High School and Beyond 2022 (HS&B:22)
Base-Year Full-Scale Study Data Collection

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Supporting Statement Part C

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C. Content Justifications

Overview. This section contains justifications for the HS&B:22 base year full scale instruments. Full scale surveys—student, parent, administrator, teacher, and counselor—have been included in Appendix B. Questions included on the abbreviated versions of the instruments are annotated with an asterisk (*). Students and parents will be able to choose whether to complete the survey in English or Spanish.

All surveys serve to support the overall purpose of HS&B:22, which is to understand how students' backgrounds and high school experiences affect their education and life outcomes. Understanding what factors propel some students to successful completion of high school and entry into work or postsecondary education while leaving others behind is a critical function of high school longitudinal studies such as HS&B:22. As shown by HS&B:22's predecessor studies,[1] high school graduation rates and rates of entry into postsecondary education have increased substantially since 1972 (McFarland et al., 2018; Snyder, de Brey, & Dillow, 2018). In that time, there also have been dramatic changes in the education landscape. The demographic makeup of recent high school cohorts is substantially more diverse than in prior decades, with the proportion of English Language Learners increasing dramatically (Bransberger & Michelau, 2016; McFarland et al., 2018), for example. The nature of instruction and curricula have shifted over time as well, with greater availability of college credit-bearing coursework in high school and increasing use of technology in classrooms (College Board, 2017; Office of Educational Technology, 2017). Within this diversifying environment, the HS&B:22 surveys will provide new sources of information about how students, parents,[2] and school staff are responding to the challenges of educating today's youth, and they will capture the factors (e.g., experiences, behaviors, attitudes, and interactions with people) which influence students' decision-making process about high school courses, postsecondary options, and occupation goals. Finally, HS&B:22 and its predecessors offer an opportunity to study trends in students' high school experiences and education outcomes. By maintaining linkages with NCES's previous high school longitudinal studies, HS&B:22 data can be used to examine changes over time which may shed light on the effects of various policies, demographic shifts, and school practices on student achievement, growth, and educational attainment.

C.1 Ninth-Grade Student Survey

Prior to reaching the student survey in the integrated session, students will be asked to indicate the first language(s) they learned to speak. The response to this question in conjunction with school-reported English Language Leaner (ELL) status will be used to route the student through or around the English language screener. The English language screener will be used to determine eligibility for participation in other components of the student session. Students whose first language is other than English and who fail the English language screener bypass the math assessment and reading assessment. However, since the student survey is translated into Spanish, native Spanish speakers who fail the English language screener will be routed to the student survey which will default to the Spanish version. A button in the survey allows all students regardless of their language background to toggle between English and Spanish on each screen. Additionally, the student survey has been audio recorded so a student can choose to listen to the questions in English. This option is not available in Spanish, however.

The student survey collects information on demographics and language use; school experiences; family; guidance and future plans; attitudes, behaviors, and wellness; and locating information for future follow-up.

Demographic characteristics collected in the survey include sex, race and ethnicity, and age (i.e., date of birth). In addition to the question about first language(s) asked prior to the English language screener, a series of questions in the survey ask how often a non-English language is spoken, the preferred language, and English fluency. Equity of opportunity and achievement gaps are of keen interest to educators and researchers. These data can be used to document the extent of and the trends in high school opportunity, achievement, and attainment gaps based on students' characteristics.

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1 High School Longitudinal Study of 2009 (HSLS:09), Education Longitudinal Study of 2002 (ELS:02), National Education Longitudinal Study of 1988 (NELS:88), High School and Beyond (HS&B), National Longitudinal Study of the High School Class of 1972 (NLS:72).

2 The student and parent surveys collect information on parents or guardians. In this justification, we use 'parent' to indicate parent or guardian.

