Head Start Family and Child Experiences Survey 2019 (FACES 2019) OMB Supporting Statement for Data Collection

OMB Information Collection Request
0970 - 0151

Supporting Statement
Part B

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Submitted by:
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Administration for Children and Families
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B1. Objectives

Study Objectives

The Head Start Family and Child Experiences Survey (FACES) produces data on a set of key indicators in Head Start Regions I–X (FACES 2019) and Region XI (AIAN FACES 2019). The current request outlines planned additional data collection activities for FACES program- and classroom-level data collection in spring 2022, as well as a spring 2022 wave of FACES and AIAN FACES data collection to follow up on the fall 2021 work. This spring wave will address how families and staff are faring during the ongoing COVID-19 pandemic.[1] For information about previous FACES information collection requests, see https://www.reginfo.gov/public/do/PRAOMBHistory?ombControlNumber=0970-0151.

In this request, we detail the sampling plans for the spring 2022 data collection activities, including selecting classrooms, conducting data collection, analyzing data, and reporting study findings.

Generalizability of Results

FACES 2019 and AIAN FACES 2019 are designed to produce nationally representative estimates of Head Start programs, their associated staff, and the families they serve. The results are generalizable to the Head Start program as a whole, with a few limitations. Head Start programs in U.S. territories are excluded, as are programs under the direction of ACF Region XII (Migrant and Seasonal Worker Head Start) and those under transitional management. Programs that are administrative only and do not directly provide services, those that have no center-based classrooms, and Early Head Start programs are also excluded from this study. These limitations will be clearly stated in published results.

Appropriateness of Study Design and Methods for Planned Uses

FACES 2019 and AIAN FACES 2019 were primarily designed to answer important questions to inform technical assistance and program planning, and to answer questions of interest to the research community. The studies' logic models (Appendix U) guided the overall design of the studies. The AIAN FACES 2015 Workgroup also informed AIAN FACES 2019's study design. The studies' samples are designed so that the resulting weighted estimates are unbiased, sufficiently precise, and have adequate power to detect relevant differences at the national level.

The spring 2022 data collection reflects the latest round of the FACES Classroom Study (described further in the sample design section B2, below), which provides information on the drivers of program quality, with a larger sample for staff surveys. It will also include new items to better understand staffing, recruitment, and programs' emergency preparedness. The child-level data collection maintains the study's focus on the current well-being of children, families, and staff; with the ability to look at change over time (across rounds, for example between spring 2020 and spring 2022), as reflected in the proposed questionnaires. The AIAN FACES 2019 questionnaires also reflect the importance of Native culture and language—underscored in the logic model (Appendix U). We expect to archive restricted-use data from FACES 2019 and AIAN FACES 2019 that could be useful for secondary data analysis by researchers interested in exploring non-experimental associations between children's Head Start experiences and child and family well-being, and the logic models will be included in documentation to support responsible use of secondary data.

[1] Coronavirus disease 2019

As noted in Supporting Statement Part A, this information is not intended to be used as the principal basis for public policy decisions, and it is not expected to meet the threshold of influential or highly influential scientific information.

B2. Methods and Design

Target Population

The target population for FACES 2019 and AIAN FACES 2019, including the spring 2022 data collection, is Regions I through XI Head Start programs in the United States (in all 50 states plus the District of Columbia), their classrooms, and the children and families they serve. The study team will have already freshened a random one-third of the FACES 2019 program sample ahead of fall 2021 data collection, and plans to freshen the remainder of the FACES 2019 program sample for spring 2022 by adding a few programs that came into being since the original sample was selected. For continuing programs not included in the fall 2021 data collection, the study team plans to reselect centers when one or both of the originally selected centers have closed—otherwise, the study team will keep the originally sampled centers in the sample. The study team will select new samples of classrooms for all centers in programs that were not part of the fall 2021 data collection. For AIAN FACES 2019, the study team does not plan to freshen the program sample for fall 2021, but for fall 2021 data collection, they will have already selected new center, classroom, and child samples for all programs. These samples will carry through to spring 2022.

Because the freshened samples for fall 2021 and spring 2022 are primarily composed of the fall 2019 and spring 2020 program samples, respectively, we provide here a bit of background on their design. The sample designs for fall 2019 were similar to the ones used for FACES 2014 and AIAN FACES in 2015. FACES 2019 and AIAN FACES 2019 used a stratified multistage sample design with four stages of sample selection: (1) Head Start programs, with "programs" defined as grantees or delegate agencies providing direct services; (2) centers within programs; (3) classes within centers;[2] and (4) for a random subsample of programs (in FACES) or for all programs (in AIAN FACES), children within classes. To minimize the burden on parents or guardians who have more than one child selected for the sample, the study team also randomly subsampled one selected child per parent or guardian, a step that was introduced in FACES 2009. The study team used the Head Start Program Information Report (PIR) as the sampling frame for selecting FACES 2019 and AIAN FACES 2019 programs. This file, which contains program-level data as reported by the programs themselves, is updated annually, and the study team used the latest available PIR at the time of sampling each of the two studies. For later sampling stages, the study team obtained lists of centers from the sampled programs, and lists of classrooms and rosters of children from the sampled centers. When members of the study team freshen the FACES program sample for spring 2022 data collection, they will get updated program lists directly from the Office of Head Start (OHS), as the PIR data collection for 2019–2020 were disrupted by the COVID-19 pandemic, and the PIR data for 2020–2021 will not yet have been released when the sample is being freshened.

[2] In fall 2021 and spring 2022, because programs may alter classroom configurations in response to the pandemic, we will select teachers instead of classrooms, or groups of children associated with teachers.

Sampling and Site Selection

Sample design

FACES 2019. The study team will use well-established methods to freshen the sample, ensuring the refreshed sample can be treated as a valid probability sample. The spring 2022 sample for FACES 2019 will primarily use the programs selected for spring 2020 data collection, but it will be freshened through selection of a small number of newer programs (those that had no chance of selection for fall 2019 or spring 2020). The study team will only freshen the centers in continuing programs if either of the originally sampled centers has closed; otherwise, we will keep the originally selected centers in the sample. For all newly sampled programs, the study team will select a new sample of centers.

