 1.

Our five data collection points are referred to as: "Baseline", "Age-1", "Age-2," "Age-3" and "Age-4."

Preregistration

We preregistered hypotheses for data collected at child ages 1, 2, and 3 with clinicaltrials.gov within a month after recruitment began (May 2018). In September 2018 we preregistered hypotheses with the Registry of Effectiveness Studies. We submitted a revised set of hypotheses in July, 2019 – which was just before we began collecting age-1 impact data collection – to clinicaltrials.gov, the Registry of Effectiveness Studies and the AEA RCT Registry. Additionally, we submitted a revised set of hypotheses in July 2020, June 2021 and July 2022 – which was before we began Age-2 and Age-3 and Age-4 data collection, respectively. A summary of our Age-2 preregistration is given in Appendix Tables 1 and 2.

Our core pre-registered empirical approach for deriving the preregistered impact estimates will use the pooled data across the four sites to compare family process and child outcomes for the pooled cross-site $333/month group with the $20/month groups. Because of the random assignment design, the average of an outcome for the low cash gift group corresponds to the counterfactual state outcome that

would have occurred, on average, for the high cash gift group had they not been offered the additional $313/month income supplement. Therefore, differences in outcomes for the high compared with the low cash gift group can be interpreted as estimates of causal treatment effects of the $313/month higher income (regardless of how high cash gift group mothers use the cash gift). These are intent-to-treat estimates. Because randomization took place within each of the four sites, we recommend that all impact regressions include site fixed effects.

UNIVERSE, SAMPLE AND SAMPLING PROCEDURES; SUBSTANTIVE, TEMPORAL, AND GEOGRAPHIC COVERAGE OF THE DATA COLLECTION:

Universe of the BFY study sample

Between May 2018, and June 2019, 1,003 mothers with incomes below the poverty threshold in four metropolitan areas in the United States (New York City (abbreviated NY), the greater New Orleans metropolitan area (LA), the greater Omaha metropolitan area (NE), and the Twin Cities (MN)) were recruited in 12 hospitals shortly after giving birth. "Recruited" means that they were deemed eligible based on the information they provided in a screening interview, consented to and participated in a Baseline interview, and were offered and agreed to receive a debit card with a randomly assigned monthly cash gift deposit. All consent forms and data collection instruments for the Baseline, Age-1, and Age-2 data collections are available on the study website www.babysfirstyears.com. The Institutional Review Board of Teachers College at Columbia University served as the single IRB of record for most of the study sites. To meet local requirements, stand-alone IRB reviews were conducted in 5 of the 12 recruitment hospitals.

The construction of the sample is detailed in the Baseline CONSORT diagram (Appendix Figure 1) and in the User Guide for the Baseline Data. The final study sample consisted of 1,000 mothers, all of whom were targets of our Age-2 interviewing efforts and will be targets of our data collection efforts at focal child ages 3 and 4.[1]

Age-2 follow-up sample

Between July 2020 and July 2021, we attempted to contact as many of the 1,000 study participants as possible and interview them close to their child's second birthdays. Given COVID conditions, all interviews were conducted over the phone. We completed interviews with 922 participants. Our performance on both the Age-1 and Age-2 data collection is summarized in the Age-2 CONSORT diagram in Appendix Figure 1.

Across the entire year, 8 mothers refused to be interviewed, 62 mothers were not found or were unavailable to be interviewed, 1 mother started but immediately stopped the interview, and 1 mother's data could not be used due to a technical error. A small number of mothers were ineligible for the Age-2 follow-up, including sample exclusions due to the mother's death (1) and maternal incarcerations (1). Adjusting the denominator for ineligibility, our response rate for the Age-2 data collection was 93%.

[1] Target samples for follow-up waves of data collection may vary if participants are excluded from the study. These cases are detailed in CONSORT diagrams. They could include cases of mothers or children who died or mothers who decided to be excluded from the study and stop receiving the cash gift.

Participants were pre-paid $50 before the Age-2 interview and received an additional payment of $50 at the end of it. Some mothers were eligible for an additional payment as an incentive to complete the interview.

Age-2 sample group equivalence

As we did when collecting Baseline data, we sought to create equivalent high- and low- cash gift groups when we collected the Age-2 data. At the end of the Age-2 data collection (n=922), the completion-rate gap was 3.5 percentage points, but the fact that the completion rate in both gift groups was very high – 90.8% and 94.3% for the low- and high-cash gift groups respectively – leaves relatively little room for differential nonresponse bias. We investigated whether the low- and high-cash gift group members that were successfully interviewed as part of the Age-2 survey were similar on the same set of baseline measures used to assess baseline equivalence. Appendix Table 3 shows that of the 26 individual tests, three were statistically significant at the $p<.05$ level. The p-value of a joint test of orthogonality across all baseline predictors is .321, which means that we cannot reject the null hypothesis of no group differences. Just as the high and low cash gift groups were very similar at baseline, the two groups appear to be very similar at Age-2.

AGE-2 DATA AND DOCUMENTS

Age-2 files

This *User Guide* provides basic documentation for the Age-2 data collection. Relevant files on deposit are:

- Age-2 data, STATA .dta file: *BFY_age2clean_public.dta*
- STATA script file (.do file) that cleans the Age-2 data: *BFY_age2cleanpublic.do*
- Age-2 survey instrument, .pdf file: *BFY_Age 2 Instrument.pdf*

Other data collection instruments:

- The Baseline survey instrument can be found at the ICPSR website (https://www.icpsr.umich.edu/web/DSDR/studies/37871/datadocumentation#).
- The Age-1 survey instrument can be found at the ICPSR website (https://www.icpsr.umich.edu/web/DSDR/studies/37871/datadocumentation#).
- All data collection instruments can be found on the study website (www.babysfirstyears.com). This includes the Baseline screening instrument, consent forms and the qualitative sub-study Interview Guide.

The Age-2 survey instrument was administered by telephone, with responses recorded by the interviewer on a laptop computer. All prompts used for items are described underneath the item in the Age-2 survey instrument.

Users should note that some sections of the STATA script cannot be run by analysts because they involve personally identifiable information that cannot be made publicly available. The purpose of releasing the code is to provide as much transparency, clarity, and reproducibility as we can.

Version dates

There were minor changes in the Age-2 survey throughout its administration. These are reflected in the variable `versiondatea2`, which contains eleven unique values corresponding to eleven versions of the Age-2 instrument. The minor differences in the versions of the Age2 instrument are described in Appendix Table 4, though some dates may not correspond exactly. The Age-2 survey instrument available on the ICPSR website, *Age2_Instrument_BFY*, is dated March 3, 2021 and is identical to the version in production on March 18, 2021, therefore reflecting the nearly final version of the age-2 instrument in production, with the exception of the final change noted in the change log.

Weighting

There was no oversampling of population subgroups and assignment to cash gift group was predetermined by an algorithm embedded in our computer-assisted interview software. Thus, no weighting is necessary to obtain Intent-To-Treat estimates for births to low-income women in the twelve hospitals distributed across four sites. The timing of interviewer shifts in the 12 hospitals was based on administrative convenience rather than any attempt to obtain a formal population sample from the hospitals. The random nature of births across interviewer shifts contributes to the population diversity of the sample.

Unit(s) of Analysis/Observation

The unit of analysis may be the mother, the focal child, the mother/child dyad, or the household, depending on the analysis and the variables.

Frequency Distributions and Weighting

Unweighted univariate frequency distributions are provided for all variables in the ICPSR electronic codebook.

GENERAL AGE-2 DATA CONVENTIONS, DECISIONS, AND PROCESSING

All respondents were asked all questions, unless the questions did not apply to their situation (e.g., mothers who reported that they did not know the identity of the father of their baby were not asked about the father or the father-mother relationship). As with Baseline and Age-1 data, variables in the Age-2 data file are of two types – **raw** and **generated**:

The first type of variables is considered **raw** because these variables are direct outputs from the Age-2 electronic survey programmed by SRC, the partner organization directing collecting data, or from the mother's completion of the MCDI. The raw data are otherwise unprocessed, except for two minor adjustments: suffix "a2" is added to the end of the variable *name* in the dataset (described in more detail in the "Item Naming Conventions" section below) and prefix "[raw]" is added at the start of the variable *label*. The values of these variables follow the conventions in our previous data. For example, SRC has a long-standing practice of coding yes/no responses as yes=1 and no=5. Those 1/5 values are used in the first, "raw" portion of the data file. Exact question wording can be found in the Survey Instrument, with the variable name listed under each question or checkpoint. The order of the variables in the dataset generally follows the order in which the questions were asked in the instrument.

The second – "**generated**" – type of variables are what we generated using the raw data. In addition to simple recoding of values (e.g., yes/no responses are recoded to yes=1 and no=0), we generated pre-registered variables and additional variables that require careful understanding and quality

checks of the raw data. We provide important details on the data generation process in the sections below. Finally, some variables serve as indicators for types of open-ended responses in the dataset but do not appear in the questionnaire.

Personally Identifiable Information (PII)

Personally identifiable information (PII; e.g., date of birth) or potentially PII (e.g., child development measure items specific to child age in months) is protected under Health Insurance Portability and Accountability Act (HIPAA). We refer to HIPAA protected information as PII. We collect PII with the survey, so we have excluded these items in the data file that we deposit to ICPSR. In order to protect PII, these variables have either been removed or converted into a dummy variable that indicate that the mother provided a response. Some of these variables may become available in the future under more restrictive terms. However, as some of these variables can be essential for analysts, in some cases, we generated new variables that partially or completely mask the sensitive information. These variables are HIPAA compliant and useful for analysis (See Table 1). Some of these variables are described in the table below.

Table 1. Masked Personal Information in Age-2 Public Release

Sensitive information	Variable Name(s)	Description
Child's age at interview	`cagea2`	Child's age at the time of the Age-2 interview recoded to a binary indicator for whether the child was at least two-years-old.
Interviewer ID	TBD	Interviewer ID will be released at a future date.

Missing data

We use the following coding conventions for missing data for both the raw and generated variables:

.d – don't know

.r – refused

.i – index/scale assigned missing because too many items were missing

. – valid skip

Index/Scale missing data conventions

Generally, a generated scale or index has a value of ".i" if at least half of the individual items are missing or if there are less than 3 non-missing items. In some cases, scales or indices may have a prescribed manner for accounting for missing items, in which case we follow these conventions (i.e., BITSEA). If all the items are missing, the generated variable has a value of ". ".

Item naming conventions

- Raw variables in the data file generally match the variable names in the survey instrument, which are listed underneath each survey item in the instrument file[2].
- Raw variables use both "mother" and "mom" interchangeably in the variable name.
- Raw variables have a "[raw]" in the variable label.
- For generated variables, we added one of the following prefixes to the variable name:

  m – Mother item

  c – Child item

  hh – Household item

  d – Father item

- Generated variables use "mother" and "mom" interchangeably in variable names and use "father" and "dad" interchangeably as well.

Analysts are advised to take as many of their variables as possible from our set of "generated" variables because they tend to be cleaner and easier to use.

- When we recoded or reverse coded raw items (often part of a composite), we added "- recoded" (or "- reverse coded") at the end of the *variable label*. We also update the *value label* accordingly. When recoding dichotomous items, we followed the convention of a dummy variable (i.e., 1= yes, 0= no) and did not update the *variable label*.
- See the STATA script *BFY_age2cleanpublic.do* for all recoding decisions.
- The last two characters of all variables indicate the data collection wave. These suffixes were added to all variables. They are:

  a0 – Child Age-0 (i.e., gathered at Baseline shortly after the birth of the child; already available on the ICPSR website)

  a1 – Child Age-1 (gathered around child age 1; available on the ICPSR website)

  a2 – Child Age-2 (gathered around child age 2; this data deposit)

  a3 – Child Age-3 (gathered around child age 3; not yet publicly available)

Treatment of Outliers

In general, we did not change values of variables that appear implausible but not impossible. In the rare occasions when we adjusted outliers, we generated new variables and documented the decisions (see

[2] The variable names in the survey instrument exclude the two characters at the end of the variable name that indicate which data collection wave (e.g., a2 for Age-2).

survey specific sections below) so that a secondary analyst will always have both the unadjusted and adjusted variables.

Analysts should check for extreme values on key variables to ensure that they do not drive model estimates.

Survey errors

There was one error discovered during survey administration related to the item `mromantica2`. The pre-fill auto-function was not working correctly and caused some observations to incorrectly show up as missing. This error was caught and corrected early on in data collection. See the notes under Section D3: Current Relationship for more information.

Check all that apply questions.

Some sections of the survey include a "check all that apply" type of question. Responses to these questions were stored using a particular method. The survey program created as many placeholder variables as there were options to check, then stored mother's *n* checked responses into the first *n* placeholder variables. For example, mothers were asked to check which social service programs they participated in and could select up to 10 options. The survey program creates placeholder values for each possible program (e.g., `servicessupport_s_1a2`, `servicessupport_s_2a2`, etc.). The first placeholder variable contains a value that corresponds to the first social service program the mother indicates that she receives, and the second contains the value that corresponds to the second, and so on. If the mother responds with only one social service program, there will be only one placeholder value. This logic is used for all "check all that apply" type of question (e.g., social services received, household appliances, etc.)

AGE-2 SAMPLE VARIABLES

In addition to the survey data, the dataset includes administrative variables created by SRC that describe the Age-2 Sample.

- `anyiwdonea2` indicates that the mother completed the Age-2 survey and is the indicator of the final Age-2 sample.
- `treat` indicates treatment group status (1 = high cash gift group; 0 = low cash gift group).
- `site` is a categorical variable indicating the 4 sites.
- `iwstartdatema2` has the date when the survey application was first opened (i.e., the day the survey started) and `iwenddatema2` has the date when the survey application was last opened (i.e., the day the survey ended).
- `cagea2` is the masked age of the child at the time of the Age-2 interview. It indicates whether the child was at least 24-months.
- `finaltaskrulea2` is an indicator of the participant's final case status for Age-2, including reason for non-completion for the 69 mothers who did not complete an Age-2 survey. The variable `finaltaskrulea2` was constructed by SRC to determine mother's eligibility for participation and

was based on mother's responses in Section A of the instrument (see details in later sections) and information collected in the process of trying to reach participants. The initial values in the raw data for `finaltaskrulea2` included "AcceptedPartial", "ChildDeceased", "Incarcerated", "Interrupted", "MotherDeceased", "NotAvailable", and "Refusal". We recoded one mother as "NotCompletedDueToTechnicalError" from "AcceptedPartial" due to a technical error that did not allow her to complete the interview. The categories allow analysts to crosswalk case status with the Consort Diagram in Appendix Figure 1. Finally, we reviewed some of the cases in consultation with Survey Research Center to accurately reflect the final status.

IMPORTANT DATA DETAILS BY SURVEY INSTRUMENT SECTION

What follows are notes about raw and generated variables in the data, organized by survey section as seen in the instrument file. For ease of use with the Age-2 survey instrument, we follow the organization in the instrument, which does not always follow alphabetical sequence of the section labels.

We recommend that users read both these notes and the instrument for a complete description of the survey data. We also recommend that users review the Stata script for even more precise details. We assume users will refer to the pre-registration tables in Appendix Tables 1 and 2 of this user guide for details about how pre-registered outcome measures were constructed and what the source instruments were, so we do not re-iterate the same details in this section.

Below is a list of survey sections:

Age-2 Survey Sections

Section A: Intro, Voluntary Statement
Section C: Household Roster
Section D1: BioDad
Section D2: Father's Demographics
Section D3: Current Relationship
Section D4: AudioCASI (including items from Section D: Romantic Relationships; Section O: Discipline Strategies; Section Q: Maternal Health)[3]
Section D5: Father Involvement
Section E: Residential History, Housing Quality
Section F: Neighborhood (including subsections Parent Child Activities and Happiness and Life Satisfaction)
Section G: Childcare
Section H: Child Health
Section I: Social Emotional Development (BITSEA)
Section M1: Maternal Health
Section K: Income and Receipt of Public Program Benefits
Section L: Expenditures and Economic Stress
Section M2: Maternal Health (same questions as in M1; randomized to be administered after questions on economic stress for half of mothers)
Section N: Household Atmosphere

[3] Items considered sensitive were grouped together in the AudioCASI portion of the interview, which is Section D4 in the instrument. Because sensitive items may have originated in various survey sections, Section D4 contains items related to Section D (romantic relationships), Section O (discipline strategies), and Section Q (maternal health). In the User Guide, we combine all AudoCASI items into Section D4, following the organization of the instrument.