Because typical Head Start instruction and other services were disrupted by the COVID-19 pandemic, defining classrooms the way the study has in the past (a group of children taught together by the same teacher) may be difficult. A variety of virtual and hybrid instructional scenarios have been instituted, and they may still be in place in spring 2022. To get around this issue the study team plans to draw a sample of teachers instead of classrooms for spring 2022 data collection using a process like the one carried out for fall 2021 data collection. For selected teachers who are teaching more than one center-based classroom in spring 2022, we will ask the teachers selected for the sample to complete the spring teacher survey about both classrooms they teach, and to complete teacher child reports for all children across the two classrooms who are in the sample.

Like the design for FACES 2014, the sample design for FACES 2019 involved sampling for two study components: the Classroom + Child Outcomes Study and the Classroom Study. The Classroom + Child Outcomes Study involved sampling at all four stages (programs, centers, classrooms, and children), and the Classroom Study involved sampling at the first three stages only (excluding sampling of children within classes). The sample design for the spring 2022 data collection maps to the Classroom Study. The study team describes both the Classroom + Child Outcomes Study and the Classroom Study in this submission, as both make use of data to be collected in spring 2022.

Proposed sample sizes were determined with the goal of achieving accurate estimates of characteristics at the child and classroom levels, given various assumptions about the validity and reliability of the selected measurement tools with the sample, the expected variance of key variables, the expected effect size of group differences, and the sample design and its impact on estimates. At the child level, the study team will collect information from surveys administered to parents and teachers. To determine appropriate sample sizes at each nested level, the study team explored thresholds at which sample sizes could support answering the study's primary research questions. The study's research questions determined both the characteristics the study team aims to describe about children and the subgroup differences they expect to detect. The study team selected sample sizes appropriate for point estimates with adequate precision to describe the key characteristics at the child level. Furthermore, the study team selected sample sizes appropriate to allow detection of differences between subgroups of interest (if differences exist) on key variables. The study team evaluated the expected precision of these estimates after accounting for sample design complexities. (Refer to section on "Degree of Accuracy" below.) The study team will work to achieve comparable sample sizes in spring 2022.

As was the case for the spring 2020 data collection in FACES 2019, the spring 2022 child-level sample will represent all children enrolled in Head Start in the fall of the program year who are still participating in Head Start in the spring. Likewise, the samples at the teacher, classroom, center, and program levels will represent those populations in spring 2022.

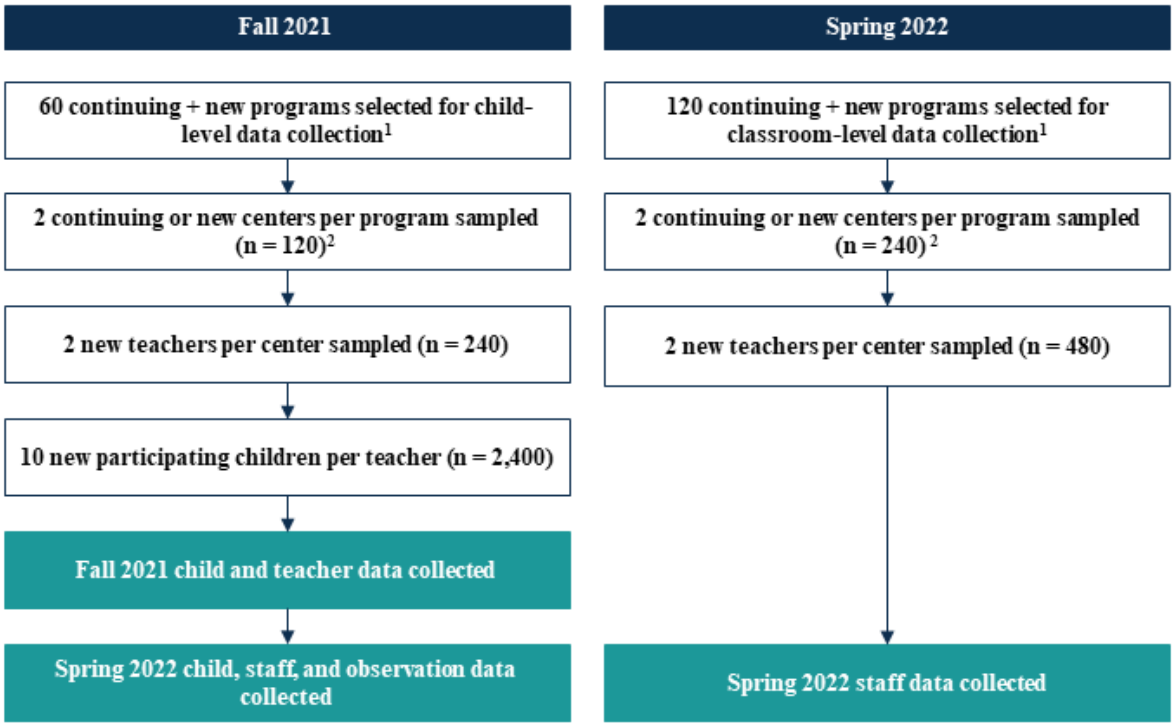
To minimize the effects of unequal weighting on the variance of estimates, the study team will sample with probability proportional to size (PPS) in the first two stages. At the third stage, the study team selects an equal probability sample of teachers within each sampled center and an equal probability sample of children within each sampled classroom. The measure of size for PPS sampling in each of the first two stages is the number of classrooms per program and per center, respectively. This sampling approach maximizes the precision of teacher-level estimates and allows for easier sampling of teachers and the children with those teachers. The study team targeted 60 programs for fall 2019 and spring 2020 data collection for Regions I–X at the child level. For spring 2020 data collection at the classroom level, we focused on 180 programs, including the 60 just described. Within these 180 programs, the study team selected, if possible, two centers per program, two classes per center, and (for the 60 fall programs) enough children to yield 10 consented children per class, for a total of about 2,400 children in fall 2019.

For follow-up data collection in spring 2022, the study team will select a refresher sample of programs and their centers to yield a new sample representative of all programs and centers in Regions I–X at the time of follow-up data collection, and the study team will also select a new sample of teachers in all centers and of children in a random subsample of centers. As part of the sample freshening for spring 2022, the study team plans to use in the spring 2022 data collection as many as possible of the original 165 FACES 2019 programs that participated in spring 2020, but will supplement with a small sample of programs that came into being since the original program sample was selected. For the original programs that will participate again in 2022, the study team will also use their originally sampled centers if those centers are still providing Head Start services. Otherwise, the study team will draw a new sample of centers for those programs. In all centers, the study team will select new samples of teachers (two per center). Figure B.1 is a diagram of the sample selection procedures. At both the program and sampling stages, the study team uses a sequential sampling technique based on a procedure developed by Chromy.[3] The study team uses a systematic sampling technique for selecting teachers.

For the continuing programs, and for any new programs in the spring 2022 sample that are added as part of the freshening process, the study team will go through the same OHS confirmation process used for fall 2019 (as well as for spring 2020 and fall 2021). For fall 2019, the study team initially selected double the target number of programs, and paired similar selected programs within strata. The study team then randomly selected one from each pair to be released as part of the main sample of programs. After the initially released programs were selected, the study team asked OHS to confirm these programs were in good standing—that is, they had not lost their Head Start grants, nor were they in imminent danger of losing their grants. If confirmed, each program was contacted and recruited to participate in the study: the 60 programs sampled for the Classroom + Child Outcomes Study were recruited in spring 2019 (to start participating in fall 2019). If the program was not in good standing, or refused to participate, the study team released into the sample the other member of the program's pair and went through the same process of confirmation and recruitment with that program. All released programs will be accounted for as part of the sample for purposes of calculating response rates and weighting adjustments. At subsequent stages of sampling, the study team will release all sampled cases, expecting full study participation from the selected centers and teachers.

[3] The procedure offers all the advantages of the systematic sampling approach, but eliminates the risk of bias associated with that approach. The procedure makes independent selections within each of the sampling intervals while controlling the selection opportunities for units crossing interval boundaries. See Chromy, J. R. "Sequential Sample Selection Methods." *Proceedings of the Survey Research Methods Section of the American Statistical Association,* Alexandria, VA: American Statistical Association, 1979, pp. 401–406.

Figure B.1. Flow of sample selection procedures for FACES 2019, spring 2022



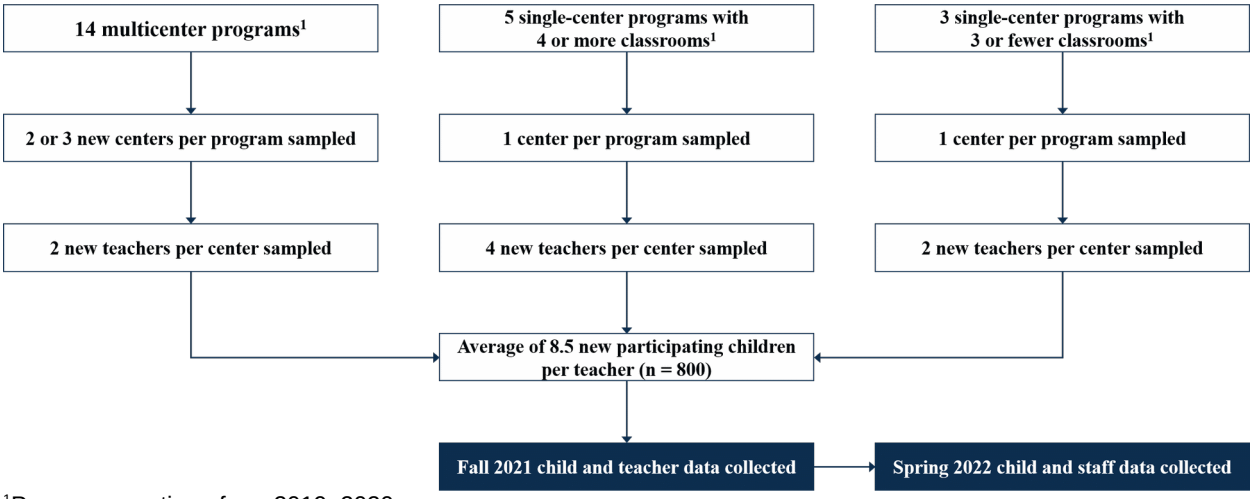
[1]Programs continue from 2019–2020 with freshening to reflect Head Start programs in 2021.

[2]For continuing programs whose sampled centers have not closed we will keep the same centers, otherwise we will select new centers.

In programs for which the study team will be selecting a new sample of centers, the team will use the Chromy procedure again to select them with PPS within each sampled program, using the number of classrooms as the measure of size. The study team will randomly select teachers within centers with equal probability.

AIAN FACES 2019. No new sampling will take place for AIAN FACES for spring 2022 data collection. We will collect data from the programs, centers, classrooms, and children included in the fall 2021 sample.

Figure B.2. Flow of sample selection procedures for AIAN FACES 2019, spring 2022



[1]Programs continue from 2019–2020.

Statistical methodology for stratification and sample selection

The sampling methodology is described above. When sampling programs from Regions I–X, the study team formed explicit strata using census region, metro/nonmetro status, and percentage of racial/ethnic minority enrollment. Sample allocation was proportional to the estimated fraction of eligible classrooms represented by the programs in each stratum. The new programs eligible for the program sample freshening—those that did not have a chance of selection for the fall 2019 program sample—will form their own sampling stratum. For Regions I–X, the study team implicitly stratified (sorted) the sample frame by other characteristics, such as percentage of children who are dual language learners (categorized), whether the program is a public school district grantee, and the percentage of children with disabilities. No explicit stratification was used to select centers within programs, classes within centers, or children within classes, although some implicit stratification (such as the percentage of children who are dual language learners) was used to select centers. When sampling programs from Region XI, the study team formed explicit strata based on geographic area for programs that had two or more centers; for those with only one center, the study team stratified by whether the program had four or more classrooms. For Region XI, the study team implicitly stratified (sorted) the sample frame by the state the program was in and by the proportion of enrolled children who were AIAN. No explicit stratification was used to select centers within programs, classes within centers, or children within classes, although implicit stratification by the percentage of children who are dual language learners was used to select centers.