Section P: Parenting Stress
Section Q: Maternal Health
Section R: MacArthur Child Development Inventory
Section U: ClinCard
Section W: Covid-19 Questions
Section V: Observations

Section-by-Section Variable Details

Section A: Intro, Voluntary Statement

- **About this Section:** This section determined which version of the survey instrument, if any, would be administered to the mother. The full version of the survey is "Instrument A" and the shortened version that excluded child-focused items is "Instrument B".
    - Instrument A was administered to the mother if the child was well (i.e., not hospitalized) and lived with the mother at the time of the Age-2 interview. Instrument B was administered to the mother if the child had an out-of-home placement (i.e., in foster care). Instrument B was administered to just one participant at Age-2 (see variable `instselecteda2`). Please refer to the survey instrument to see which items were excluded from Instrument B.
    - The survey instrument was not administered if the mother or child passed away, the child lived with adoptive parents, the child was hospitalized or otherwise not well, or if the mother was institutionalized/incarcerated. Analysts should consult the consort diagram (Appendix Figure 1) and the variable `finaltaskrulea2` as described in section AGE-2 SAMPLE VARIABLES of the User Guide for more information.

Section C: Household Roster

- **About this Section:** Due to the complexity of the household roster variables, these data will not be released until a future date. All household roster raw variables have been removed from the initial Age-2 data release.

Section D1: Biodad

- **About this Section:** This section collects information about mothers' current relationships with their focal child's biological father (i.e., the "biodad").
- **Generated Variables:** The variable `dunknowna2` indicates if the focal child's father was unknown at Age-2. We created several variables but refer users to the survey instrument and the Stata do-file for details. For example, we created an indicator for whether the mother was married to the biodad at Age-2 (`mmarriedtodada2`), which includes mothers who were married to the biodad at Baseline as well as mothers who may have gotten married to the biodad since Baseline. One of these generated variables (`mmarriedtodadtogethera2`) captures whether the mother is married and together with the biological father at Age-2 and is a new variable not included in the Age-1 public use file. We also generated a dummy variable to indicate whether the biodad is deceased (`cbiodaddeceaseda2`).

Section D2: Father's Demographics

- **About this Section:** In this section, we first asked about the focal child's biological father, regardless of whether the father was in the household.
- **Raw Variables:** Section D2 includes questions about father's employment information; `dadworka2` and `dadselfempa2` ask whether the biological father works for pay and is self-employed, respectively. The section also includes variables about whether the father was incarcerated in the prior year (`dadjaila2`) and if he was ever required to perform community service or been on probation or parole (`dadparolea2`).
- **Generated Variables:** We recoded the yes/no raw variables into generated binary dummy variables, including `dworka2`, `dselfempa2`, `djaila2`, and `dparolea2`. Additionally, we generated a variable for father employment combining the responses for whether the father works for pay or is self-employed: `demployeda2`.

Section D3: Current Relationship

- **About this Section:** This section has information on mothers' current relationship status with their partner.

- **Raw Data:** Mothers who did not identify a spouse or domestic partner in the household roster section were asked whether they were currently in a relationship. The raw variable `mromantica2` identifies whether the mother was in a relationship at Age-2. The item was pre-filled for participants who identified a spouse or domestic partner on the household roster section of the survey. Participants who did not identify a spouse or partner in the household roster section, or participants who may have identified both a spouse and a partner, are asked whether they are currently in a relationship. Note that there are 71 missing observations for this variable due to an autofill error that was later corrected. These missing respondents all identified having EITHER a partner OR a spouse in the household roster, and therefore were not asked the question; however, the pre-fill auto-function was not working correctly, and therefore, these observations show up as missing. This error was caught and corrected early on in data collection. Additional variables in this section identified the partner's gender and the length of the relationship.
- **Generated Data:** We generated one variable to identify the mother's current relationship status: `mrelationshipa2`. On this variable, mothers are coded as not in a current relationship, in a relationship with someone outside the household, or in a relationship with a household member.

Section D4: AudioCASI (including items from Section D: Romantic Relationships; Section O: Discipline Strategies; and Section Q: Maternal Health)

- **About this Section:** This section was intended to be administered using Audio Computer-Assisted Self-Interview (ACASI) to provide additional privacy for mothers when they responded to sensitive items pertaining to romantic relationships, child discipline strategies, and maternal health questions related to substance use and sexual health. Because the entire Age-2 wave of interviews occurred over the phone due to the COVID-19 pandemic, none of the mothers' interviews used the ACASI format. Instead, the interviewers administered the survey questions. Prior to beginning this section, the interviewers asked the mothers to not be on speaker phone and to be somewhere private, if possible. More information about the script is available in the instrument file. We describe each of the ACASI subsections in turn. Analysts should note that the romantic relationships subsection was only answered by those mothers who identify as being in a relationship at the time of the survey.
- **Romantic Relationships Subsection:** This subsection contains four pre-registered outcomes: (1) physical abuse; (2) frequency of arguing; (3) relationship quality index; and (4) poor relationship quality. These items were asked to all mothers who identified as being in a relationship at the time of the survey.
    - **Raw Variables:** The pre-registered relationship quality index is an additive index of 11 items, with each item on a 3-point scale (Often, Sometimes, Never). Note that at Age-1, one of the items, "Has your partner ever threatened to spank or slap your child or children?" (`pviolenta1`), was deemed to be too sensitive to be on a 3-point scale and had to be collapsed into a binary (yes/no) indicator on the survey, and therefore was excluded from the index. However, in later versions, the question was asked on a 3-point scale and therefore was included in the Age-2 relationship quality index.
    - **Generated Variables:**
        - The pre-registered binary outcome of whether the mother was ever physically abused is `mphysicalabusea2`.
        - The pre-registered outcome of frequency of arguing (`marguea2`) was generated by reverse coding a single raw variable (`rarguea2`) such that higher values indicate more frequent arguing.
        - The Age-1 pre-registered relationship quality index (`mrelationquality_11itema2`) is an additive index of 11 items that ask how often the participant's partner was fair and willing to compromise, expressed affection or love, insulted or criticized the participant for ideas, made the participant feel down or bad about herself during an argument, encouraged or helped her to do things that were important to her, isolated the participant, hurt her physically, sexually abused her, listened to her, made her feel afraid, or threatened or hurt her children. The positive relationship items were reverse coded (`mpcompromisea2`,

mpaffectiona2, mpencouragea2, and mplistena2) such that higher values indicated more positive relationship quality. Note that this index includes 11 items, rather than 10 items as is the case for the Age-1 variable, for reasons described above. A 10-item version (mrelationqualitya2) was also created for consistency between waves.

- The pre-registered binary outcome of a poor-quality relationship (mrelationquality_da2) is a dichotomous indicator of current or recent relationship quality, where poor quality is defined as 1 if the mother is in a relationship and has a score of 26 or below on the relationship quality scale and a 0 either if the mother is not in a relationship or is in a relationship and has a relationship quality index score of 27 or above. This variable was generated using the 10-item version for reasons already described.
- The variable, mlowqrela2, which is not pre-registered, captures whether the mother is in a low-quality relationship based on if she reports that the general quality of her relationship on a scale of 1-5 is neither excellent nor good.
- Note that mrelationqualitya2 and mlowqrela2 are both new variables in the Age-2 wave and are not available in the Age-1 public use file.

- **Discipline Strategies Subsection (Section O):** This subsection includes one pre-registered outcome about whether the mother has used spanking as a discipline strategy in the past month. The generated preregistered variable (hhspanka2) is a dummy that indicates the use of spanking.
- **Maternal Health—Sexual (Section Q):** This section contains items related to mother's reproductive health, contraception use, and pregnancy intentions. There are no pre-registered variables in this section. As with Age-1, we have generated variables (e.g., use of single-use contraception mshorttermcontraa2*)* for internal purposes and have kept them for secondary analysts. Checking the Stata do-file for details of these generated variables is recommended. Users should note that these items have changed since Age-2. We caution users to follow the instrument and do-file for details. Notably, at Age-1, all mothers who completed the ACASI section were asked each question about contraceptive use. At Age-2, mothers who did not report being sexually active in the last 90 days were not asked questions related to short-term or single-use contraceptives. Our generated variables assign mothers a "0" for use of short-term or single-use methods rather than missing if they report they have not had sex in the last 90 days. Analysts may wish to treat these responses differently.Age-2 also contains additional items related to mother's fertility history, future fertility intentions, and how she would feel if she were to become pregnant.

Section D5: Father Involvement

- **About this Section:** This section has items related to father involvement/contact and co-parenting. There are no pre-registered outcomes included in this section.
- **Raw Variables:** Mothers are first asked a set of questions about father involvement, as measured by frequency of contact and overnights. These questions are not asked of mothers who reported that the focal child's biological father was unknown. Mothers are then asked a set of co-parenting items. These items are asked about either the child's biodad if he is involved in the focal child's life, mother's current partner living in her household at the time of the Age-2 interview, or, if applicable, both the biodad and mother's current partner. Analysts should consult the instrument for more information about which items were administered to mothers based on their specific circumstances. To distinguish between items asked about the biological father and current partner, the items for current partner end with a "2" in their variable name (e.g., ptrust2a2 refers to mother's current partner and ptrusta2 refers to child's biological father).
- **Generated Variables:** In this section, we generated four variables that replace true missing responses with values of 0s for mothers with no partner or father identified. The generated variables are ddaysinvolveda2, dnotrustweeka2, dnotrustweek2a2, and dnotrustweek_anya2.

Section E: Residential History, Housing Quality

- **About this Section:** This section of the survey includes items for three pre-registered outcomes: (1)

Excessive Residential Mobility, (2) Index of Housing Quality, and (3) Homelessness.

- **Raw Variables:** Items on housing quality are asked only to participants who are currently living in a home, mobile home, or apartment. Participants with temporary living conditions or who are currently unhoused are not asked these items.
- **Generated Variables:**
    - The pre-registered variable `hhexcessivemovea2` is a binary indicator for whether the mother moved three or more times in the past 12 months. This is slightly different than the pre-registered variable at Age-1 (`hhexcessivemovea1`) which indicates whether the mother had moved three or more times since the focal child was born.
    - The pre-registered variable `hhhousingqualitya2` is a 9-item additive index with higher values indicating better housing quality. Note that due to a survey error at Age-1, there was only an 8-item version of this index created. If desired, analysts can re-create an 8-item version to match the Age-1 version of this variable using the Age-2 items. See the Age-1 user guide for more information.
    - We previously pre-registered homelessness to be an additive index of two items (`rhomelessa2`: ever homeless in the past 12 months, and `rgroupsheltera2`: ever in a group shelter in the past 12 months). We have since updated this outcome to be a binary indicator of whether mothers were ever homeless or in a group shelter in the past 12 months (`hhhomelessorsheltera2`). The pre-registration table included in Appendix Table 1 reflects this change. Analysts wanting to use the additive index can create it with variables `rhomelessa2` and `rgroupsheltera2`.

Section F: Neighborhood, Parent-Child Activities, Happiness and Life Satisfaction

- **About this Section:** Section F in the instrument is labeled "Neighborhood" but also contains subsections focused on parent-child activities and mothers' happiness and life satisfaction. This section asks mothers about neighborhood safety and includes one pre-registered outcome: Index of Perceptions of Neighborhood Safety.
- **Neighborhood Subsection:** This section asks mothers about neighborhood safety and includes one pre-registered outcome: Index of Perceptions of Neighborhood Safety.
    - **Raw Variables:** Mothers rated neighborhood safety on a four-point scale during the day (`neighborhooddaya2`) and at night (`neighborhoodnighta2`).
    - **Generated Variables:** The pre-registered variable `hhneighbsafetya2` is a 2-item additive index of perceptions of neighborhood safety during the day and at night, with higher values indicating more safety. We also generated two dummy variables to indicate whether mothers felt "safe or very safe" during the day and at night (`hhneighborhoodday_da2` and `hhneighborhoodnight_da2`, respectively).
- **Parent Child Activities Subsection:** Parent-child activities were measured using the Parent Child Activities Index, which is a self-report of how often parents engage in a series of activities with their child. The five items were asked on a four-point scale: (1) rarely or not at all, (2) a few times a month, (3) a few times a week, (4) every day. Analysts should note that there is an additional item added from Age-1, which used four items (`pretendplaya2`) The pre-registered parent child activities index (`mparentchildacta2`) was generated using an additive index of five items, with higher values indicating higher frequency of parent-child activities.
- **Life satisfaction Subsection:** This non-pre-registered item asked mothers about their life satisfaction. Although the raw variable is named `happiness` in the instrument, we renamed the raw variable as `msatisfactiona2` in the dataset to distinguish it from the global happiness item in Section M. The generated variable `msatisfactionda2` is a dummy variable for being very much satisfied with life.

Section G: Childcare, Mother's Training/Education, and Employment

- **About this Section:** This section of the survey asked about various "life events" at the time of the Age-2 interview. Life events recorded at the time of the Age-2 interview included childcare, employment, and mother's education and training attainment. This section includes three pre-registered outcomes: (1) cost of paid childcare; (2) use of center-based care, and (3) mother's education and training attainment.
- **Raw Variables:** When responding to the questions, mothers were asked to think of the typical 7-day week in the last month, which we will refer to as the "time of the Age-2 interview." Analysts should note that the response options for the survey question G27 about who provided care to the child other than the father were restricted to grandparent, child's sibling, and other relative, potentially limiting the validity of those items.
- **Generated Variables:** We generated several variables for internal purposes but leave them for secondary analysts in case they are useful (e.g., who exactly provided childcare, hours worked across all jobs). For employment, we operationalized full-time as working 35 hours or more per week across all jobs (see `mworkparttimea2` and `mworkfulltimea2`). We refer analysts to the Stata do-file for the full details of non-preregistered generated variables. The pre-registered variables are as follows:
    - Mothers reported how much money they spent on out-of-pocket childcare arrangements in the last week (`hhpaidcccosta2`) for the focal child. Additionally, we generated a version of this variable that is truncated to the 99th percentile (`hhpaidcccost_tca2`). We asked the mother to confirm whether that amount was for the study focal child or for other children. When the mother reported that the amount was for other children as well, we created a new variable that adjusted the cost of childcare by the number of children involved (`hhadjpaidcccosta2`).
    - The variable `medjobtraina2` indicates whether the mother participated in education (`everattenda2`) or job training (`jobtraina2`) activities since the focal child's birth.

Section H: Child Health

- **About this Section:** There are three subsections (Child Sleep, Child Health, and Child Nutrition) with four pre-registered outcomes (1) Sleep Disturbance, (2) Child Health, (3) Consumption of healthy foods, and (4) Consumption of unhealthy foods.
- **Child Sleep Subsection**
    - **Raw Variables:** The PROMIS sleep disturbance index in an additive index of four items on a five-point scale (1: Never, 2: Almost Never, 3: Sometimes, 4: Almost Always, 5: Always). Mothers responded to four items that asked in the past 7 days how often the focal child had difficulty falling asleep, slept through the night, had a problem with his/her sleep, and had trouble sleeping. Sleeping through the night was reverse-coded.
    - **Generated Variables:** The pre-registered outcome `cPROMISa2` is an additive index of 4-items, with higher scores indicating more sleep problems. The 4-item scale `cPROMISa2` is the originally intended pre-registered outcome that matches the source scale, but by mistake, we left off one of the items in the pre-registration document and effectively pre-registered a 3-item scale. However, secondary analysts can create the 3-item scale by excluding `csleeptroub_b_2a2`.
- **Child Health Subsection**
    - **Raw Variables:** This section asks questions about the child's overall health, and we use six of them to generate a pre-registered additive index of child overall health. The six raw variables that are used to create the additive index of child poor health include: `chealtha2`, `cdocsicka2`, `cdochurta2`, `csickera2`, `certimesa2`, and `cdisabilitya2`. Of note, the response options to `cdochurta2` and `certimesa2` were changed between the Age-1 and Age-2 surveys. At Age-1, these were free response numeric answers. At Age-2, the options were 0-1 times, 2-5 times, and 6 or more times. In addition to these six items, there are additional raw variables that include further information on child diagnoses, medications, vaccination status, missed medical care, and whether the focal child had received any early intervention services (e.g., speech therapy, physical therapy, or occupational therapy). Note that information on receipt of early intervention

services was not included in the Age-1 survey.

- **Generated Variables:** The pre-registered outcome `csickhealtha2` is an additive index of the 6-items that represents child overall poor health, with higher scores indicating poorer health. These original six items use various scales. Please see the Stata do-file for details. We pre-registered these items as an additive index subject to factor analysis. Our analysis suggests that this index does not conform to a one or two factor structure, and we suggest that users consider this in their work with these data.