Estimation procedure

For the spring 2022 data collection for both FACES and AIAN FACES, the study team will create analysis weights to account for variations in the probabilities of selection and variations in the eligibility and cooperation rates among those selected. For each stage of sampling (program, center, teacher, and child) and within each explicit sampling stratum, the study team will calculate the probability of selection. The inverse of the probability of selection within stratum at each stage is the sampling or base weight. The sampling weight takes into account the PPS sampling approach, the presence of any certainty selections, and the actual number of cases released. The study team will treat the eligibility status of each

sampled unit as known at each stage. Then, at each stage, the study team will multiply the sampling weight by the inverse of the weighted response rate within weighting cells (defined by sampling stratum) to obtain the analysis weight, so the respondents' analysis weights account for both the respondents and nonrespondents. This will be done for a variety of weights, each with different definitions of "respondent" for spring 2022 data (or fall 2021–spring 2022 longitudinal estimates), using different combinations of completed instruments.

Thus, the program-level weight for spring 2022 will adjust for the probability of selection of the program, study participation, and (for FACES only)[4] response to the program director survey at the program level; the center-level weight will adjust for the probability of center selection, center-level participation, and (for FACES only) response to the center director survey; and the teacher-level weight will adjust for the probability of selection of the teacher and teacher-level study participation and (for FACES only) survey response. For the FACES and AIAN FACES spring 2022 weights, for children still in the Head Start program, the study team will then adjust for the probability of selection of the child instructed by a given teacher, whether parental consent is obtained, and whether various child-level instruments (the teacher child report and parent surveys) are obtained. The formulas below represent the various weighting steps for the cumulative weights through prior stages of selection, where P represents the probability of selection, and RR the response rate at that stage of selection.

$$W_{pgm} = \frac{1}{P_{pgm}} \cdot \frac{1}{RR_{pgm}}$$

$$W_{center} = W_{pgm} \cdot \frac{1}{P_{center}} \cdot \frac{1}{RR_{center}}$$

$$W_{class} = W_{center} \cdot \frac{1}{P_{class}} \cdot \frac{1}{RR_{class}}$$

$$W_{child} = W_{class} \cdot \frac{1}{P_{pgm-subsample}} \cdot \frac{1}{P_{child}} \cdot \frac{1}{RR_{child}}$$

Degree of accuracy needed to address the study's primary research questions

The complex sampling plan, which includes several stages, stratification, clustering, and unequal probabilities of selection, requires specialized procedures to calculate the variance of estimates. Standard statistical software assumes independent and identically distributed samples, which would be the case with a simple random sample. A complex sample, however, generally has larger variances than would be calculated with standard software. Two approaches for estimating variances under complex sampling, Taylor Series and replication methods, can be estimated by using SUDAAN statistical software and special procedures in SAS, Stata, and other packages.

[4] Analysis weights for AIAN FACES are produced at the child level only; however, these building-block weights at the program, center, and teacher levels account for sampling and study participation for AIAN FACES.

The analyses for the spring 2022 data collection for FACES 2019 will be at the program, center, teacher, classroom, and child levels. AIAN FACES 2019 is designed for child-level estimates only. Given various assumptions about the validity and reliability of the selected measurement tools with the sample, the hypothesized variation expected on key variables, the expected effect size of group differences, and the sample design and its impact on estimates, the sample size should be large enough to detect meaningful differences. In Tables B.1 and B.2 (for Regions I–X and Region XI, respectively), we show the minimum detectable differences with 80 percent power (and alpha = 0.05) and various sample and subgroup sizes, assuming different intraclass correlation coefficients for classroom- (where applicable) and child-level estimates at the various stages of clustering (refer to table footnotes).

For point-in-time estimates, the study team is making the conservative assumption that there is no covariance between estimates for two subgroups, even though the observations may be in the same classes, centers, and/or programs. By conservative, we mean that smaller differences than those shown will likely be detectable.

Tables B.1 and B.2 show the minimum differences that would be detectable for point-in-time (cross-sectional) estimates at the teacher (where applicable) and child levels. The study team has incorporated the design effect attributable to clustering. We show minimum detectable differences between point-in-time child subgroups defined two different ways: (1) assuming the subgroup is defined by program-level characteristics, and (2) assuming the subgroup is defined by child-level characteristics (which reduces the clustering effect in each subgroup). Next, we give examples.

In Tables B.1 and B.2, the columns farthest to the left ("Subgroups") show several sample subgroup proportions (for example, a comparison of male children to female children would be represented by "50, 50"). The child-level estimates represent all consented children who will complete an instrument (for FACES, n = 2,000 to include parent surveys for new and returning respondents) in spring 2022. For example, the "33, 67" row within the child section represents a subgroup comparison involving child-level respondents in spring 2022 for two subgroups, one representing one-third of that sample (for example, children in bilingual homes), the other representing the remaining two-thirds (for example, children from homes where English is the only language used).

The last few columns ("minimum detectable difference") show different types of variables from which an estimate might be made; the first two are estimates in the form of proportions, and the last shows the minimum detectable effect size—the MDD in standard deviation-sized units. The numbers for a given row and column show the minimum underlying differences between the two subgroups that would be detectable for a given type of variable with the given sample size and design assumptions. The MDD numbers in Table B.1 assume that 85 percent of sampled classrooms will have completed teacher surveys. Both Tables B.1 and B.2 the estimated maximum number of children with consent and a completed parent survey as of spring 2022. The assumptions for AIAN FACES (Table B.2) are what we believe is the maximum *likely* number of children—about 20 participating programs, and about 400 consented children with parent survey responses in the spring.

Table B.1. FACES 2019 minimum detectable differences: Regions I–X (Spring 2022)

Teacher subgroups				Minimum detectable difference		
Percentage in Group 1	Percentage in Group 2	Teachers in Group 1	Teachers in Group 2	Proportion of 0.1 or 0.9	Proportion of 0.5	Minimum detectable effect size[a]
50	50	306	306	.087	.145	.288
33	67	202	410	.092	.154	.307
15	85	92	520	.122	.203	.404
Child subgroups				**Minimum detectable difference (Program-defined subgroups/Child-defined subgroups)**		
Percentage in Group 1	Percentage in Group 2	Children in Group 1	Children in Group 2	Proportion of 0.1 or 0.9	Proportion of 0.5	Minimum detectable effect size
50	50	1,000	1,000	0.092/0.069	0.153/0.114	0.304/0.228
33	67	660	1,340	0.097/0.070	0.162/0.116	0.324/0.231
40	30	800	600	0.111/0.072	0.185/0.120	0.367/0.239

Note: Conservative assumption of no covariance for subgroup comparisons. Assumes =.05 (two-sided), .80 power. For teacher-level estimates, assumes 180 programs, 360 centers, between-program ICC = .2, between-center ICC = .2, and an 85 percent teacher survey completion rate. For child-level estimates, assumes 60 programs, 120 centers, between-program ICC = .10, between-center ICC = .05, and between-teacher ICC = .12.