- **Child Nutrition Subsection**
  - **Raw Variables:** This section on child nutrition was new to the Age-2 survey. Mothers were asked on an average day how many times the focal child consumes unflavored cow's milk, drinks sugared beverages, eats fruits, eats vegetables, and eat sweets. The raw variables corresponding to these questions are `nutritionintroa2`, `drinksugara2`, `eatfruita2`, `eatvega2`, and `eatsweetsa2` respectively. Response options were 0, 1, 2, 3, 4, and 5 or more.
  - **Generated Variables:** We generated versions of each raw item where responses of "5 or more" were imputed as 5. The pre-registered outcome `cconsumehealthya2` is an additive index of two items (`ceatfruita2` and `ceatvega2`) that represents consumption of healthy foods, with higher scores indicating healthier eating. The pre-registered outcome `cconsumeunhealthya2` is an additive index of two items (`cdrinksugara2` and `ceatsweetsa2`) that represents consumption of unhealthy foods, with higher scores indicating unhealthier eating. Analysts should note that we used a more intuitive variable name for the generated item about consuming unflavored cow's milk; specifically, `cmilka2` is the generated variable that corresponds to the raw variable `cnutritionintroa2`.

Section I: Social Emotional Development (BITSEA)

- **About this Section:** This section includes the pre-registered measure of child socioemotional problems: the Brief Infant Toddler Social Emotional Assessment (BITSEA). The original BITSEA scale has 42 items and two additional questions ("A" and "B"). From the 42 items, 11 are part of the "Competence scale" and 31 are part of the "Problems" scale. The two additional questions ("A" and "B") are part of the BITSEA questionnaire but not the scoring of the scale. Note: The Age-2 data collection fixed an error in survey administration that was present at the Age-1 wave (see Age-1 User Guide for more details).
- **Raw Variables**: We asked the 31 Problems scale items, the 11 Competency scale items, and the two additional questions (`cemotconca2` and `clangconca2`; items "A" and "B" in the original scale). For the 42 scale items, the mother is asked to describe her child's behavior in the last month on a three-point scale (1: Not true/rarely, 2: Somewhat true/sometimes, 3: Very true/often). The two additional questions ("A" and "B") ask the mother how worried they are about the child's behavior and language development on a four-point scale (1: Not at all worried, 2: A little worried, 3: Worried, 4: Very worried).
- **Generated Variables**: To generate the BITSEA Problems total score and Competency total score, we recoded the items in the following ways:
  - All 42 items were recoded to be on a scale from 0 to 2 instead of 1 to 3.
  - Items 19 and 27 from the original scale refer to the child's relationship with other children. Following BITSEA scoring guidelines, the option "*Circle N if there is no contact with other children*" was treated as a missing value in the total score. It is coded as "4" in the raw item variables. We recoded 4 to ".i" for the generated items.
  - *BITSEA Competency Total Score* (`cbitseacompa2`): Following BITSEA scoring guidelines, we summed the response values from the 11 Competency recoded items. If more than 2 Competency items were scored as missing, the total score was assigned missing.
  - *BITSEA Problems Total Score (*`cbitseaproblema2`): Following BITSEA scoring guidelines, we summed the response values from the 31 Problem recoded items. If more than 5 Problem items were scored as missing, the total score was assigned missing.

- *BITSEA Problems cutoff* (cbitseaprobpcutoffa2): Following BITSEA scoring guidelines, we created an indicator of "Possible Behavior Problem," comparing the total score with a cutoff that is based on the child's age (iwdateagea2) and the child's gender (cfemalea2).
- *BITSEA Competency cutoff* (cbitseacomppcutoffa2): Following BITSEA scoring guidelines, we created an indicator of "Possible Low Competency," comparing the total score with a cutoff that is based on the child's age (iwdateagea2) and the child's gender (cfemalea2). Note: the variable iwdateagea2 is not available in the publicly released dataset. Instead, a partially masked age variable is available (cagea2).

Section M1: Maternal Health

- **About this Section:** This section includes two pre-registered outcomes: (1) global happiness and (2) maternal agency. Placement of this section in the survey administration was randomized for participants. Half of the mothers were asked these items before the income items (Section K), and the other half were asked these items after income questions.
- **Raw Variables:** Because of the randomization in survey order, mother's responses were stored in two sets of variables, one set for each randomization block. For example, the response to the item about maternal happiness is stored in two variables mhealth1a2 and mhealth2a2. In addition, the responses were stored on different values for the different randomization blocks. For example, the three-point response options to happiness (Not Happy, Pretty Happy, Very Happy) were stored in values 1-3 for the first randomization block and stored in values 4-6 in the second randomization block. This is also true of the maternal agency items. We adjust the response options accordingly.
- **Generated Variables:** The pre-registered outcome global happiness (mhappya2) is a one-item outcome on three-point response scale (0: Not too happy; 1: Pretty happy; 2: Very happy). The pre-registered outcome maternal agency (mHOPEa2) is an additive index of eight items on a five-point response scale (1: Definitely false; 2: Mostly false; 3: Sometimes true and sometimes false; 4: Mostly true; 5: Definitely true), with higher values indicating more agency. In addition to these two pre-registered variables, we also generated a dummy variable to indicate the mother felt pretty happy or very happy (mhappyda2).

Section K: Income and Receipt of Public Program Benefits

- **About this Section**: This section includes two subsections: (1) income and (2) receipt of public benefits. We do not include poverty threshold measures in our public Age-2 dataset due to complications arising from the household roster section that limits our ability to calculate household size. When these issues are resolved, the household roster and poverty threshold measures will be made available.
- **Income Subsection:** To estimate total household income, this subsection asks participants to report five components of income: (1) mother's earned income, (2) spouse's earned income (if living with a spouse or partner determined by the mother's responses in the household roster section), (3) others' earned income (if living with other adults determined by the mother's responses in the household roster section), (4) government income, and (5) all other income (such as money from any businesses, help from friends or relatives, child support, and any other money income). Income reports correspond to the entire calendar year preceding the year of the interview. If the survey interview was conducted in 2021 or 2020, the values of these components correspond to the annual total earned in 2020 or 2019, respectively.
  - **Raw Variables**: Mothers are first asked to report a dollar value for each component of their income. If they do not provide a dollar value, then the value is estimated through a series of "unfolding questions" that approximate the income component amount. The dollar values for each income component are then stored for all mothers (i.e., those who provided a dollar value and those whose amount was estimated through the unfolding sequence) in the following raw variables: totearnedincomea2, totspouseincomea2, totothhhmemincomea2, totgovtincomea2, and totallotherincomea2. The five components are automatically

added up by the survey program and stored in another raw variable (`combinedincomea2`), and then mothers are asked if this total income value is about right for their household income. If the answer is "no" or "don't know" (in variable `calculatedincomea2`), they are asked to provide a best estimate, including all sources (`estimatedincomea2`). Two differences have been made between the Age-1 and Age-2 raw variables:

- Two income brackets were added in the unfolding sequence. At Age-1, if mothers said "yes" to "is it $25k or more?", they would get assigned a value of $30,000. At Age-2, if they keep answering "yes", they could get the questions "is it $35k or more?" and "is it $45k or more?". If they said "yes" to the last question, they were assigned a value of $50,000.
- At Age-1, if mothers said that they did not know or they refused to provide a value (or to answer the unfolding questions), they were assigned a value of $0. At Age-2, under these circumstances, they were assigned a value of $2,500.

- **Generated Variables**: For all generated income variables, we adjusted amounts to 2019-dollar values, thereby deflating the amounts reported for 2020. We generated variables to represent the total for each of the five income components. The generated income variables by component are: `hhmomearneda2`, `hhspouseearneda2`, `hhothersearneda2`, `hhgovtincomea2`, and `hhotherincomea2`. There are two key differences from the versions calculated in the raw variables: (1) we maintain missing values (.d, .r, and .) instead of assigning $2,500 when mothers did not know or did not report a value, and (2) if mothers said it was more than $45,000 (i.e., the last bracket in the unfolding sequence), instead of assigning $50,000, we assigned the median value of individuals who gave an amount above $45,000 in the first place. This is:
  - $59,500 for maternal earnings (based on 8 observations)
  - $55,000 for partner earnings (based on 19 observations)
  - $61,000 for other household members' earnings (based on 12 observations)
  - No mothers reported more than $45,000 for government or other sources of income.

  We generated alternative variables for two of these components (`hhspouseearnedexpa2` and `hhothersearnedexpa2`) that replace missing values with 0 for mothers who report no spouse or no other household members, respectively. Additionally, we generated a variable of mothers' earned income that is truncated to the 99th percentile (`hhmomearned_tca2`). To estimate total household income (`hhrevisedincomea2`), we applied the following rules:
  - If the mother confirmed the "combined income" value as being correct (`calculatedincomea2 == 1`), then the household income is the sum of each component (using our adjustment for values less than $5000).
  - If the mother did not confirm the "combined income" value and provided a new estimate (`estimatedincomea2`), then the household income (`hhrevisedincomea2`) is the new estimated income that the mother provided.
  - If the mother did not confirm the "combined income" and then did not offer an alternative estimate from the one calculated from her previous responses, then this household income variable is missing.

  We also generated an alternative version of the total household income variable (`hhincomea2`) where we use the combined income value that mothers did not confirm (`calculatedincomea2 == 5`) for the mothers who did not provide an alternative estimate to minimize missing values for these mothers.

- **Receipt of Public Benefits Subsection:** This subsection asks whether the mother receives public benefits and includes the pre-registered outcome social services receipt index.
  - **Raw Variables**: Mothers are asked whether they receive 10 social services (i.e., food stamps/SNAP, Free or Reduced Child Care, Early Head Start, Head Start, Women, Infants, and Children (WIC), State Unemployment, Cash Assistance/TANF, Medicaid coverage for self, Housing Assistance, LIHEAP/Heat/AC Assistance or other assistance). Mothers were asked about these social services using a checklist. Please see section "Check all that apply" for details on how raw variables get

stored for these types of questions.

- **Generated Variables**: The pre-registered outcome social services receipt index (`hhsocialservicesa2`) is derived from the 10 social service items. We combined Early Head Start and Head Start as a single item (`hhearlyhsorhsa2)` on the social services receipt index, such that a 1 for this variable indicates whether a mother received either benefit. This was then summed with the other social service receipt items making the pre-registered outcome a 9-item additive index. If mothers said that they received "other" benefits, they were asked to specify which services or supports they received in an open-ended response. If the open-ended response corresponded to one of the services on the list, they were recoded in our generated variables. We recoded the following open-ended responses:
  - "Program for lower income family for rental help." (Housing; n=1; P1796456)
  - "PUA" (Pandemic Unemployment Assistance) (Unemployment; n=1; P9190557)
  - "Phex (is an assistant for rental payment)" (Housing; n=1; P1537466)
  - "sETION 8" (Housing; n=1; P623563)
  - "Section 8 through HPD" (Housing; n=1; P7753125)
  - "[*Redacted names*] also have medical and our food stamps are together" (SNAP; n=1; P5916507)
  - "DRIE" (this is "disability rent increase exemption", in NY). (Housing; n=1; P3174129)
  - "MN Sure" (Medicaid; n=1; P6771091)
  - "Rental assistance" (Housing; n=1; P6992998)

Section L: Expenditures and Economic Stress

- **About this Section:** This section asks about child-focused expenditures**,** economic stress, food expenditures, food insecurity, and assets and expenditures. It includes the following pre-registered outcomes: (1) index of child-focused expenditures in last 30 days, (2) food insecurity, and (3) index of economic stress.
- **Child-Focused Expenditures Subsection:** This subsection measures child-focused expenditures using purchases made in the last 30 days.
  - **Raw Variables:** For the five items of the index of child-focused expenditures in the last 30 days, mothers are first asked if they purchased any of the items. If mothers say yes, then they are asked how much money they spent on the item. Due to the skip pattern, these raw variables have missing values if mothers said "no" to having purchased the item in the last 30 days. Additionally, analysts should note that the specific items included at Age-2 differ from the set of items at Age-1; specifically, "diapers" was replaced with "activities".
  - **Generated Variables:** We generated a set of five item-level variables where the amount spent on each item is equal to 0 (instead of missing) if they have not purchased the items. Then, we generated another set of five variables that truncate each amount using the 99th percentile. The pre-registered index of child-focused expenditures in last 30 days (`hhchildexpense30daysa2`) is an additive index of the total amount spent on all five items, using the non-truncated item-level variables. We also generated a version of this variable using the five truncated item-level variables (`hhchildexpense30days_tca2`). Note: the variable names of generated items in this section differ from how they were coded at Age-1. At Age-1, they did not follow our prefix rules; we corrected this at Age-2 by adding the "hh" prefix. For example, `hhbookamount30da2` at Age-2 corresponds to `bookamount30da1` at Age-1.
- **Economic Stress Subsection:** This subsection asks mothers about their experiences with economic worries and hardships, and it includes five of the nine items that are used to construct our index of economic stress. The other four items for this index were asked in Section E, Section H, and in the assets and expenditures subsection below. The items were dichotomized and reverse coded as described in the pre-registration table. The pre-registered index of economic stress (`hheconstressa2`) is an additive index of all nine items, with higher values indicating more economic stress.

- **Food Expenditures Subsection:** This subsection asks mothers how much they and their household spend on food and how much is received in food stamps. Whether the mother receives food stamps is asked in Section K. In this subsection, mothers are asked whether someone else in their household receives food stamps (`foodstampsa2`). Due to an error in the Age-1 survey, there were complications with the interpretation of the variables in this subsection. See the Age-1 User Guide for more details; this error was corrected in the Age-2 survey. If mothers reported receiving food stamps themselves (in Section K) or if anyone else in their household received them (responded "yes" to `foodstampsa2`), they were asked how much the household received in food stamps (`foodstampamta2`). They were then asked if they spent money out-of-pocket on food in addition to what they buy with food stamps (`ofoodamta2`). All mothers received one of two versions of the question, "How much do you and everyone else in your family spend on food that you use at home in an average week?" (`ofoodamtwka2`). For mothers who reported that they or someone else in their household receives food stamps, the question was preceded by the preamble, "In addition to food stamp benefits." For these mothers, their answers should not include their food stamp benefits. Three other expenditures are included in this subsection: amount spent eating out in an average week, amount spent on alcohol in an average week, and number of packs of cigarettes purchased in an average week. There are no generated variables for these items.
- **Food Insecurity Subsection:** This subsection asks mothers about their experiences of food insecurity. The USDA food security 6-item short form module was used to measure this construct. The module contains five questions with a conditional sixth question. If mothers respond "yes" to cutting meals (`hhcutmealsizea2`), then they are asked how often this occurs (`hhcutmealfreqa2`). The item asking about hunger was erroneously excluded from the Age-1 survey but was included at Age-2. Our pre-registered food insecurity scale (`hhfoodinsecuritya2`) in the Age-2 data is an additive index of all six items (recoded as binary indicators as described in the pre-registration table), with higher values indicating more food insecurity.
- **Assets and Expenditures Subsection:** This subsection asks mothers about other items related to their assets and expenditures, including transportation, home appliances, computers, utilities, and whether they give economic support to anyone outside of their home. The home appliances and home computers questions used a checklist format. Please see subsection "Check all that apply" for details on how raw variables get stored for these types of questions. We generated binary variables to indicate whether the mother owns each appliance and type of computer. Mothers were asked if their household gave any economic support to anyone outside the household, and if so, what was the amount. We generated a variable (`hhosupportamta2`) that uses a value of zero if they did not give economic support (instead of missing). This subsection includes two of the items that are used in the index of economic stress: an indicator for missing a utility payment in the last twelve months and an indicator for having utilities turned off during the last twelve months.

Section M2: Maternal Health (same questions as in M1 except randomized to appear after questions on economic stress)

Section N: Household Atmosphere

- **About this Section:** This section includes the pre-registered Home Environment Chaos Scale, which is an adaptation of the Chaos, Hubbub, and Order Scale (CHAOS) with five additional items.
- **Raw Variables:** Mothers responded to twenty statements by saying True if the item happens more than half the time or False if it happens less than half the time. Note that instrument B intentionally does not ask mothers four of the items (`hhbedrouta2`, `hhpmrouta2`, `hhbedtimea2`, and `hhchildtalka2`) because the child was not living in the mothers' household.
- **Generated Variables:** To construct the pre-registered scale, some items were reverse scored and recoded. The generated variable for the pre-registered Home Environment Chaos Scale (`hhchaosa2`) is an additive index of all 20 items, with higher scores indicating more chaos.

Section P: Parenting Stress

- **About this Section:** This section contains seven items that comprise the pre-registered parenting stress index. Four of these items measure parenting competence and three are taken from the parenting aggravation scale.
- **Raw Variables:** Participants are asked whether they (1) strongly disagree, (2) disagree, (3) are not sure, (4) agree, or (5) strongly agree to the seven individual items. The raw variables use the same response scale across all seven items.
- **Generated Variables:** The generated variables reverse score the response scales for the variables that comprise the competence items in the scale (`mpconfidenta2`, `mgoodparenta2`, `mpadmitflawsa2`, and `mpwondera2`). The parenting stress index (`mparentingstressa2`) then sums all seven items so that higher scores indicate higher parenting stress.

Section Q: Maternal Health

- **About this Section:** This section asks mothers about their physical and mental health. There are four preregistered outcomes in this section: (1) global health; (2) depression; (3) anxiety; and (4) perceived stress. There are two additional items that ask about mothers' incarceration history during the last year.
- **Health and Satisfaction Subsection:** The pre-registered outcome of mothers' overall health (`mghealtha2`) is measured using a single item with a 5-point response scale (1: Poor; 2: Fair; 3: Good; 4: Very Good; 5: Excellent).
- **Maternal Depression Subsection:** Mothers' depressive symptoms were measured using the Patient Health Questionnaire (PHQ-8) scale, which includes eight common symptoms of depression. The raw variables use a scale from 1 to 4 (1: not at all; 2: several days; 3: more than half of days; 4: every day). We generated recoded variables that use a scale from 0 to 3 (0: not at all; 1: several days; 2: more than half of days; 3: every day). The pre-registered generated index (`mphq8a2`) is an additive index of the eight recoded PHQ-8 items, with higher values indicating more depressive symptoms.
- **Maternal Anxiety Subsection:** Mothers' anxiety symptoms were measured using eight items of the Generalized Anxiety Disorder scale (GAD-7), which includes seven items about the frequencies of common anxiety symptoms and one item about the difficulty of symptoms. The seven raw variables about frequencies of symptoms use a scale from 1 to 4 (1: not at all; 2: several days; 3: more than half of the days; 4: nearly every day). We generated recoded variables that use a scale from 0 to 3 (0: not at all; 1: several days; 2: more than half of the days; 3: nearly every day). The pre-registered generated index (`mgada2`) is an additive index of these seven recoded GAD-7 items, with higher values indicating more anxiety symptoms. The raw variable for difficulty of symptoms used a scale from 1 to 4 (1: not difficult at all; 2: somewhat difficult; 3: very difficult; 4: extremely difficult), and we generated a recoded variable (`mcripplingfeelingsa2`) that uses a scale from 0 to 3 (0: not difficult at all; 1: somewhat difficult; 2: very difficult; 3: extremely difficult).
- **Perceived Stress Subsection:** Mothers' perceived stress was measured using the Perceived Stress Scale (PSS), which assesses the degree to which the respondent has perceived situations as stressful within the last month. The nine raw variables use a scale from 1 to 5 (1: Never; 2: Almost never; 3: Sometimes; 4: Fairly often; 5: Very often). We generated recoded variables using a revised scale from 0 to 4 (0: Never; 1: Almost never; 2: Sometimes; 3: Fairly often; 4: Very often). Three of the items were reverse scored (0: Very often; 1: Fairly often; 2: Sometimes; 3: Almost never; 4: Never). The pre-registered generated scale (`mperceivedstressa2`) is an additive index of the nine items, with higher values indicating more perceived stress. Note: One item was erroneously omitted from the survey, leaving a total of 9 items drawn from the intended 10-question scale.

Section R: MCDI

- **About this Section**: The MacArthur Communicative Development Inventories (MCDI) short-form is

the pre-registered measure of vocabulary development. The short-form contains 100 developmentally appropriate words and asks mothers to indicate whether they have heard their child say each word. Mothers received a link to complete the MCDI short-form online after the completion of the full Age-2 phone survey. To address issues with completion of the online form, we implemented a system of reminders. Beginning in October, if mothers did not complete the MCDI within 24 hours, they received a text reminder with a link to the survey. In early 2021, a second reminder was added for mothers who had not completed the MCDI within one week of the 24-hour reminder. Later a third reminder was added for mothers who had not yet completed the MCDI within three months of their survey; an additional $10 incentive was also added for mothers who received this third reminder. Therefore, the MCDI may not have been administered at the same time as the Age-2 survey. 710 mothers completed the MCDI, BFY team members generated a percentile score for 700 mothers whose children were less than 32 months old at the time the MCDI was administered.

The MCDI was administered in English, Spanish, or both, depending on the child's home language environment. Prior to administering the MCDI, mothers were asked what language(s) the focal child heard most to determine whether mothers should complete the English version, Spanish version, both versions, or neither (see `Appendix Figure 2 for the MCDI flowchart`). If they selected either English or Spanish and indicated that the child did not hear any other language, then the English or Spanish version of the MCDI was administered, respectively. If they selected that they heard English and Spanish equally or sometimes heard both English and Spanish, then both the English and Spanish versions of the MCDI were administered. Mothers whose children heard neither of these languages were not eligible to complete the MCDI.

Both the English and the Spanish versions of the MCDI are comprised of 100 developmentally appropriate words. For each word, mothers were asked to indicate whether they had ("yes") or had not ("no") heard the child say the word (or a child-like pronunciation of the word). Mothers were also asked one additional question about whether the child had begun to combine words together, for which mothers could report "not yet", "sometimes", or "often."

Of the 100 words administered, 26 were common across the English and Spanish versions of the MCDI. The table below indicates which items overlap for analysts who may wish to make use of these 26 common items.

Table X: MCDI English/Spanish Item Overlap

Word/Item	English Version	Spanish Version
Moo/Muu	Block 1EN_2	Block1ES_3
Ouch/Ay	Block1EN_3	Block1ES_1
Shoe/Zapato	Block1EN_4	Block1ES_22
Duck/Pato	Block1EN_7	Block1ES_7
Kitty/Gato	Block1EN_9	Block1ES_6
Truck/Troca	Block1EN_13	Block1ES_13
Cup/Vasos	Block1EN_25	Block2ES_10
Bottle/Botella	Block2EN_8	Block2ES_7
Light/Luz	Block2EN_14	Block2ES_9
Hose/Manguera	Block2EN_22	Block2ES_21
Sun/Sol	Block2EN_24	Block2ES_19
Mommy/Mami	Block3EN_4	Block3ES_1
Child/Nino	Block3EN_5	Block3ES_2
Bath/Bano	Block3EN_7	Block2ES_16
Bye/Adios	Block3EN_8	Block3ES_5
Nightnight/Noches	BlockeEN_10	Block3ES_8
Drop/Caer	Block3EN_16	Block3ES_9

Jump/Saltar	Block3EN_20	Block3ES_9
Look/Mirar	Block3EN_22	Block3ES_17
Sit/Sentar	Block3EN_25	Block3ES_13
Big/Grande	Block4EN_1	Block4ES_2
Then/Entonces	Block4EN_3	Block4ES_25
Dirty/Sucio	Block4EN_5	Block4ES_1
Today/Hoy	Block4EN_11	Block4ES_9
None/Nohay	Block4EN_21	Block4ES_22
Don't/No	Block4EN_24	Block4ES_20

- **Raw Variables**: The raw variables include mothers' responses to the MCDI language flowchart (`language1_ena2` – `mcdilanguagea2`), an indicator of which MCDI version(s) were administered (English, Spanish, or both; `mcdilanguagea2`), and the item-level responses for each of the 100 words (English: `mcdiblock1en_1a2` – `mcdiblock4en_25a2`; Spanish: `mcdiblock1es_1a2` - `mcdiblock4es_25a2`). After individual words, mothers respond whether the child combines words (`mcdicombineena2` and `mcdicombineesa2`). In these item-level variables, there are two types of missing data: "." and "NA" responses. The difference between "." and "NA" is that "." (i.e., true missings) indicate that the mother did not ever open the MCDI link, while "NA" responses at least completed the language questions and received a questionnaire. Therefore, "NA" responses include mothers that completed the MCDI in a different language AND those who were assigned the MCDI in that specific language but did not report a response for the item. For instance, under the first word in the English version (`mcdiblock1en_1a2`), there are 47 "NA" responses. 30 of them are because they completed the MCDI in Spanish, 5 of them are because the main language was "other" (not English or Spanish, so they didn't complete the MCDI), and 12 of them are mothers that were assigned the English version but did not check any items. In addition to the item-level variables, the raw variables also include counts of NA responses (`ennaa2` and `esnaa2`), the raw scores generated for the Spanish and English versions of the MCDI (`eng_vocab_rawa2` and `span_vocab_rawa2`), and the normed percentile scores for each raw score (`eng_voc_percentilea2` and `span_voc_percentilea2`). Research team members used the completed items to generate raw scores and calculate the percentile score values using tools developed by the creators of the MCDI.

- **Generated Variables**:
  - *Quantification of MCDI completion:* We create two variables indicating the number of blocks completed (0-4) in English (`cmcdienblockscompa2`) and Spanish (`cmcdiesblockscompa2`). We also create indicators for being fully completed in either language, English, Spanish, or both (`cmcdicompletea2`, `cmcdiengcompletea2`, `cmcdiespcompletea2`, `cmcdibothcompa2`).
  - *Percentile scores*: We use the MCDI percentile score to generate the pre-registered measure of vocabulary development. Because the MCDI percentile score is based on completion of the full 100 items and is not normed for partial completion, participants who did not complete the full inventory (i.e., all four blocks) have missing values for these items. To account for different norming across the Spanish and English versions of the MCDI and differences in childhood vocabulary development for children from monolingual and multilingual homes, we use separate measures for children who hear only English at home (`cmcdienga2`), children who hear only Spanish at home (`cmcdiespa2`), and children who hear both languages at home. For participants who indicated the child is bilingual (i.e., were administered both the English and Spanish versions of the MCDI), we created two different percentile scores (`cmcdibilinguala2` or `cmcdibilingualavga2`). For those who were administered both versions, the first variable (`cmcdibilinguala2`) reflects the

percentile from the version in which the percentile score was highest, or the only version with all items completed. The second variable (cmcdibillingualavga2) reflects an average of both the English and Spanish versions' percentile scores, provided both were completed. Children who were indicated as bilingual but did not complete one or the other language are assigned the percentile value based on the language they did complete.

- *Alternate Percentile Scores:* For each of the percentile measures, we created alternate versions which exclude (i.e., have missing values) participants who reported "yes" for all 100 items given the potential implausibility of this pattern (English version: cmcdiengalta2; Spanish version: cmcdiespalta2; bilingual: cmcdibilingualalta2, cmcdibilingualavgalta2). For participants who were administered both the English and Spanish versions and reported "yes" to all of the items on one of the two versions, these alternate percentile scores were replaced with the score for whichever version did not have 100 "yes" responses, provided it was complete. For those who reported "yes" to all the items on both scales, alternate percentiles scales were set to missing.
- *Additional Question (Combines Words):* We create a dummy indicator that flags whether the child ever combines words (i.e., responses of "sometimes" or "often") (cmcdicombeinen_da2, cmcdicombinees_da2).

Section U: ClinCard

- **About this section**: This section includes variables related to the administration of the 4MyBaby debit card. Refer to the survey instrument for more information.

Section W: COVID-19 Questions

- **About this Section:** This section contains no pre-registered outcomes. These items are focused on mothers' experiences with COVID-19. Participants were asked whether they or anyone in their household got sick with covid or was hospitalized and whether anyone in the household received economic support (such as expanded unemployment benefits or other pandemic-related payments). Mothers were also asked whether they experienced the death of a close friend or family member due to COVID and whether they made any major changes in their behavior, including social distancing.
- **Raw Variables:** As a result of survey administration, there are 5 corresponding raw variables for each of the items that ask about lost income, receipt of pandemic unemployment benefits, receipt of other pandemic government payments, covid illness, and covid hospitalization (covidlostincome_s_Xa2, covidunemployment_s_Xa2, covid_govpay_s_Xa2, covidsick_s_Xa2, covidhospital_s_Xa2, where X can take on the value 1-5). However, data are stored only in the first two items (i.e., covidlostincome_s_1a2 and covidlostincome_s_2a2), each to allow a mother to answer that she and someone else from her household experienced any of these events. A value of 1 in any of these items indicates that the mother experienced the event, a value of 2 indicates that another household member did, a value of 5 indicates that no one in the household experienced the event, and values of 8 and 9 indicate that the mother did not know if she or someone in her household experienced these events. Mothers were also asked the extent to which they changed their behavior in response to stay-at-home and social distancing recommendations. Mothers could respond that they made no changes, minor changes, or major changes. Mothers who indicated they made major changes were then asked specifically about social distancing from family members and sheltering in place.
- **Generated Variables:** To ease analysts' use of these variables, we generate a series of dummy variables to indicate whether the mother, someone in her household, or no one in her household lost income, received pandemic unemployment aid, received pandemic financial assistance, was sick with covid, or was hospitalized with covid (mcovidlostincomea2, hhcovidlostincomea2, and hhnocovidlostincomea2). We also generate dummy variables for whether mom or anyone in her household lost income (mhhcovidlostincomea2) had their health affected by Covid, either through sickness or hospitalization (mhhcovidhealtha2), and received any economic support, combining

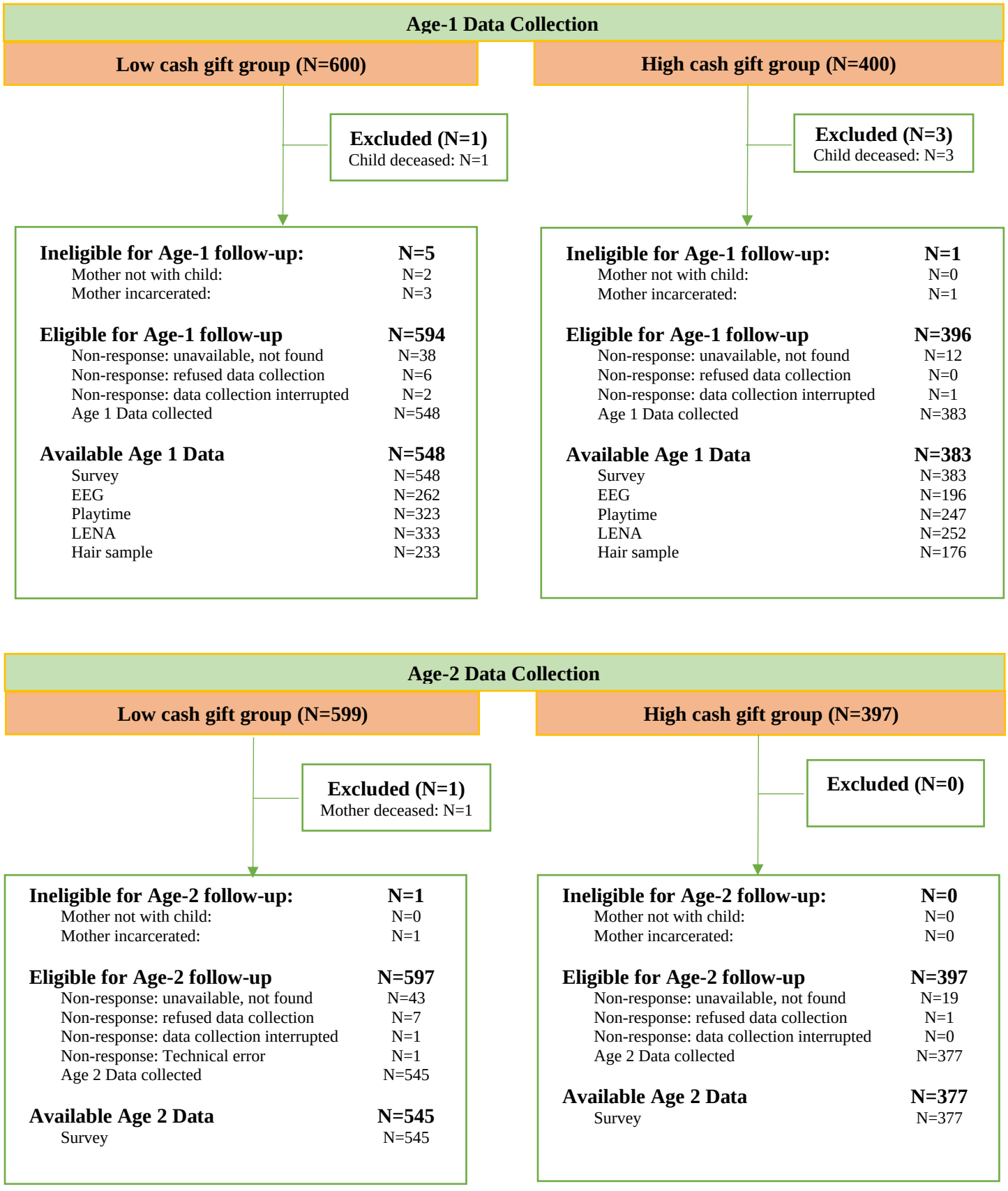
unemployment and other government aid (`mhhcovidsupporta2`).