[a] The minimum detectable effect size is the minimum detectable difference in standard deviation-sized units.

Table B.2. AIAN FACES 2019 minimum detectable differences: Region XI (Spring 2022)

Child subgroups				Minimum detectable difference (Program-defined subgroups/Child-defined subgroups)		
Percentage in Group 1	Percentage in Group 2	Children in Group 1	Children in Group 2	Proportion of 0.1 or 0.9	Proportion of 0.5	Minimum detectable effect size[a]
50	50	200	200	0.164/0.126	0.274/0.211	0.542/0.419
33	67	132	268	0.175/0.129	0.292/0.215	0.576/0.428
40	30	160	120	0.199/0.136	0.332/0.226	0.655/0.449

Note: Conservative assumption of no covariance for point-in-time subgroup comparisons. Covariance adjustment made for pre-post difference (Kish 1995, p. 462, Table 12.4.II, Difference with Partial Overlap). Assumes = .05 (two-sided), .80 power. Assumes 20 programs, 42 centers, 89 classrooms, between-program ICC = .10, between-center ICC = .05, and between-classroom ICC = .12.

[a] The minimum detectable effect size is the minimum detectable difference in standard deviation-sized units.

If we were to compare two equal-sized subgroups of the 612 teachers with completed teacher surveys in Regions I–X (FACES) in spring 2022, our design would allow us to detect a minimum difference of .288 standard deviations with 80 percent power. At the child level, if we were to compare an outcome of around 50 percent with a sample size of 2,000children in spring 2022, and two approximately equal-sized child-defined subgroups (such as male and female), our design would allow us to detect a minimum difference of 11.4 percentage points with 80 percent power.

The main purpose of AIAN FACES 2019 is to provide descriptive statistics for this population of children. Comparisons between child subgroups are a secondary purpose, given the smaller sample size. If we were to compare an outcome of around 50 percent for two equal-sized subgroups (say, male and female) of the 400 children in Region XI (AIAN) with responses in spring 2022, our design would allow us to detect a minimum difference of 21.1 percentage points with 80 percent power.

B3. Design of Data Collection Instruments

Development of Data Collection Instruments

The FACES 2019 and AIAN FACES 2019 data collection instruments are based on their respective logic models (presented in Appendix U), which were developed through expert consultation and coordination between ACF and the contracted study team[5] (refer to section B8 for study team contacts) to ensure the data's relevance to policy and the research field. AIAN FACES 2019 surveys were also developed in consultation with the AIAN FACES Workgroup.

The data collection protocol for spring 2022 includes surveys of parents, teachers, center directors, and program directors, as well as teacher reports of child development. The parent and teacher surveys use the fall 2019–spring 2020 instruments as the foundation to continue to capture information on child, family, and teacher characteristics; family resources and needs; family and teacher well-being; teachers' experiences and perspectives on children's development; and classroom activities. The center and program director surveys use the spring 2020 instruments as the foundation to continue to capture information about director characteristics; staff recruitment, education, and training; center and program management and activities; and center and program systems and resources. As in fall 2021, the spring 2022 parent and teacher surveys will collect more information on family and teacher well-being in relation to the COVID-19 pandemic and parents' perspectives on children's development. We made revisions to the parent and staff surveys based on an OMB request to revise the spring instruments to better address the role of Head Start as an employer as well as to serve as a baseline for any potential policy changes to the early childhood education landscape (e.g., the potential Build Back Better Act). We worked with OHS as we addressed the OMB request, making further revisions to gather additional information on topics already in the survey and that will help to provide a baseline for the changing early childhood education landscape. For AIAN FACES, these updates were also made in consultation with the AIAN FACES Workgroup. The parent surveys have added and revised items to understand why families select Head Start. Further additions and revisions to the parent surveys are included to understand whether parents would like opportunities to engage remotely in various family engagement activities. The spring 2022 teacher and director surveys have also been updated to collect more information about staff well-being, the types of supports centers and programs provide to support staff well-being and provide trauma-informed care, and staff retention and turnover. The spring 2022 director surveys have been updated to gather information about compensation and benefits programs provide to staff, staff

[5] ACF has contracted with Mathematica to carry out this information collection.

recruitment in centers, staffing challenges centers have experienced, programs' recruitment activities, programs' emergency preparedness, and—in FACES—programs' use of new quality improvement funds first awarded in 2020. Together data from these instruments can address research questions about who is participating in Head Start; about the associations between factors such as social supports, family well-being, and child development; and about approaches programs and centers are using to support family and staff well-being during the COVID-19 pandemic. Because of lower than expected consent and response rates in fall 2021 (see section B5), we will have a larger number of spring respondents receiving questions that are asked "at first interview." In order to reduce burden for these new spring respondents, we have reviewed the spring 2022 parent and teacher surveys with OHS to identify lower-priority items that can be dropped for spring 2022 (for example, items with limited variability or items capturing constructs that are also measured in other surveys).

Wherever possible, the surveys use established scales with known validity and reliability. When there were not enough items on existing FACES or AIAN FACES data collection instruments that we could use to measure the constructs of interest, we reviewed other surveys to identify relevant items or wrote new items (notably those studying experiences related to the COVID-19 pandemic and staff well-being) to consider for inclusion. This work fills a gap in the knowledge base about how the population attending Head Start has changed since the onset of the COVID-19 pandemic, and about the supports that population might need. Appendix Q provides the FACES and AIAN FACES instrument content matrices and has been updated to reflect the latest edits to the instruments.

Ahead of the data collection, the study team pre-tested the staff surveys with fewer than ten respondents each to test for question clarity and flow in the content related to new items developed for the current wave.

B4. Collection of Data and Quality Control

Modes for all instruments are detailed in Table B.3.