Section V: Observations

No notes for this section. See instrument for more information.

APPENDIX TABLES AND FIGURES

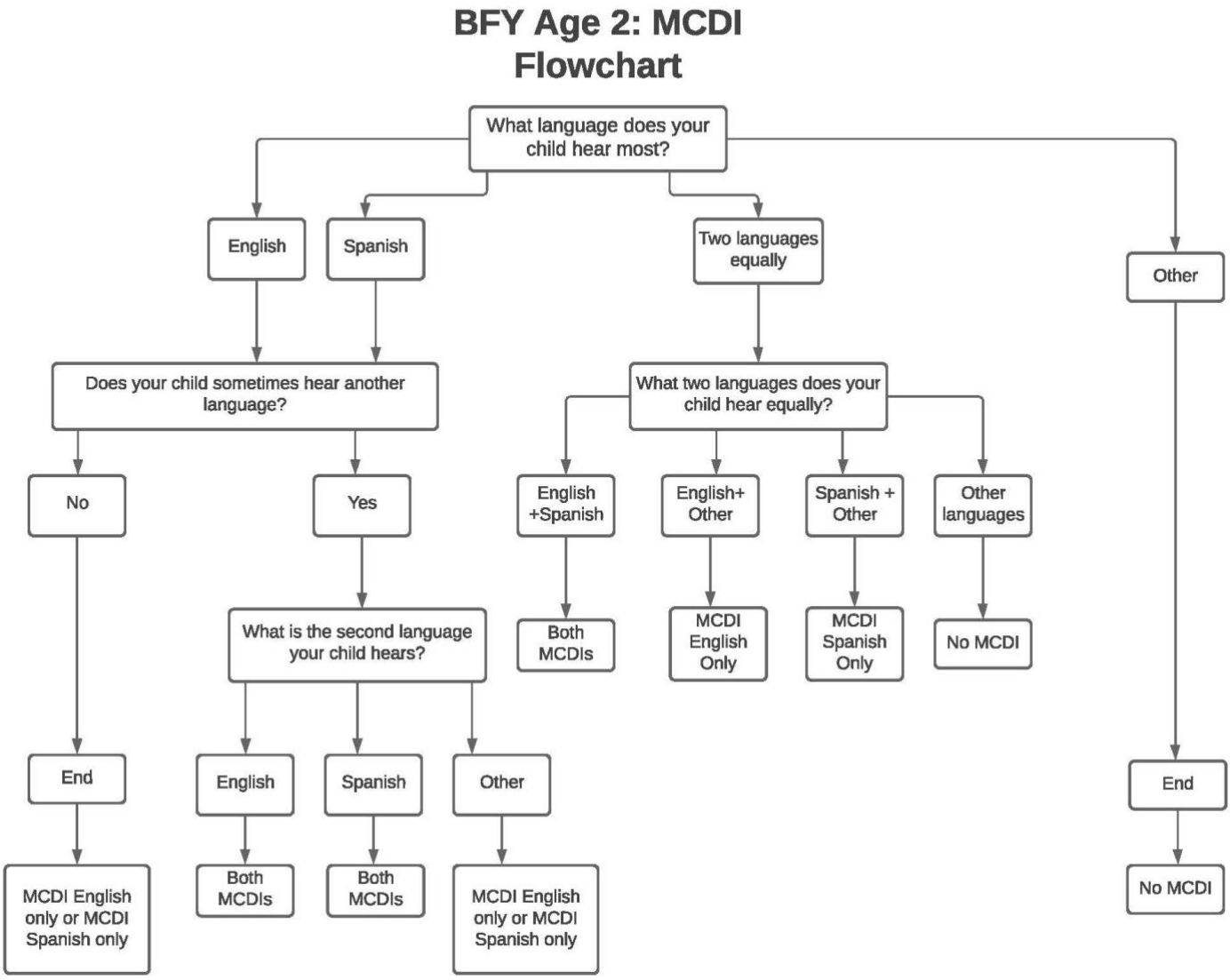
Appendix Figure 1. Age 1 and Age 2 Consort Diagram



From Age 1 to Age 2:

Age 1		Age 2	
Completed Age 1 Survey	N=931	Completed Age 2 Survey	887 (95.3%)
		Not available/ not found	39 (4.2%)
		Refusal	4 (0.4%)
		Technical error	1 (0.1%)
Child deceased	N=4	Child deceased	4 (100%)
Incarcerated	N=4	Completed Age 2 survey	1 (25%)
		Incarcerated	1 (25%)
		Not available / not found	1 (25%)
		Refusal	1(25%)
Interrupted	N=3	Completed Age 2 survey	2 (66.7%)
		Not available / not found	1 (33.3%)
Not available/ not found	N=50	Completed Age 2 survey	28 (56%)
		Not available / not found	19 (38%)
		Refusal	2 (4%)
		Interrupted	1 (2%)
Not with child	N=2	Mother deceased	1 (50%)
		Not available / not found	1 (50%)
Refusal	N=6	Completed Age 2 survey	4 (66.7%)
		Not available / not found	1 (16.6%)
		Refusal	1 (16.6%)

Appendix Figure 2. MCDI Flowchart



Appendix Table 1: Maternal and Family Focused Preregistered Hypotheses

Domains (in gray) and sub-domains	Measure/Item source	Psychometrics	Age preregistered Primary Outcome	Age preregistered Secondary Outcome	Measures (All measures between grey lines measured during the same wave will be subject to multiple testing adjustments)
Household Economic Hardship					
Index of economic stress	MTO; Kling, Liebman, Katz, 2007			1, 2, 3, 4	Additive index of dichotomous variables (higher score=more stress): 1. worried about expenses? (0: occasionally or never; 1: frequently or more) 2. whether spent more than income? (0: no; 1: yes) 3. missed rent or mortgage (0 if homeless or not missed; 1 if missed rent or mortgage) 4. Set aside rainy day funds for 1 mo (0: Yes 1: No) 5. Ability to cover expenses for 1 mo with loss of income (0: Yes; 1: No) 6. in past 12 mos, missed payments for water, gas, oil, electricity? (0: no or not applicable; 1: yes) 7. in past 12 mos, gas, water, electricity ever shut off? (0: no; 1: yes) 8. Since child's birth, have you ever been evicted or forced to leave? (0: No; 1: Yes).*changes to "in the past 12 months" for surveys at ages 2 through 4 9. needed medical or dental care and did not get it? (0=no; 1=yes) *item 9 dropped at age 4 owing to survey time constraint
Household Poverty rate	US Census Bureau			1, 2, 3, 4	Measured using the Census Bureau's poverty thresholds by size of family and number of children
Index of food insecurity*	Economic Research Service, USDA, 2012			1, 2, 3, 4	Additive index of 6 dichotomized items (higher score=more food insecurity): 1. Food didn't last, no $ for more (0: Never true, 1: sometimes or often true) 2. Can't afford balanced meals (0: Never true, 1: sometimes or often true) 3. Cut size or skip means (0: No; 1: Yes) 4. If yes to (3), how often? (0: only one or two months; 1: almost every month or some months) 5. Eat less than should (0:No; 1: Yes) 6. Hungry^{+} (0:No; 1: Yes)
Social Services Receipt					
Number of Benefits received by mother	Study PIs			1, 2, 3	Additive index of dichotomized items (higher score=more benefits received): 1. Food stamps SNAP (0: not currently receiving; 1: currently receiving) 2. Free or reduced childcare* 3. Early Head Start or HS* 4. Women, Infants and Children (WIC) 5. State Unemployment 6. Cash assistance/TANF* 7. Medicaid coverage for self 8. Housing assistance 9. LIHEAP / heat/AC assistance* *Indicates benefits that were not asked about at age 3. Note: Age 4 benefit index was not pre-registered because of the availability of administrative records for some of the benefits

Appendix Table 1: Maternal and Family Focused Preregistered Hypotheses

Domains (in gray) and sub-domains	Measure/Item source	Psychometrics	Age preregistered Primary Outcome	Age preregistered Secondary Outcome	Measures (All measures between grey lines measured during the same wave will be subject to multiple testing adjustments)
Mother's Labor Market and Education Participation					
Time to labor market reentry from birth	Current Population Survey			1	Continuous outcome: # of months until mom's reentry into labor market from birth of child derived from the following items: 1. did you ever work for pay since child's birth? 2. in what months did you work for pay?
Time to full-time labor market reentry from birth	Current Population Survey			1	Continuous outcome: # of months until mom's full-time reentry into labor market from birth of child derived from the following items: 1. did you ever work full time since child's birth? 2. in what months did you work full time?
Mother's education and training attainment	Current Population Survey			1, 2, 3	Dichotomous variable indicating that mother participated in education and/or job training activities since birth* *changes to "in the past 12 months" for surveys at ages 2 and 3
Mother's Labor Market Participation	Current Population Survey			4	Dichotomous variable indicating whether mother is participating in the labor market using the item "do you currently work for pay?"
Maternal Earnings	PSID			4	Mother's Earnings in the previous calendar year
Child-Focused Expenditures					
Index of child-focused expenditures (since birth)	Lugo-Gil, Yoshikowa, 2006			1	Additive index of the following dichotomous items (higher score=more purchased): Since child's birth, purchased… 1. Crib? 2. Car seat? 3. High chair? 4. Safety covers for outlets? 5. Latches for
Index of child-focused expenditures (in past 30 days)	Lugo-Gil, Yoshikowa, 2006			1, 2, 3, 4	Continuous dollar amount of age-relevant items*: Past 30 days, total $ amount spent on... 1. books 2. toys 3. clothes 4. diapers 5. videos for age 1; 1. books 2. toys 3. clothes 4. activities 5. videos for ages 2, 3, and 4
Cost of paid child care	National Study of Early Care and Education			1, 2, 3, 4	Out of pocket spending on child care last week. 1. altogether, about how much money did you spend out-of-pocket on all of [CHILDNAMEF]'s child care arrangements last week? Note: Age 4: dropped wording "out-of-pocket"
Use of center-based care	National Study of Early Care and Education			1 2, 3, 4	1. Has child spent any time in childcare or day care? (Y/N) 1. Has child spent 5 or more hours in a child care or day care center last week? (Y/N)
Housing and Neighborhoods					

Appendix Table 1: Maternal and Family Focused Preregistered Hypotheses

Domains (in gray) and sub-domains	Measure/Item source	Psychometrics	Age preregistered Primary Outcome	Age preregistered Secondary Outcome	Measures (All measures between grey lines measured during the same wave will be subject to multiple testing adjustments)
Index of perceptions of neighborhood safety	MTO; Kling, Liebman, Katz, 2007			1, 2, 3	Additive index of two items (higher score=feels more safe). 1. how safe during day? (3: very safe, 2: safe, 1: unsafe, 0: very unsafe) 2. how safe during night? (3: very safe, 2: safe, 1: unsafe, 0: very unsafe)
Index of housing quality	MTO; Kling, Liebman, Katz, 2007			1	Additive index of 7 items (higher score=higher quality): 1. Bad walls (0: big problem; 1: small problem; 2: not problem) 2. bad plumbing 3. rodents 4. cockroaches 5. bad windows 6. bad heat 7. overall condition (3: excellent, 2: good 1: fair, 0: poor)
				2	Additive index of 9 items (higher score=higher quality): 1. Bad walls (0: big problem; 1: small problem; 2: not problem) 2. bad plumbing 3. rodents 4. cockroaches 5. bad windows 6. bad heat 7. bad air condition 8. bad locks~ 9. overall condition (3: excellent, 2: good 1: fair, 0: poor)
Homelessness	MTO; Kling, Liebman, Katz, 2007			1, 2, 3	Dichotomous indicator of whether the mother has ever been homeless or in a group shelter (age 1 "since birth", age 2-3 "in the past 12 months"): 0: No 1: Yes
				4	Dichotomous indicator of whether mom experienced "homelessness, eviction, or sudden loss of housing in the past 12 months".
Excessive Residential mobility	MTO; Kling, Liebman, Katz, 2007			1, 2, 3	Moved three or more times since birth of baby* (Y/N) *changes to "in the last 12 months" for surveys at ages 2 and 3
Neighborhood poverty	Kling, Liebman, Katz, 2007			1, 2, 3, 4	# of residents below poverty line in census tract divided by total number of residents in census tract

Appendix Table 1: Maternal and Family Focused Preregistered Hypotheses

Domains (in gray) and sub-domains	Measure/Item source	Psychometrics	Age preregistered Primary Outcome	Age preregistered Secondary Outcome	Measures (All measures between grey lines measured during the same wave will be subject to multiple testing adjustments)
Family and Maternal Perceived Stress					
Perceived stress	Cohen et al., 1994, 1983	alpha: .86		1, 2	Perceived Stress Scale (PSS): additive index of 9 items (0: never; 1: almost never; 2: sometimes; 3: fairly often; 4: very often) 1. upset because of something unexpected 2. felt unable to control important life things 3. felt nervous and stressed 4. confident in ability to handle personal probs (reverse coded - rc) 5. couldn't cope with all things to do 6. control of irritations in life (rc) 7. "on top of things" (rc) 8. angered bc of things outside control 9. could not overcome difficulties
				3	Perceived Stress Scale (PSS): additive index of 10 items (0: never; 1: almost never; 2: sometimes; 3: fairly often; 4: very often) 1. upset because of something unexpected 2. felt unable to control important life things 3. felt nervous and stressed 4. confident in ability to handle personal probs (reverse coded - rc) 5. couldn't cope with all things to do 6. control of irritations in life (rc) 7. "on top of things" (rc) 8. angered bc of things outside control 9. could not overcome difficulties 10. felt things were going "your way" (rc)~
Parenting stress	Items 1-4: Project GAIN Items 5-7: PSID-Child Development Supplement			1, 2 (originally also registered for age 4 and then dropped)	Aggravation in Parenting Scale: additive index of 7 items (0: Strongly agree-5: Strongly disagree): 1. confidence in parenting abilities 2. feels good about parenting abilities 3. thinks good parent 4. kids will say she was wonderful 5. giving up more for kids than ever expected 6. feels trapped (rc) 7. unable to do different things bc of kids (rc) Note: Index dropped from age 4 survey owing to time constraints
Maternal Happiness and Optimism					
Global happiness	The General Social Survey from NORC			1, 2, 3	One-item with 3-point response scale"Taken altogether, how happy are you these days?" (0: not happy; 1: pretty happy; 2: very happy)

Appendix Table 1: Maternal and Family Focused Preregistered Hypotheses

Domains (in gray) and sub-domains	Measure/Item source	Psychometrics	Age preregistered Primary Outcome	Age preregistered Secondary Outcome	Measures (All measures between grey lines measured during the same wave will be subject to multiple testing adjustments)
Maternal Agency	Snyder et al., 1991	alpha: .86 test-retest: .81		1, 2, 3	HOPE Scale: additive index of 8 items with 5-point response scale (0: definitely false; 5: definitely true) 1.think of ways to get out of a jam 2.. energetic pursuit of goals 3. lot of ways around any problem 4. ways to get what's important 5. solves problems 6. past has prepared me for future 7. pretty successful in life 8. meets goals set for oneself
Maternal Physiological Stress					
Maternal hair cortisol	Ursache et al., 2017			1, 4	At age 1, we attempted to collect maternal hair cortisol for all in-person visits, prior to the onset of the pandemic (when data collection became limited to phone-based survey administration only). This resulted in a hair sample being collected from 409 of the 605 mothers who participated in an in-person visit, with large racial and ethnic differences in willingness to provide a sample. At age-4, we attempted to improve collection rates following focus groups and the development of informational videos. However, the first several months of data collection again revealed large racial and ethnic differences in willingness to provide a hair sample, due to both cultural and practical reasons. Because of the large amounts of non-random missing data, which would both compromise our statistical power and limit the generalizability of any findings, we dropped hair cortisol from the age-4 data collection procedures on October 25, 2022.
Maternal Mental Resources					
Maternal cognitive resources	Carlson, 2017; Carlson, & Zelazo 2014			4	Minnesota Executive Function Scale
Maternal Mental Health					
Index of maternal depression	Kroenke & Spitzer, 2002			1, 2, 3, 4	PHQ-8: additive index of 8 items (0: not at all; 1: several days; 2: more than half of days; 3: every day) 1. little interest or pleasure doing things 2. feeling down, depressed, hopeless 3. trouble sleeping or sleep too much 4. feel tired and no energy 5. poor appetite or overeating 6. feel like a failure 7. trouble concentrating 8. moving slowly or fidgety

Appendix Table 1: Maternal and Family Focused Preregistered Hypotheses

Domains (in gray) and sub-domains	Measure/Item source	Psychometrics	Age preregistered Primary Outcome	Age preregistered Secondary Outcome	Measures (All measures between grey lines measured during the same wave will be subject to multiple testing adjustments)
Index of maternal anxiety	Steer & Beck, 1997	alpha: .92 test-retest: .75		1, 3	Beck Anxiety Inventory: additive index of 21 common anxiety symptom items (0: not at all; 1: mildly; 2: moderately; 3: severely bothersome)
	Spitzer et al., 2006	alpha: .92 test-retest: .83		2, 3, 4	GAD-7: additive index of 7 items (0: not at all; 1:several days; 2: more than half the days; 3: nealy every day)
Maternal Substance abuse[×]					
Alcohol and cigarette use	MTO; Kling, Liebman, Katz, 2007			1, 3	Additive index of the following items (0: never in last year; 1: less than 1x per month; 2: several times per month; 3: several times per week; 4: everyday): 1. How often do you smoke cigarettes? 2. How often drink alcohol?
Opioid use	MTO; Kling, Liebman, Katz, 2007			1, 3	Number of times of opioid use in the past year (0: never in last year; 1: less than 1x per month; 2: several times per month; 3: several times per week; 4: everyday):
Chaos in Home					
Index of chaos in the home	Evans et al., 2005	alpha: .77 test-retest: .93		1, 2	Home Environment Chaos Scale: additive index of 20 items (higher score=more chaos): (0: not true; 1: true) 1. can find things (reverse coded - rc) 2. little commotion in home (rc) 3. always rushed 4. can "stay on top of things" (rc) 5. always late 6. "zoo" in home 7. can talk wo interruption (rc) 8. always a fuss 9. family plans don't work out 10.can't hear oneself think at home 11. drawn into others' arguments 12. can relax at home (rc) 13. phone takes up a lot of time 14. atmosphere is calm at home (rc) 15. regular morning routine (rc) 16. eat together during daily (rc) 17. evening routine with child (rc) 18. regular late afternoon routine with child (rc) 19. child goes to bed at regular time (rc) 20. set aside for talking with child daily (rc)
Maternal Relationships					
Physical Abuse	Fragile Families and Child			1,2	1. Ever abused? (1: yes; 0: no)

Appendix Table 1: Maternal and Family Focused Preregistered Hypotheses

Domains (in gray) and sub-domains	Measure/Item source	Psychometrics	Age preregistered Primary Outcome	Age preregistered Secondary Outcome	Measures (All measures between grey lines measured during the same wave will be subject to multiple testing adjustments)
Frequency of Arguing	and Child Wellbeing Study			1,2	1. How often argue about things that are important to you? (1: never; 2: rarely; 3: sometimes; 4: often; 5: always)
Relationship quality				1	Additive index of the following items (higher score=higher qual rel) 1. Partner fair and willing to compromise? (3: Often; 2: sometimes; 1: never) 2. partner expressed affection or love? (3: Often; 2: sometimes; 1: never) 3. partner insulted or criticized you or your ideas (0: Often; 1: sometimes; 2: never) 4. partner made you feel down or bad about yourself during an argument? (0: Often; 1: sometimes; 2: never) 5. partner encouraged or helped you to do things that were important to you? (2: Often; 1: sometimes; 0: never) 6. partner isolated you? (0: Often; 1: sometimes; 2: never) 7. partner hurt you physically (0: Often; 1: sometimes; 2: never) 8. partner sexually abused you? (0: Often; 1: sometimes; 2: never) 9. partner listened to you? (3: Often; 2: sometimes; 1: never) 10. partner made you feel afraid? (0: Often; 1: sometimes; 2: never) 11. partner threatened or hurt your child/children?[+] (0: Often; 1: sometimes; 2: never)
				2, 3	Dichotomous indicator of current or recent relationship quality, where poor quality is defined as 1 if the mother is in a relationship and has a score of 26 or below on the relationship quality scale (approximately the bottom tercile of the low cash gift group distribution of scores) and a 0 either if the mother is not in a relationship or is in a relationship and has a relationship quality index score of 27 or above (approximately in the top two terciles of the distribution).
Maternal Physical Health					
Global health	Idler & Benyamini, 1997			1, 2	One item with 5-point response scale "overall, how would you describe your health…" (1:poor - 5:excellent)
Sleep	Yu et al., 2012			1, 3	Additive index of the following items (higher score=higher qual sleep): 1. Quality of sleep (0: very poor-5: very good) 2. Difficulty falling asleep (0: not atll; 5: very much) (rc) 3. Felt tired (0: not at all-5: very much) (rc)
Mother's BMI	CDC scales			4	Measured by CDC BMI percentile scales
Parent-Child Interaction Quality					
Adult word count	Xu et al (2009), LENA foundation			1	Measured using LENA processing software

Appendix Table 1: Maternal and Family Focused Preregistered Hypotheses

Domains (in gray) and sub-domains	Measure/Item source	Psychometrics	Age preregistered Primary Outcome	Age preregistered Secondary Outcome	Measures (All measures between grey lines measured during the same wave will be subject to multiple testing adjustments)
Conversational turns	Xu et al (2009), LENA foundation			1	Measured using LENA processing software
Index of mother's positive parenting behaviors	Roggman, et al., 2013; Griffen & Friedman, 2007; Belsky, et al., 2007	inter-rater reliability varies by domain: .69-.80; alpha: .78		1, 4	Measured using PICCOLO coding of parenting behaviors from the total of four sub-scales (affection, responsiveness, encouragement and teaching) with responses ranging from 0: absent, 1: barely, 2: clearly. The total composite score is preregistered. Exploratory analyses will examine differences across the subscales, and factor analysis will be used to confirm the extent to which the four subscales best fit the data. Parent child interaction task and script adapted from the NICHD Study of Early Child Care and Youth Development.
Epigenetic Pace of Aging					
Methylation pace of aging	Belsky et al., 2020; Belsky et al., 2022			4	Methylation pace of aging was developed from DNA-methylation analysis of Pace of Aging in the Dunedin Study birth cohort. Pace of Aging is a composite phenotype derived from analysis of longitudinal change in 18 biomarkers of organ-system integrity (Belsky et al., 2015). In contrast, so-called epigenetic clocks are trained on chronological age. Increments of methylation pace of aging correspond to "years" of physiological change occurring per 12-months of chronological time. The second iteration (DunedinPACE) takes into account an additional measurement occasion (collected 20 years after inclusion) and only includes the most reliable DNA methylation probes, i.e. probes with little variation between technical replicates.
Maternal DNA Methylation					
DNA methylation	McCartney et al, 2022			4	Salivary DNA-methylation profiles of cognitive functioning, i.e., "Epigenetic-g", can be computed on the basis of weights from a blood-based epigenome wide association study of general cognitive functions (g) in adults (McCartney et al., 2022). General cognitive ability was derived from the first unrotated principal component of logical memory, verbal fluency and digit symbol tests, and vocabulary. Epigenetic-g is conceptually distinct from biological aging.
Frequency of Parent Child Activity					
Self-Report of Parent-child activities	Rodriguez & Tamis-LeMonda , 2011			1	Additive index of 4 items with response scale (higher score=higher frequency of activities): 1. read books (0: rarely or never; 1: a few times/month; 2: a few times/week ; 4:everyday) 2. tell stories 3. play together 4. play groups

Appendix Table 1: Maternal and Family Focused Preregistered Hypotheses

Domains (in gray) and sub-domains	Measure/Item source	Psychometrics	Age preregistered Primary Outcome	Age preregistered Secondary Outcome	Measures (All measures between grey lines measured during the same wave will be subject to multiple testing adjustments)
				2, 3	Additive index of 5 items with response scale (higher score=higher frequency of activities): 1. read books (0: rarely or never; 1: a few times/month; 2: a few times/week ; 4:everyday) 2. tell stories 3. play together 4. play groups (not asked at age 3 due to COVID) 5. play pretend games
Child meal and sleep routine index	Study PIs			4	Additive index of 2 survey items (higher score=more routines): 1. eat meals together (0: 0 days; 1: 1+ days) 2. had regular bedtime (0: no; 1: yes)
Time on mother-focal child activities	Rodriguez & Tamis-LeMonda , 2011			4	Additive index of activities where the number of days reported doing the activity are multiplied by the number of minutes on a given day. Activities are: read books, tell stories, play game/build something, pretend play, learning activities, screen activities. 1. How many days did you participate in [activity]? (0: no days; 1.5: 0-1 days; 4: 3-5 days; 6.5: 6-7 days) 1a. On those days, how many minutes do you do [activity]? (2: 4 minutes or less; 7.5: 5-10 minutes; 15.5: 11-20 minutes; 25.5: 21-30 minutes; 35: more than 30 minutes).
Maternal Discipline[×]					
Spanking discipline strategy	Reichman et al., 2001			1, 2, 3	Dichotomous indicator using the following item: 1. In past month, have you spanked child due to misbehavior (1: yes; 2:no)

Notes. The previous version of this table refered to "waves" of data collection. For clarity, we have replaced "wave" with "age", with both referring to the age of the baby at planned data collection. Minor, non-substantive changes may be made to the wording of specific items across data collection years.

+ indicates that items were omitted or programmed incorrectly in the age 1 survey administered to mothers and cannot be used to calculate outcomes. These include item 6 from the index of food insufficiency ("hungry"), and item 11 from the relationship quality index ("partner threatened or hurt your child/children? "). These indices were therfore comprised of one less item at age 1.

[×]indicates outcomes that were not administered at age 1 once in-person interviews switched to phone interviews due to COVID-19 .

˜Indicates that item was omitted from previous pre-registrations but was administered to mothers and is being included in the outcome analyses.

*Indicates that the sub-domain was called something different in previous versions of this table. The sub-domain "Food Insecurity" was previously referred to as "Food Insufficiency" .

Due to COVID-19, the age 2 and age 3 data collection wave is in the form of a phone survey. Thus, sub-domains that were supposed to be measured in-person at ages 2 or age 3 are being postponed to ages Certain sub-domains were pre-registered at age 3 and are no longer preregistered because they are not being included in the age 3 data collection (due to time constraints). These include: global health, physical abuse, index of chaos in the home, parenting stress, index of housing quality.

Measure description	Bibliography	
Preregistered measures	**Source 1**	**Source 2**
Household Economic Hardship		
Index of economic stress	Kling, J.R., Liebman, J.B., Katz, L.F. (2007). Experimental analysis of neighborhood effects. *Econometrica* , 75(1), 83-119.	http://www2.nber.org/mtopublic/
Index of food insecurity	https://www.ers.usda.gov/media/8282/short2012.pdf	
Household poverty rate	Fontenot, Kayla, Jessica Semega, and Melissa Kollar, U.S. Census Bureau, Current Population Reports, P60-263, Income and Poverty in the United States: 2017, U.S. Government Printing Office, Washington, DC, 2018.	
Social Services Receipt		
Number of Benefits received by mother	Study PIs	
Mother's Labor Market and Education Participation		
Time to labor market reentry from birth		
Time to full-time labor market reentry from birth	Current Population Survey, retrieved from: https://www.census.gov/programs-surveys/cps/technical-documentation/questionnaires.html	
Mother's education and training attainment		
Maternal Earnings	Panel Study of Income Dynamics https://psidonline.isr.umich.edu/	
Child-Focused Expenditures		
Index of child-focused expenditures	Lugo-Gil, J., Yoshikawa, H. (2006). Assessing expenditures on children in low-income, ethnically diverse, and immigrant families. National Poverty Center Working Paper Series, 06-36.	
Child-focused expenditures		
Cost of paid child care	National Study of Early Care and Education	
Use of center-based care		
Housing and Neighborhoods		
Index of perceptions of neighborhood safety		
Index of housing quality	Kling, J.R., Liebman, J.B., Katz, L.F. (2007). Experimental analysis of neighborhood effects. *Econometrica* , 75(1), 83-119.	
Residential mobility		
Homelessness		
Neighborhood poverty		
Family and Maternal Perceived Stress		
Perceived stress	Cohen, S., Kamarck, T., & Mermelstein, R. (1994). Perceived stress scale. Measuring stress: A guide for health and social scientists.	Cohen, S., Kamarck, T., Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior,* 24(4), 385-396.

Parenting stress	PSID-CDS Aggravation in Parenting Scale https://psidonline.isr.umich.edu/cds/cdsi_usergd.pdf for items 5-7 5. giving up more for kids than ever expected 6. feels trapped (rc) 7. unable to do different things bc of kids (rc)	Project GAIN (Gaining Access to Income Now) https://preventionboard.wi.gov/Pages/OurWork/ProjectGAIN.aspx for items 1-4 1. confidence in parenting abilities 2. feels good about parenting abilities 3. thinks good parent 4. kids will say she was wonderful
Maternal Happiness and Optimism		
Global happiness	The General Social Survey from NORC at the University of Chicago, retrieved from: http://gss.norc.org/Get-Documentation/questionnaires	
Maternal Agency	Snyder, C.R., Harris, C., Anderson, J.R., Holleran, S.A., Irving, L.M., Sigmon, S.T., Yoshinobu, L., Gibb, J., Langelle, C., Harney, P. (1991). The will and the ways: development and vaildation of an individual-differences measure of hope. *Journal of Personality and Social Psychology, 60* (4), 570-585.	
Maternal Epigenetic Pace of Aging		
Epigenetic age	Belsky, W. D. et al. (2020). Quantification of the pace of biological aging in humans through blood test, the DunedinPoAm DNA methylation algorithm. eLife 9:e54870. https://doi.org/10.7554/eLife.54870	Belsky, W. D. et al. (2022). DunedinPACE, a DNA methylation biomarker of the pace of aging. eLife 11:e73420. https://doi.org/10.7554/eLife.73420
Maternal DNA Methylation		
DNA methylation	McCartney, D.L., Hillary, R.F., Conole, E.L.S. *et al.* Blood-based epigenome-wide analyses of cognitive abilities. *Genome Biol* **23,** 26 (2022). https://doi.org/10.1186/s13059-021-02596-5	
Maternal Physiological Stress		
Maternal hair cortisol	Ursache, A., Merz, E.C., Melvin, S., Meyer, J., Noble, K.G. (2017). Socioeconomic status, hair cortisol and internalizing symptoms in parents and children. *Psychoneuroendocrinology* , 78, 142-150.	
Maternal Mental Resources		
Maternal cognitive resources	Carlson, S. M., & Zelazo, P. D. (2014). Minnesota Executive Function Scale: Test Manual. St. Paul, MN: Reflection Sciences, Inc.	Carlson, S. M. (2017). *Minnesota Executive Function Scale* : *Technical Report, v. 2* . St. Paul, MN: Reflection Sciences, Inc.
Maternal Mental Health		
Index of maternal depression	Kroenke, K. & Spitzer, R.L. (2002). The PHQ-9: a new depression diagnostic and severity measure. Psychiatric annals, 32(9), 509-515.	