Table B.3. FACES 2019 and AIAN FACES 2019: spring 2022 data collection activities

Component	Administration characteristics	
Parent survey	Mode	CATI/web
	Time	47 minutes new respondents[a]; 31 minutes returning respondents (FACES) 50 minutes new respondents[a]; 31 minutes returning respondents (AIAN FACES)
	Token of appreciation	$30
Teacher child report	Mode	Paper/web SAQ
	Time	7 minutes per child
	Token of appreciation	$10 per child
Teacher survey	Mode	Paper/Web SAQ
	Time	41 minutes new respondents; 50 minutes returning respondents (FACES) 55 minutes new respondents; 59 minutes returning respondents (AIAN FACES)
	Token of appreciation	n.a.

Component	Administration characteristics	
Center director survey	Mode	Web SAQ/Paper upon request
	Time	51 minutes (FACES); 31 minutes (AIAN FACES)
	Token of appreciation	n.a.
Program director survey	Mode	Web SAQ/Paper upon request
	Time	59 minutes (FACES); 37 minutes (AIAN FACES)
	Token of appreciation	n.a.

[a] Burden for new parent survey respondents includes 10 minutes to complete the consent form.

CATI = computer-assisted telephone interviewing; SAQ = self-administered questionnaire.

n.a. = not applicable.

The spring 2022 wave of FACES and AIAN FACES will deploy monitoring and quality control protocols that were developed for and used effectively during previous waves of the study.

Recruitment Protocol

The recruitment materials and plan for 120 spring-only FACES programs in spring 2022 were approved by OMB and recruitment is planned to begin in November 2021. To recruit new respondents, the study team will send correspondence to remind Head Start staff and parents about upcoming surveys (Appendix Y for FACES 2019 spring 2022 respondent materials; Appendix Z for AIAN FACES 2019 spring 2022 special respondent materials). The web administration of Head Start staff and parent surveys will allow the respondents to complete the surveys at their convenience. The study team will ensure the language of the text in study forms and instruments is at a comfortable reading level for respondents. Paper-and-pencil survey options will be available for teachers and directors who have no computer or Internet access, and parent surveys can be completed via computer or by telephone. Computer-assisted telephone interviewing (CATI) staff will be trained on refusal conversion techniques. AIAN FACES CATI staff will also be trained on cultural awareness and cultural humility for data collection.

Due to the COVID-19 pandemic (including staffing shortages at Head Start programs, the inability to send field staff to programs, and program closures resulting from outbreaks), distributing and collecting parent consent forms was extremely challenging in fall 2021. As a result, we did not meet our target number of eligible and consented children in FACES or AIAN FACES. Among the parents providing consent, we also had a lower survey completion rate than anticipated.

The consent process was supposed to span the fall 2021 data collection and the spring 2022 child-level data collection was to include those parents who had consented in the fall. Because consent rates were low in the fall, we are extending the consent process for children selected in the fall into spring 2022.

In addition to extending the consent timeframe, we also propose changes, bulleted below, to minimize burden on programs and facilitate consent distribution and collection. Some of these can also be used to promote survey completion across surveys. These changes are detailed in the attached nonsubstantive change memo and include:

- Updates to consent forms (Attachment 29 for FACES and Attachment 35 for AIAN FACES), including the addition of verbal consent.[6]
- Addition of direct consent outreach (Appendix AA.1).
- Sending a field staff person to Head Start programs to distribute consent forms and provide information to parents about the study.
- Additional materials to raise awareness about the studies (Appendix AA).
- In addition to Appendix AA, we revised the previously approved spring 2022 respondent materials (Appendix Y for FACES and Appendix Z for AIAN FACES) to make a more compelling case for respondents to participate in the studies, communicating the importance of hearing respondents' voices.

Monitoring Telephone Interviews

For the parent telephone interview, professional Mathematica Survey Operations Center (SOC) monitors will monitor the telephone interviewers and observe all aspects of the interviewers' administration—from dialing through completion. Each interviewer will have their first interview monitored and will receive feedback. For ongoing quality assurance, over the course of data collection the study team will monitor 10 percent of the telephone interviews. Monitors will also do heavier monitoring of interviewers who have had issues requiring correction during previous monitoring sessions. In these situations, monitors will ensure that interviewers are conducting the interview as trained, provide feedback again as needed, and, if necessary, determine whether the interviewer should be removed from the study.

Monitoring the Web Instruments

For each web instrument, the study team will review completed surveys for missing responses, review partial surveys to determine whether they need follow-up with respondents, and conduct a preliminary data review after the first 10–20 completions to confirm the web program is working as expected and to check for inconsistencies in the data. The web surveys will be programmed to include soft checks to alert respondents to potential inconsistencies while they are responding.

Monitoring the Field Data Collection

As described above, we will send a field staff person to distribute and collect consent forms from programs who meet certain criteria. The study team's approach to monitoring field data collection is two-fold. First, FACES liaisons will hold regular calls with on-site coordinators—program or center staff who help with logistical details at the program—to discuss each site visit and any challenges that arise. Second, trained SOC staff will review all consent forms returned from the field for completeness and follow up with field and program staff, if needed.

Monitoring the Response Rates

The study team will use reports generated from the sample management system and web instruments to actively monitor response rates for each instrument by program and center. The reports will give study team members up-to-date information on the progress of data collection—including response rates—

[6] Because burden for the consent form was accounted for in fall 2021 data collection, time to complete the consent form has been included in the total burden for new respondents to the spring parent surveys (Attachment 30 for FACES and Attachment 36 for AIAN FACES).

allowing the team to quickly identify challenges and implement solutions to achieve the expected response rates.

B5. Response Rates and Potential Nonresponse Bias

Response Rates

There is an established record of success in gaining program cooperation and obtaining high response rates with center staff, children, and families in research studies of Head Start, Early Head Start, and other preschool programs.

The recruitment approaches that have already been described, most of which have been used in prior FACES studies, will help ensure a high level of participation. For FACES 2019, 74 percent of eligible programs participated in spring 2020 data collection.

In fall 2019, FACES marginal unweighted response rates ranged from 75 to 93 percent, and AIAN FACES response rates ranged from 75 to 88 percent. (Spring 2020 response rates were somewhat lower for the instruments which were fielded during the early months of the COVID-19 pandemic.) As of March 2022, we are evaluating the fall 2021 data collection completion rates. However, we fell short of our targeted completes in the fall 2021 wave due to challenges related to the COVID-19 pandemic. For example, our targeted number of eligible children with parental consent was 2,400 for FACES and 800 for AIAN FACES; as of the end of the fall 2021 data collection period, we had 1,363 FACES consents and 116 AIAN FACES consents. To achieve high response rates for the spring 2022 data collections, the study team recognizes that it will need to do more than continue to use the procedures that worked well on prior FACES studies (offering multiple modes for survey completion, sending e-mail and hard-copy reminders). In addition to these procedures we hope to boost consent rates using the procedures described under Recruitment Protocol above (materials to raise awareness about the study, verbal consent).