Index of maternal anxiety	Steer, R.A. & Beck, A.T., (1997). Beck Anxiety Inventory. In C.P. Zalaquett & R.J. Wood (Eds), Evaluating stress: A book of resources (pp. 23-40). Lanham, MD, US: Scarecrow Education	
Index of maternal anxiety	Spitzer RL, Kroenke K, Williams JBW, Löwe B. A Brief Measure for Assessing Generalized Anxiety Disorder: The GAD-7. *Arch Intern Med.* 2006;166(10):1092–1097. doi:10.1001/archinte.166.10.1092	
Maternal Physical Health		
Global health	Idler, E. L., & Benyamini, Y. (1997). Self-rated health and mortality: a review of twenty-seven community studies. *Journal of health and social behavior* , 21-37.	
Sleep	Yu, L., Buysse, D. J., Germain, A., Moul, D. E., Stover, A., Dodds, N. E., ... & Pilkonis, P. A. (2012). Development of short forms from the PROMIS™ sleep disturbance and sleep-related impairment item banks. Behavioral sleep medicine, 10(1), 6-24.	
Mother's BMI	Kuczmarski, R. J. (2000). CDC growth charts; United States.	
Maternal Substance abuse		
Alcohol and cigarette use	Kling, J.R., Liebman, J.B., Katz, L.F. (2007). Experimental analysis of neighborhood effects. *Econometrica* , 75(1), 83-119.	
Opioid use		
Chaos in Home		
Index of chaos in the home	Evans, G.W., Gonnella, C., Marcynyszyn, L.A., Gentile, L, & Salpekar, N. (2005). The role of chaos in poverty and children's socioemotional adjustment. *Psychological Science* , 16(7), 560-565.	
Maternal Relationships		
Physical Abuse	User's Guide for the Fragile Families and Child Wellbeing Study Public Data, Year 3. (2018). Retrieved from: https://fragilefamilies.princeton.edu/sites/fragilefamilies/files/year_3_guide.pdf#page=84	
Frequency of Arguing		
Relationship quality		
Parent-Child Interaction Quality		
Adult word count	Xu, D., Yapanel, U., & Gray, S. (2009). Reliability of the LENA Language Environment Analysis System in young children's natural home environment. *LENA Foundation* .	
Conversational turns		
Index of mother's positive parenting behaviors	Roggman, L.A., Cook, G.A., Innoccenti, M.S., Norman, V.J., Christiansen, K. (2013). Observations Linked to Outcomes (PICCOLO) Of Diverse Ethnic Groups. *Infant Mental Health Journal, 34(4), 290-306.*	Griffin, J. A., & Friedman, S. L. (2007). NICHD Study of Early Childcare and Youth Development. *National Institute of Health*

Frequency of Parent Child Activity	
Self-Report of Parent-child activities	Rodriguez, E. T., & Tamis-LeMonda, C. S. (2011). Trajectories of the home learning environment across the first 5 years: Associations with children's vocabulary and literacy skills at prekindergarten. *Child development* , *82* (4), 1058-1075.
Child meal and sleep routine index	Study PIs
Time on mother-focal child activities	Rodriguez, E. T., & Tamis-LeMonda, C. S. (2011). Trajectories of the home learning environment across the first 5 years: Associations with children's vocabulary and literacy skills at prekindergarten. *Child development* , *82* (4), 1058-1075.
Maternal Discipline	
Spanking discipline strategy	Reichman, N.E., Teitler, J.O., Garfinkel, I., MclAnahan, S.S. (2001). Fragile Families: Sample and design. *Children and Youth Services Review, 23* (4-5), 303-326.

Appendix Table 2. Child Focused Preregistered Hypotheses

Domains (in gray) and sub-domains	Measure source	Psychometrics	Age preregistered Primary Outcome	Age preregistered Secondary Outcome	Measures and notes (All measures between grey lines measured in the same wave will be subject to multiple testing adjustments)
Language Development					
Language Milestones	Squires et al., 2009	sensitivity .86 specifity .85		1	Measured using ASQ- Communication Subscale
Vocabulary*	Fenson, 2002; Jackson-Maldonado, 2012	internal consistency .85		2	Measured by short-form versions of the MacArthur Communicative Development Inventories
	Martin & Brownell, 2011		4		Measured by Receptive One Word Picture Vocabulary Test (ROWPVT) We will administer the monolingual (English) or bilingual (English/Spanish) versions as appropriate. Because the two versions of the test are not co-normed, the primary outcome will be a derived "conceptual score," or sum of the raw scores on all individual items that appear on both versions of the test.
Maternal concern for language delay	Glascoe, 1997		3		Measured by the sum of the two questions included in the PEDS on expressive language and articulation and receptive language: 1. Do you have any concerns about how your child talks and makes speech sounds? (0: No; 1: Yes or a little) 2. Do you have any concerns about how your child understands what you say? (0: No; 1: Yes or a little)
Executive Function and Behavioral Regulation					
Executive Function	Diamond & Taylor, 1996; Weiland& Yoshikawa, 2013; Bierman et al., 2008			Originally registered for age 4 and then dropped	Intended to be measured by the pencil tap test. This item was preregistered as an age-4 secondary outcome but was dropped on September 13, 2022, due to evidence of floor effects, and numerous reports from research staff that children were not understanding the instructions.
Executive Function	Carlson, 2017; Carlson, & Zelazo 2014	MEFS: validity .92 test-retest .93	4		Measured by the Minnesota Executive Function Scale.
Socio-Emotional Processing					
Social-Emotional Problems	Briggs-Gowan et al., 2004	internal consistency .65-.79 test-retest reliability .87		1, 2	Measured by the Brief Infant–Toddler Social and Emotional Assessment (BITSEA)

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Domains (in gray) and sub-domains	Measure source	Psychometrics	Age preregistered Primary Outcome	Age preregistered Secondary Outcome	Measures and notes (All measures between grey lines measured in the same wave will be subject to multiple testing adjustments)
Behavior/Emotional Problems	Achenbach et al., 2000	parent report reliability .80	3, 4		Measured by a shortened version of the Child Behavior Checklist measuring the following areas: emotionally reactive, anxious/depressed, attention problems, and aggressive behavior. At age 3, we will estimate the statistical significance of the entire family of related measures in the Child Socio-Emotional Processing outcome cluster measured during the same wave using step-down resampling methods for multiple testing (see statistical analysis plan for more details; Westfall and Young, 1993).
Social-Emotional Behavior	Roggman et al., 2013; Griffen & Friedman, 2007; Belsky, 2007			Originally registered for age 1 but unable to be coded	Measured using NICHD SECCYD parent-child-interaction task coding scheme, with child codes Positive Mood, Negative Mood, Activity Level, Sustained Attention, Positive Engagement at age 1 and agency, negativity, persistence, affection at age 4. (Due to funding limitations, this was not feasible to code, and we have no immediate plans to do so).
Maternal concern for behavioral and social-emotional problems	Glascoe, 1997		3		Measured by the sum of the two questions included in the PEDS on behavior and social-emotional: 1. Do you have any concerns about how your child behaves? (0: No; 1: Yes or a little) 2. Do you have any concerns about how your child gets along with others? (0: No; 1: Yes or a little)
IQ					
IQ*	Wechsler & Naglieri, 2006	internal consistency .88 test-retest reliability .77	Originally registered for age 4 but not able to be calculated	4, for matrices subtest only	The Wechsler Nonverbal Scale of Ability was originally pre-registered as a Primary Outcome. The IQ score is calculated using two subtests -- Matrices and Recognition -- and we began our fieldwork on July 9, 2022 with both. On the basis of preliminary analysis of the first 71 cases, we discovered that 21% of participants scored at the floor of the Recognition assessment. We therefore dropped the Recognition subtest from our data collection instrument on September 30 2022, precluding us from calculating IQ in subsequent participants. Scores on the Matrices subtest, which measures visual processing and abstract spatial perception (not IQ per se), are now registered as an age-4 secondary outcome

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Domains (in gray) and sub-domains	Measure source	Psychometrics	Age preregistered Primary Outcome	Age preregistered Secondary Outcome	Measures and notes (All measures between grey lines measured in the same wave will be subject to multiple testing adjustments)
Pre-Literacy					
Pre-Literacy	Hutton et al., 2019; Hutton et al., 2021			4	Measured by The Reading House
Resting Brain Function					
Age-1 Resting Brain Function	Tomalski et al., 2013; Otero et al., 2013; Marshall et al., 2004	n/a		1	Measured by low-density mobile electroencephalography at Age 1: we preregistered group differences in theta, alpha, gamma power.
Age-4 Resting Brain Function	Tomalski et al., 2013; Otero et al., 2013; Marshall et al., 2004; Troller-Renfree et al. 2022	n/a	4	4	Measured by high-density in-lab electroencephalography: **Age-4 Primary**: Because of limitations in power expected with multiple testing adjustments, we are preregistering a single composite of mid-to-high-frequency whole-brain power summing across alpha, beta, and gamma bands, from 7 to 45 Hz. **Age-4 secondary**: We hypothesize greater frontal gamma power in the high-cash gift group, and plan to analyze a full model of regions nested within bands, with the plan to report all exploratory outcomes. See attached analysis plan. Note: The original preregistration of EEG data collected when children were 12 months old included hypotheses across multiple frequency bands. Please see the history of preregistrations, including analysis plans.
Task-Related Brain Function					
Auditory Discrimination Brain Function*	Choeur et al., 2000; Garcia-Sierra et al., 2011; Kuhl et al., 2005	n/a		4	Measured by mismatch negativity (MMN) ERP with larger differences between standard and deviant stimulus in high-cash gift group compared to the low-cash gift group.
Health: BMI					
Body Mass Index (BMI)	Kuczmarski, 2000	n/a		4	Measured by CDC BMI percentile scales

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Domains (in gray) and sub-domains	Measure source	Psychometrics	Age preregistered Primary Outcome	Age preregistered Secondary Outcome	Measures and notes (All measures between grey lines measured in the same wave will be subject to multiple testing adjustments)
Health: Physiological Stress					
Physiological Stress	Ursache et al., 2017; Meyer et al., 2014; Davenport et al., 2006	n/a		Originally registered for age 4 but unable to collect	Our original plan was to measure physiological stress using hair cortisol concentration. The first several months of data collection revealed large racial and ethnic differences in willingness to provide a hair sample, due to both cultural and practical reasons. Because of the large amounts of non-random missing data, which would both compromise our statistical power and limit the generalizability of any findings, we dropped hair cortisol from our data collection procedures on October 25, 2022.
Health: Sleep					
Sleep problems	Yu et al., 2012	reliability .9	3	1, 2	Measured by PROMIS Sleep Disturbance- Short Form adapted from ECHO; For ages 1 and 2, additive index of the following items with 5-point answer (0: never; 1: almost never; 2: sometimes; 3: almost always, 4: always): 1. difficulty falling asleep 2. sleeping through night (reverse coded) 3. problem with sleep 4. problem sleeping For Age 3, item 1 was not included in the survey
Health: Other Indicators					

Appendix Table 2. Child Focused Preregistered Hypotheses

Domains (in gray) and sub-domains	Measure source	Psychometrics	Age preregistered Primary Outcome	Age preregistered Secondary Outcome	Measures and notes (All measures between grey lines measured in the same wave will be subject to multiple testing adjustments)
Overall Health, Medical Care, Diagnosis of Condition or Disability	Child's overall health item source: Idler & Benyamini, 1997 Halim et al., 2013	n/a	3	1, 2	Additive index of the following items*: 1. Child's overall health? (4: excellent, 3: very good, 2: good, 1: fair, or 0: poor) 2.About how many times in the last year did you take child to a doctor because [he/she] was sick? 0-1 times, 2-5 times, 6+ 3. About how many times in the last year did you take child to a doctor because [he/she] was hurt or injured? 4. Did you ever have to take child to the Emergency Room because [he/she] was sick, hurt or injured? (Y/N) 5. How many times ER? 6. Has child been diagnosed with any health condition or disability since birth? (Y/N) *factor analysis of items will be conducted to scale the index
Overall Health, Diagnosis of Health Condition or Disability	Child's overall health item source: Idler & Benyamini, 1997	n/a		4	Additive index of the following items: 1. Child's overall health? (4: excellent, 3: very good, 2: good, 1: fair, or 0: poor) 2.About how many times in the last year was child sick? 0-1 times, 2-3 times, 4-6 times, 7+ 3. Has child been diagnosed with any chronic health condition? (Y/N)
Diagnosis of Developmental Condition					
Diagnosis of Developmental Condition	Study PIs	n/a		4	Has child been diagnosed with any developmental condition, like speech delay, autism, or ADHD? (Y/N)
Child Epigenetic Pace of Aging					

Appendix Table 2. Child Focused Preregistered Hypotheses

Domains (in gray) and sub-domains	Measure source	Psychometrics	Age preregistered Primary Outcome	Age preregistered Secondary Outcome	Measures and notes (All measures between grey lines measured in the same wave will be subject to multiple testing adjustments)
Methylation pace of aging	Belsky et al., 2020; Belsky et al., 2022	n/a		4	Methylation pace of aging was developed from DNA-methylation analysis of Pace of Aging in the Dunedin Study birth cohort. Pace of Aging is a composite phenotype derived from analysis of longitudinal change in 18 biomarkers of organ-system integrity (Belsky et al., 2015). In contrast, so-called epigenetic clocks are trained on chronological age. Increments of methylation pace of aging correspond to "years" of physiological change occurring per 12-months of chronological time. The second iteration (DunedinPACE) takes into account an additional measurement occasion (collected 20 years after inclusion) and only includes the most reliable DNA methylation probes, i.e. probes with little variation between technical replicates. If a higher quality measure of epigenetic aging at the time of analysis becomes available, we we will substitute that instead.

Appendix Table 2. Child Focused Preregistered Hypotheses

Domains (in gray) and sub-domains	Measure source	Psychometrics	Age preregistered Primary Outcome	Age preregistered Secondary Outcome	Measures and notes (All measures between grey lines measured in the same wave will be subject to multiple testing adjustments)
Child DNA Methylation					
DNA methylation	McCartney et al, 2022	n/a		4	Salivary DNA-methylation profiles of cognitive functioning, i.e., "Epigenetic-g", can be computed on the basis of weights from a blood-based epigenome wide association study of general cognitive functions (g) in adults (McCartney et al., 2022). General cognitive ability was derived from the first unrotated principal component of logical memory, verbal fluency and digit symbol tests, and vocabulary. Epigenetic-g is conceptually distinct from biological aging. If a higher quality measure of epigenetic profile of cognitive functioning becomes available at the time of analysis, we we will substitute that instead.
Child Nutrition					
Consumption of healthy foods	Los Angeles County WIC Survey, 2017			2	Additive index of the number of times per day consumed the following items*: 1. eat fruits 2. eat vegetables
Consumption of unhealthy foods	Los Angeles County WIC Survey, 2017			2	Additive index of the number of times per day consumed the following items*: 1. juice, soda, chocolate milk or other sweet drinks 2. eat sweets
Any Maternal Concern for Developmental Delay					
Parents' Evaluation of Developmental Status (PEDS)	Glascoe, 1997			3	Measured by the total score across categories of components of the PEDS, which includes 10 survey items.
Total "predictive concerns" in the PEDS	Glascoe, 1997			3	Measured by the total number of maternal-reported concerns that are "predictive of developmental delay" in the PEDS
School Achievement & Behavior					
School test scores for target children and siblings	Administrative data	n/a	School age (target child)	School age (siblings)	

Appendix Table 2. Child Focused Preregistered Hypotheses

Domains (in gray) and sub-domains	Measure source	Psychometrics	Age preregistered Primary Outcome	Age preregistered Secondary Outcome	Measures and notes (All measures between grey lines measured in the same wave will be subject to multiple testing adjustments)
Student behavioral data for target children and siblings	Administrative data	n/a		School age (target child and siblings)	

Notes. Previous versions of this table specified that "All measures between grey lines will be subject to multiple testing adjustments". This is now changed to be "All measures between grey lines measured *in the same wave* will be subject to multiple testing adjustments".

The previous version of this table refered to "waves" of data collection. For clarity, we have replaced "wave" with "age", with both referring to the age of the baby at planned data

Minor, non-substantive changes may be made to the wording of specific items across data collection years.

Due to COVID-19, the age 3 data collection wave is in the form of a phone survey. Thus, sub-domains that were supposed to be measured in-person at ages 2 or age 3 are being postponed to age 4. These domains include: epigenetic age, DNA methylation, BMI, physiological stress, self-regulation, executive function, social-emotional behavior, IQ; resting brain function, auditory discrimination brain function. The sub-domain of child vocalizations was not measured in-person at age 2 (due to COVID-19) and is not being measured at later

*Indicates that the sub-domain was called something different in previous versions of this table. The changes are listed below:
-Previously "Communicative Development (Vocabulary)"; presently "Vocabulary".
-Previously "Intelligence; presently "IQ".
-Previously "Language Related Brain Function"; presently "Auditory Discrimination Brain Function".

Domains and sub-domains that were not previously included in this table for pre-registration at age 3 and were added include: Any Maternal Concern for Developmental Delay (domain); Maternal Concern for Behavioral and Social-Emotional Problems (sub-domain); Maternal Concern for Language Delay (sub-domain); Maternal "Predictive Concern" for Language Delay (sub-domain).

Language Development	
Language Milestones	Squires, J., Bricker, D. D., & Twombly, E. (2009). Ages & stages questionnaires. Baltimore, MD: Paul H. Brookes.
Language Processing	Golinkoff, R. M., De Villiers, J. G., Hirsh-Pasek, K., Iglesias, A., Wilson, M. S., Morini, G., & Brezack, N. (2017). *User's Manual for the Quick Interactive Language Screener (QUILS): A Measure of Vocabulary, Syntax, and Language Acquisition Skills in Young Children* . Paul H. Brookes Publishing Company
Vocabulary*	Fenson, L., Pethick, S., Renda, C., Cox, J. L., Dale, P. S., & Reznick, J. S. (2000). Short-form versions of the MacArthur [illegible] Jackson-Maldonado, Donna, Virginia A. Marchman, and Lia C. H. Fernald. 2012. "Short-Form Versions of the Spanish MacArthur-Bates Communicative Development Inventories." Applied Psycholinguistics 34 (4): 837–68. Martin, N. A., & Brownell, R. (2011). ROWPVT-4: Receptive One-Word Picture Vocabulary Test.
Maternal concern for language delay	Glascoe FP. Parents' Evaluations of Developmental Status: A Method for Detecting and Addressing Developmental and Behavioral Problems in Children. Nashville, TN: Ellsworth & Vandermeer Press, 1997.
Executive Function & Self-Regulation	
Executive Function - Pencil Tap	Diamond, A., & Taylor, C. (1996). Development of an aspect of executive control: development of the abilities to remember what I said and to "do as I say, not as I do". *Developmental psychobiology* , *29* (4), 315–334. https://doi.org/10.1002/(SICI)1098-2302(199605)29:4<315::AID-DEV2>3.0.CO;2-T Bierman, K. L., Nix, R. L., Greenberg, M. T., Blair, C., & Domitrovich, C. E. (2008). Executive functions and school readiness intervention: impact, moderation, and mediation in the Head Start REDI program. *Development and psychopathology* , *20* (3), 821–843. https://doi.org/10.1017/S0954579408000394 Weiland, C. and Yoshikawa, H. (2013), Impacts of a Prekindergarten Program on Children's Mathematics, Language, Literacy, Executive Function, and Emotional Skills. Child Dev, 84: 2112-2130. https://doi.org/10.1111/cdev.12099
Executive Function - MEFS	Carlson, S. M., & Zelazo, P. D. (2014). Minnesota Executive Function Scale: Test Manual. St. Paul, MN: Reflection Sciences, Inc.

	Carlson, S. M. (2017). *Minnesota Executive Function Scale* : *Technical Report, v. 2* . St. Paul, MN: Reflection Sciences, Inc.
Socio-Emotional Processing	
Social-Emotional Problems	Briggs-Gowan, M. J., Carter, A. S., Irwin, J. R., Wachtel, K., & Cicchetti, D. V. (2004). The Brief Infant-Toddler Social and Emotional Assessment: screening for social-emotional problems and delays in competence. *Journal of pediatric psychology* , *29* (2), 143-155.
Behavior/Emotional Problems	Achenbach, T. M., & Ruffle, T. M. (2000). The Child Behavior Checklist and related forms for assessing behavioral/emotional problems and competencies. *Pediatrics in* review, 21(8), 265-271.
Social-Emotional Behavior^	Roggman, L. A., Cook, G. A., Innocenti, M. S., Jump Norman, V., & Christiansen, K. (2013). Parenting interactions with children: Checklist of observations linked to outcomes (PICCOLO) in diverse ethnic groups. Infant Mental Health Journal, 34(4), 290-306. Belsky, J., Vandell, D. L., Burchinal, M., Clarke-Stewart, K. A., McCartney, K., Owen, M. T., & NICHD Early Child Care Research Network. (2007). Are there long-term effects of early child care?. *Child development* , *78* (2), 681-701. Griffin, J. A., & Friedman, S. L. (2007). NICHD Study of Early Childcare and Youth Development. National Institute of Health. Adapted script from mother-child-interaction at 15 months.
Maternal concern for behavioral and social-emotional problems	Glascoe FP. Parents' Evaluations of Developmental Status: A Method for Detecting and Addressing Developmental and Behavioral Problems in Children. Nashville, TN: Ellsworth & Vandermeer Press, 1997.
IQ	
IQ*	Wechsler, D., Naglieri, J. A. (2006). Wechsler Nonverbal Scale of Ability. San Antonio, TX: Pearson.
Pre-Literacy	
Pre-Literacy	John S. Hutton, Laura Justice, Guixia Huang, Amy Kerr, Thomas DeWitt, Richard F. Ittenbach; The Reading House: A [illegible] Hutton, J. S., Dudley, J., Huang, G., Horowitz-Kraus, T., DeWitt, T., Ittenbach, R. F., & Holland, S. K. (2021). Validation [illegible]
Resting Brain Function	
Age-1 and Age-4 Resting Brain Function	Tomalski, P., Moore, D. G., Ribeiro, H., Axelsson, E. L., Murphy, E., Karmiloff-Smith, A., ... & Kushnerenko, E. (2013). [illegible] Otero, G. A., Pliego-Rivero, F. B., Fernández, T., & Ricardo, J. E. E. G. (2003). EEG development in children with sociocultural disadvantages: a follow-up study. Clinical neurophysiology, 114(10), 1918-1925.

	Marshall, P. J., Fox, N. A., & Group, B. C. (2004). A comparison of the electroencephalogram between institutionalized and [illegible]
	Troller-Renfree, S. V., Costanzo, M. A., Duncan, G. J., Magnuson, K., Gennetian, L. A., Yoshikawa, H., ... & Noble, K. G. (2022). The impact of a poverty reduction intervention on infant brain activity. *Proceedings of the National Academy of Sciences* , *119* (5), e2115649119.
Task-Related Brain Function	
Auditory Discrimination Brain Function*	Cheour, M., Leppänen, P. H., & Kraus, N. (2000). Mismatch negativity (MMN) as a tool for investigating auditory discrimination and sensory memory in infants and children. *Clinical neurophysiology* , *111* (1), 4-16. Garcia-Sierra, A., Rivera-Gaxiola, M., Percaccio, C. R., Conboy, B. T., Romo, H., Klarman, L., ... & Kuhl, P. K. (2011). Bilingual language learning: An ERP study relating early brain responses to speech, language input, and later word production. Journal of Phonetics, 39(4), 546-557. Kuhl, P. K., Coffey-Corina, S., Padden, D., & Dawson, G. (2005). Links between social and linguistic processing of speech in preschool children with autism: behavioral and electrophysiological measures. Developmental science, 8(1), F1-F12.
Health: BMI	
Body Mass Index (BMI)	Kuczmarski, R. J. (2000). CDC growth charts; United States.
Health: Physiological Stress	
Physiological Stress	Ursache, A., Merz, E. C., Melvin, S., Meyer, J., & Noble, K. G. (2017). Socioeconomic status, hair cortisol and internalizing symptoms in parents and children. *Psychoneuroendocrinology* , *78* , 142-150. Meyer, J., Novak, M., Hamel, A., & Rosenberg, K. (2014). Extraction and analysis of cortisol from human and monkey hair. [illegible] Davenport, M. D., Tiefenbacher, S., Lutz, C. K., Novak, M. A., & Meyer, J. S. (2006). Analysis of endogenous cortisol [illegible]
Health: Sleep	
Sleep problems	Yu, L., Buysse, D. J., Germain, A., Moul, D. E., Stover, A., Dodds, N. E., ... & Pilkonis, P. A. (2012). Development of short forms from the PROMIS™ sleep disturbance and sleep-related impairment item banks. Behavioral sleep medicine, 10(1), 6-24.
Health: Other Indicators	

Overall Health, Medical Care, Diagnosis of Condition or Disability	Halim, M. L., Yoshikawa, H., & Amodio, D. M. (2013). Cross-generational effects of discrimination among immigrant mothers: Perceived discrimination predicts child's healthcare visits for illness. *Health Psychology* , *32* (2), 203. Idler, E. L., & Benyamini, Y. (1997). Self-rated health and mortality: a review of twenty-seven community studies. *Journal of health and social behavior* , 21-37
Diagnosis of Developmental Condition	
Diagnosis of Developmental Condition	Study PIs
Child Epigenetic Pace of Aging	
Methylation pace of aging	Belsky, W. D. et al. (2020). Quantification of the pace of biological aging in humans through blood test, the DunedinPoAm DNA methylation algorithm. eLife 9:e54870. https://doi.org/10.7554/eLife.54870 Belsky, W. D. et al. (2022). DunedinPACE, a DNA methylation biomarker of the pace of aging. eLife 11:e73420. https://doi.org/10.7554/eLife.73420
Child DNA Methylation	
DNA methylation	McCartney, D.L., Hillary, R.F., Conole, E.L.S. *et al.* Blood-based epigenome-wide analyses of cognitive abilities. *Genome Biol* **23,** 26 (2022). https://doi.org/10.1186/s13059-021-02596-5
Child Nutrition	
Consumption of healthy foods	Los Angeles County WIC Survey. (2017). Retrievable from: http://lawicdata.org/wp-content/uploads/2014/09/WIC-Parents-Quex-English-FINAL.pdf
Consumption of unhealthy foods	Los Angeles County WIC Survey. (2017). Retrievable from: http://lawicdata.org/wp-content/uploads/2014/09/WIC-Parents-Quex-English-FINAL.pdf
Any Maternal Concern for Developmental Delay	
Parents' Evaluation of Developmental Status (PEDS)	Glascoe FP. Parents' Evaluations of Developmental Status: A Method for Detecting and Addressing Developmental and Behavioral Problems in Children. Nashville, TN: Ellsworth & Vandermeer Press, 1997.
Total "predictive concerns" in the PEDS	Glascoe FP. Parents' Evaluations of Developmental Status: A Method for Detecting and Addressing Developmental and Behavioral Problems in Children. Nashville, TN: Ellsworth & Vandermeer Press, 1997.

Appendix Table 3. Baseline Balance by High and Low Cash Gift Groups at Age 2 sample (n=922)

	Low Cash Gift		High Cash Gift		Std Mean Difference		
	Mean (sd)	N	Mean (sd)	N	Hedges' g	Cox's Index	p-value
Child is female	0.505	545	0.477	377		-0.068	0.428
Child weight at birth (pounds)	7.1 (1.066)	544	7.1 (1.028)	376	-0.032		0.610
Child gestational age (weeks)	39.1 (1.254)	541	39.0 (1.190)	377	-0.051		0.443
Mother age at birth (years)	26.9 (5.821)	545	27.4 (5.774)	377	0.094		0.146
Mother education (years)	12.0 (2.813)	538	11.9 (2.994)	375	-0.015		0.845
Mother race/ethnicity: white, non-Hispanic	0.105	545	0.085	377		-0.141	0.239
Mother race/ethnicity: Black, non-Hispanic	0.402	545	0.440	377		0.094	0.157
Mother race/ethnicity: multiple, non-Hispanic	0.040	545	0.029	377		-0.202	0.337
Mother race/ethnicity: other or unknown	0.048	545	0.024	377		-0.435	0.039
Mother race/ethnicity: Hispanic	0.406	545	0.422	377		0.040	0.495
Mother marital status: never married	0.424	545	0.496	377		0.176	0.023
Mother marital status: single, living with partner	0.259	545	0.210	377		-0.166	0.082
Mother marital status: married	0.218	545	0.218	377		0.000	0.960
Mother marital status: divorced/separated	0.046	545	0.029	377		-0.290	0.178
Mother marital status: other or unknown	0.053	545	0.048	377		-0.063	0.678
Mother health is good or better	0.886	545	0.926	377		0.288	0.038
Mother depression (CESD)	0.7 (0.443)	545	0.7 (0.440)	377	0.022		0.752
Cigarettes per week during pregnancy	4.7 (20.330)	542	3.3 (11.416)	375	-0.083		0.149
Alcohol drinks per week during pregnancy	0.2 (1.667)	543	0.0 (0.392)	376	-0.096		0.092

Number of children born to mother	2.4	545	2.5	377	0.091		0.186
	(1.385)		(1.408)				
Number of adults in household	2.1	545	2.0	377	-0.064		0.351
	(0.981)		(0.979)				
Biological father lives in household	0.400	545	0.345	377		-0.143	0.088
Household combined income	22,042.15	513	20,909.43	350	-0.064		0.346
	(18,772.78)		(16,004.70)				
Household income unknown	0.059	545	0.072	377		0.129	0.436
Household net worth	-1,812.87	483	-3,209.06	336	-0.053		0.429
	(29,798.08)		(20,844.35)				
Household net worth unknown	0.114	545	0.109	377		-0.031	0.832
Joint Test: Chi2(30)= 30.92, p-value= 0.321, n=918.							

Notes: P-values were derived from a series of OLS bivariate regressions in which each respective baseline characteristic was regressed on the treatment status indicator using robust standard errors and site-level fixed effects. The bivariate regressions were also run without site-level fixed effects. The p-values without fixed effects do not appear in the table. The joint test of orthogonality was conducted using a probit model with robust standard errors and site-level fixed effects.
Standardized mean differences were calculated using Hedges' g for continuous variables and Cox's Index for dichotomous variables.
If there were more than 10 missing cases for a covariate, missing data dummies were included in the table and the joint test. If there were less than 10 cases missing, missing data dummies were not included in the table but were included in the joint test.
Chi-square tests of independence were conducted for the two categorical variables: mother race/ethnicity and mother marital status. For both tests, p>0.05
All respondents with missing data on gestational age are in the control group. Thus, this dummy was removed from the joint test due to perfectly predicting failure. This results in a slightly smaller sample for the joint test.

Appendix Table 4. Age 2 Instrument Versions

Date Released	Version	Description
7/17/2020	1 – 7.9.2020	Released to production.
7/28/2020	2 – 7.23.2020	1. Spanish released to production. 2. Income and HH roster updates: • If Any Earned income=No/DK/REF, a value of $2500 is assigned. • Corrected unfolding brackets so that if R mentions an amount earned, but mentions DK/REF for unit, brackets will amount to total. • If child ages into the adult roster, they are asked if they contribute to HH income in Adult roster. • Added Iwer instructions at HHMemName (C2/C11) to ask for a first initial or Enter "No Name" if R does not want to/refuses to give HH member name. • Added Iwer instructions at HHMem (C3/C12), HHOtherAdult (C9/C18) for what to say if R mentions she's living in a car/shelter.
8/6/2020	3 – 8.5.2020	• Moved BCI file to be in the datamodel folder • Removed the "X" in the upper right window of the DEP screen (modelib/config setting)
9/2/2020	4 – 8.26.2020	• BCI: unchecked Recorder component - Parameters - Auto Stop This was apparently causing a sync issue between the video and audio so that at the end of the iw the two would be off about 8 minutes.
9/10/2020	5 – 9.8.2020	1. Added question for Father Deceased (D7_Ckpt) and Legally Married (Dx). See flowchart. • Added Iwer instructions on how to answer D1-D6 is father deceased. • If father deceased, all further questions about biodad will be skipped. • Legal marriage question will be asked if there is a spouse in HH but will depend on biodad status. 2. Deleted duplicate question about Early Intervention services (I36) • KEEP statement added to DM so previous responses at I36 would not be deleted 3. MCDI text updated at LinkInfo requesting that R completes survey in next 24 hours

9/22/2020	6 – 9.23.2020	• Updated MCDILinkInfo and IWDone question text to request that mom completes survey after IW.
		• Updated MailAdminConsent text and added AdminConsent question to request access to Admin records via phone.
12/3/2020	7 – 11.24.2020	Added Iwer note to C15 (Child relationship) Updated consents to be phone only language Updated BCI file to correct the issue of when consent is not given (don't record)
1/20/2021	Data delivery	P100076 - While evaluating IWs, SRC noticed that the Iwer for this case miscoded an 18-year-old living in - it should have been "07 - Other" at C4 (HHMemRel), not "01 - Mother". SRC corrected the response and will be included in the next data delivery.
1/27/2021	8 – 1.27.2021	Updated TCC consents with new stamps. BCI file updated to STOP recording everything before VolStatement.
2/3/2021	9 – 2/3/21	MCDI task updates
2/18/2021	Data delivery	P105219 - While completing the Age 2 IW, Iwer noticed that preloaded gender (HHMemSex) data for the spouse in the HH was incorrect. The Spouse was listed as "Female (05)" instead of "Male (01)". SRC corrected the response and it will be included in the next data delivery.
2/22/2021	10 – 2/18/21	BCI file updated so that consent can be seen and heard when administered.
3/16/2021	11 – 3/17/21	Updated instrument text. Specifically: L37 – Added Iwer note to "READ each item individually…" Q61 – Added "Do you currently have or…" to beginning of question W1a-W1e – Added Iwer note "IF answer is "Yes", PROBE both…" TScale_StrongAgree_StrongDis (found in Q50f, Q50g, Q51b, Q51c, Q51d): type code 1 renamed from StronglyDisAgree to StronglyAgree, type code 5 renamed from StronglyAgree to StronglyDisagree.
3/18/21	12 – 3/18/21	The 3/16/21 DM had an incorrect flag in the consent script which did not allow Iwers to launch consent. This has been corrected so consent can correctly launch.
4/1/21	13 – 3/31/21	W3 – Clarified answer choices to include "physical social distancing"