Obtaining the expected high response rates reduces the potential for nonresponse bias, making any estimates from the data more generalizable to the Head Start population. The study team will calculate both unweighted and weighted and marginal and cumulative response rates at each stage of sampling and data collection. Following the American Association for Public Opinion Research (AAPOR 2016) industry standard for calculating response rates, the numerator of each response rate will include the number of eligible completed cases. We define a completed case as one in which all critical items for inclusion in the analysis are complete and within valid ranges. The denominator will include the number of eligible selected cases. Table B.4 summarizes the FACES 2019 and AIAN FACES 2019 response rates for fall 2019 and spring 2020. Due to the continuing uncertainty of the pandemic, the study team recognizes that the response rates in spring 2022 are difficult to predict.

Table B.4. Expected and final/interim sample sizes, consent rates and response rates for those consented for fall 2019, spring 2020, and fall 2021 approved information requests

Data collection component	2019-2020				2021			
	Expected		Final		Expected		Final	
FACES 2019								
	Eligible sample	Response rate	Eligible sample	Response rate	Eligible sample	Response rate	Eligible sample	Response rate
FACES parent consent form (with consent given)	2880	90%	2494	91%	2880	90%	3105	44%
FACES fall child assessment	2400	85%	2260	93%	n.a.	n.a.	n.a.	n.a.
FACES fall parent survey	2400	85%	2260	75%	2400	85%	1363	58%
FACES fall teacher child report	2400	85%	2260	92%	2400	85%	1363	65%
FACES fall teacher survey[a]	n.a.	n.a.	n.a.	n.a.	240	85%	236	81%
FACES spring program director survey	180	85%	165	76%	n.a.	n.a.	n.a.	n.a.
FACES spring center director survey	360	85%	318	59%	n.a.	n.a.	n.a.	n.a.
FACES spring classroom observation	720	100%	n.a.[b]	n.a.[b]	n.a.	n.a.	n.a.	n.a.
FACES spring teacher survey	720	85%	590	62%	n.a.	n.a.	n.a.	n.a.
FACES spring parent survey	2160	85%	2132	68%	n.a.	n.a.	n.a.	n.a.

Data collection component	2019-2020 Expected		2019-2020 Final		2021 Expected		2021 Final	
FACES spring teacher child report	2160	85%	2132	70%	n.a.	n.a.	n.a.	n.a.
AIAN FACES 2019								
	Eligible sample	Response rate	Eligible sample	Response rate	Eligible sample	Response rate	Eligible sample	Response rate
AIAN FACES parent consent form (with consent given)	1040	90%	963	75%	1040	90%	1022	12%
AIAN FACES fall parent survey	800	85%	720	75%	800	85%	118	64%
AIAN FACES fall teacher child report	800	85%	720	88%	800	85%	118	70%
AIAN FACES fall teacher survey[a]	n.a.	n.a.	n.a.	n.a.	80	85%	88	53%
AIAN FACES spring program director survey	22	85%	22	82%	n.a.	n.a.	n.a.	n.a.
AIAN FACES spring center director survey	37	85%	40	68%	n.a.	n.a.	n.a.	n.a.
AIAN FACES spring teacher survey	80	85%	85	69%	n.a.	n.a.	n.a.	n.a.
AIAN FACES spring parent survey	720	85%	686	67%	n.a.	n.a.	n.a.	n.a.
AIAN FACES spring teacher child report	720	85%	686	70%	n.a.	n.a.	n.a.	n.a.

[a] The fall teacher survey was introduced in fall 2021.

[b] In spring 2020, the classroom observation and child assessment were not fielded in FACES 2019 due to the COVID-19 pandemic. In AIAN FACES 2019, these instruments were conducted in seven of the AIAN FACES programs before fielding stopped in response to the COVID-19 pandemic.

n.a. = not applicable.

Nonresponse

Once data collection is complete, the study team will create a set of nonresponse-adjusted weights to use for creating survey estimates and to minimize the risk of nonresponse bias. The weights will build on sampling weights that account for differential selection probabilities as well as nonresponse at each stage of sampling, recruitment, and data collection. Each weight will define a "respondent" based on a stage of study participation (programs agreeing to participate in the study, parents providing consent for a child to participate in the study) or a particular combination of instruments being completed (for example, a parent survey and a teacher child report). When marginal response rates[7] are low (below 80 percent) the study team plans to conduct a nonresponse bias analysis to compare distributions of program- and child-level characteristics, compare the characteristics of respondents to those of nonrespondents, and then compare the distributions for respondents when weighted using the nonresponse-adjusted weights to see if any observed differences appear to have been mitigated by the weights. Given the preliminary evaluation of fall 2021 data collection outcomes, and given the ongoing impact of the COVID-19 pandemic on Head Start programs, we expect that most participation and response combinations will require such an analysis. We will document any meaningful risk for bias due to nonparticipation or nonresponse that appears to remain after weighting so that any resulting estimates are given proper context and caveats about generalizability to the Head Start population. Program-level characteristics are available from the PIR. Characteristics measured for children will be limited to what is collected on the lists or rosters used for sampling plus (for consented children) information on the parent consent form. Item nonresponse tends to be low (for example, on both FACES 2019 and AIAN FACES 2019, data on key children's characteristics such as race/ethnicity, age, and sex are present for all sample members or missing in less than 1 percent of cases), with the exception of the household income variables on the parent survey, which typically have an item nonresponse rate of between 20 to 30 percent. The study teams plan to impute income, as has been done in the past.

B6. Production of Estimates and Projections

All analyses will be run using the final analysis weights, so the estimates can be generalized to the target population, pending the results of any necessary nonresponse bias analyses. Documentation for the restricted use analytic files will include instructions, descriptive tables, and coding examples to support the proper use of weights and variance estimation by secondary analysts.

B7. Data Handling and Analysis

Data Handling

Once the electronic instruments are programmed, Mathematica uses a random data generator (RDG) to check questionnaire skip logic, validations, and question properties. The RDG produces a test data set of randomly generated survey responses. The process runs all programmed script code and follows all skip logic included in the questionnaire, simulating real interviews. This process allows any coding errors to be addressed before data collection.

[7] "Marginal response rate" is used here to mean the response rate among those for whom an attempt was made to complete the instrument; and does not account for any study nonparticipation in prior stages of sampling.

During and after data collection, Mathematica staff responsible for each instrument will edit the data when necessary. The survey team will develop a document for data editing to identify when survey staff select a variable for editing—documenting the current value, the new value, and the reason for the edit. A programmer will read the specifications from these documents and update the data file. All data edits will be documented and saved in a designated file. The study team expects that most data edits will correct interviewer coding errors identified during frequency review (for example, filling missing data with "M" or clearing out "other specify" verbatim data when the response has been back-coded). This process will continue until all data are clean for each instrument.

Data Analysis

The analyses will aim to (1) describe children and families participating in Head Start in spring 2022 and over time, (2) describe Head Start staff, (3) relate parent mental health to available resources, and (4) relate teacher mental health to classroom quality and child behavior (focusing on FACES only given that study's larger classroom sample size). Analyses may employ a variety of methods, including descriptive statistics (means, percentages), simple tests (*t*-tests, chi-square tests) of differences over time (and, for FACES 2019, across subgroups), multivariate analysis (regression analysis, hierarchical linear modeling [HLM]), and trend analysis (*t*-tests, chi-square tests, regression analysis). For all analyses, the study team would calculate standard errors that take into account multilevel sampling and clustering at each level (program, center, classroom, child), and the study team would use analysis weights that take into account the complex multilevel sample design and nonresponse at each stage. Decisions on analytic use of the data will depend on results of nonresponse bias analyses.

Descriptive analyses

Descriptive analyses may provide information on characteristics at a single point in time, overall and by key subgroups (for example, by program size [FACES], or for AIAN children only [AIAN FACES]). As an example, for questions on staff wellness and well-being (such as flexible work hours)[8] and the needs and supports for staff and families (such as resources for physical care), the study team may calculate averages (means) and percentages. The study team may also calculate averages and percentages using *t*-tests and chi-square tests to assess the statistical significance of differences between subgroups. Additionally, the study team may examine open-ended questions for emerging themes.

Multivariate analyses

The study team may use multiple approaches for questions relating classroom quality and child well-being to the mental health of teachers. These questions can be addressed by estimating regression analyses in which teacher mental health (such as depression or anxiety) predicts child behavior (such as classroom practices and child social skills). The study team may also use these methods for questions relating resources to parent mental health, where regression analyses predict parent mental health (such as depression or anxiety) based on resources available to the parent (such as Head Start services or social supports). The study team may include responses to open-ended questions to provide qualitative context to these quantitative analyses.

[8] Because AIAN FACES 2019 supports analyses at the child level, this would be characteristics of Region XI Head Start children's teachers.

Data Use

FACES and AIAN FACES plan to each have a restricted-use data file for secondary analysis, pending the results of any necessary nonresponse bias analyses. The study team plans to release a FACES 2019 data user's manual and an AIAN FACES 2019 data user's manual to inform and assist researchers who might be interested in using the data for analyses. The manuals will include (1) background information about the study, including its logic model; (2) information about the FACES 2019 or AIAN FACES 2019 sample design, with the number of study participants, response rates, and weighting procedures; (3) an overview of the data collection procedures, data collection instruments, and measures; (4) data preparation and the structure of the data files, including data entry, frequency review, data edits, and creation of data files; and (5) descriptions of scores and composite variables. Limitations will be clearly stated in materials resulting from this information collection.

Plans for reporting and dissemination

Mathematica plans to produce several publications based on analysis of data from each study, pending the results of any necessary nonresponse bias analyses:

- Key indicators will highlight descriptive findings on children, families, staff, classrooms, and programs. The intention is to quickly produce findings federal agencies can use.
- Descriptive data tables with findings from all surveys and a description of the study design and methodology will be accessible to a broad audience.
- Specific topical briefs of interest to the government will be produced, with information introduced in the data table reports explored in greater depth. These will be focused and accessible to a broad audience, using graphics and figures to communicate findings.
- Restricted-use data files and documentation will be available for secondary analysis.

B8. Contact Persons

The following individuals are leading the study team:

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To complement the study team's knowledge and experience, we also consulted with outside experts, as described in Section A.8 of Supporting Statement Part A.

Attachments

Attachment 11. FACES 2019 Head Start teacher survey

Attachment 12. FACES 2019 Head Start program director survey

Attachment 13. FACES 2019 Head Start center director survey

Attachment 20. AIAN FACES 2019 Head Start teacher survey

Attachment 21. AIAN FACES 2019 Head Start program director survey

Attachment 22. AIAN FACES 2019 Head Start center director survey

Attachment 23. Special telephone script and recruitment information collection for program directors, Regions I–X

Attachment 25. Special telephone script and recruitment information collection for on-site coordinators, Regions I–X

Attachment 29. FACES 2019 fall 2021 special parent consent form for fall 2021 and spring 2022 data collection

Attachment 30. FACES 2019 special Head Start parent survey

Attachment 31. FACES 2019 special Head Start teacher–child report

Attachment 35. AIAN FACES 2019 fall 2021 special parent consent form for fall 2021 and spring 2022 data collection

Attachment 36. AIAN FACES 2019 special Head Start parent survey

Attachment 37. AIAN FACES 2019 special Head Start teacher–child report

Attachment 39. FACES 2019 spring 2022 special teacher sampling form from Head Start staff

Appendices

Appendix P: Previously approved and completed data collection activities

Appendix Q: FACES and AIAN FACES 2019 spring 2022 instrument content matrices

Appendix R: FACES and AIAN FACES 2019 special program information packages

Appendix U: Logic models

Appendix X: FACES and AIAN FACES 2019 and 2020 nonresponse bias analyses

Appendix Y: FACES 2019 spring 2022 respondent materials

Appendix Z: AIAN FACES 2019 spring 2022 special respondent materials

Appendix AA: Materials to encourage completion of FACES and AIAN FACES consent forms