The survey collects information about students' school experiences both before high school (e.g., ever repeated a grade, math course taken in 8th grade) and at the beginning of high school. Understanding student experiences before entering 9th grade will give context to student achievement and attainment patterns in high school. Questions about students' experiences in high school include plans for math coursetaking, confidence in math abilities, school climate, sense of belonging, bullying, use of technology for homework, and school activities. Research shows that advanced coursetaking, a rigorous math curriculum, academic self-efficacy, and participation in school activities are associated with high school completion as well as college going and persistence (Byun et al., 2015; Kim et al., 2015). Research also shows that a positive school climate, a sense of belonging, and positive interactions with peers protect students from negative events, such as dropping out, and help students thrive academically and socially (Berkowitz et al., 2017; O'Malley et al., 2015). Understanding these factors at the beginning of students' high school careers and subsequently in the first follow-up in 12th grade will give insight into how the school environment affects student outcomes. Finally, questions about usage of technology for schoolwork outside of school and ability to connect to the internet outside of school give insight into equity of access to technology, an important topic as use of technology becomes an ever more integral part of students' academic lives.

Questions related to the student's family include family structure, indicators of socioeconomic status, and parent's involvement in the student's schooling and monitoring of student's activities. Students report on their relationship with up to two parent(s) or guardian(s) in their household (e.g., biological or birth mother, stepfather, grandmother). Students are asked to provide their parents' highest level of education and employment status to provide an indication of socioeconomic status. Although these questions are also asked on the parent survey, achieving high response rates with parents can be challenging. These data collected from students can be used in cases when a parent does not respond. Parental educational attainment and family socioeconomic status are strongly associated with student educational outcomes (Reardon, 2011), so the data collected here will ensure that these key elements of students' background are available for researchers regardless of the parent survey response rate. Research also shows parents' awareness of students' educational activities are associated with positive educational outcomes for students (Benner, Boyle, & Sadler, 2016).

Topics related to guidance and future plans ask students about academic guidance they receive, their expectations for their future, perceptions of college affordability, and financial literacy. Research shows that students' expectations for their future are highly associated with later outcomes, as is the type of guidance students receive regarding courses to take (Pike, Hansen, & Childress, 2014; Robinson & Roksa, 2016). Since many of the constructs measured here are also intended to be collected in later rounds, this section provides a baseline for analyses of change and stability in these areas and how they overlap with academic success and social development.

Many of the questions related to attitudes and behavior are items developed for the Middle Grades Longitudinal Study of 2017-2018 (MGLS:2017) to explore contemporary topics of interest to educational researchers. Among these topics are growth mindset, conscientious behavior, persistence, sleep and exercise patterns, recreational technology usage, and student employment. Recent research shows that having a growth mindset (i.e., believing intelligence is malleable and influenced by effort) is strongly associated with positive student achievement, and conscientious behavior is highly correlated with motivation and GPA, among other academic factors (Claro, Paunesku, & Dweck, 2016; West et al., 2016; Yeager & Dweck, 2012). There is also growing concern that adolescents are not getting enough sleep or physical activity and are spending too much time interacting with technology and that these factors may negatively impact students' educational achievement and well-being (Gentile et al., 2014; Perkinson-Gloor, Lemola, & Grob, 2013; Short et al., 2013). Survey information about student hearing and vision will complement results from the hearing and vision assessments.

C.2 Parent Survey

The parent survey complements the student survey by collecting data on demographics and language use; school experiences; family; guidance and future plans; parental education, employment, and socioeconomic indicators; and home life and wellness. In addition, contact information is collected to allow for future follow-up.

Parents are key sources of detailed information about students' educational background, family resources, home life, and financial and other planning for college. Research shows the home environment and resources

available to students have strong effects on students' academic development, decision making, and educational trajectories (Dufur, Parcel & Troutman, 2013; Sirin, 2005). The parent survey provides the opportunity to collect a rich array of information that will help researchers understand the interplay between family dynamics and resources and student outcomes. The overarching goal of the parent survey is to gather data that will elucidate the educational, social, and financial resources available in the home to support student's academic development and achievement. In a longitudinal context, the parent survey provides an important and rare chance to examine the stability of parental involvement in student life, alterations to family structure, changes in economic circumstance, and other home changes which can have a major impact on the psychological and material world of adolescents. The combination of longitudinal data from parents with longitudinal data from students makes for a powerful research tool to address the core education research question of how family experiences shape student outcomes.

The parent survey includes questions about the student's school experiences such as the number of schools attended, whether the student skipped or repeated grades, whether the student has participated in a gifted and talented program, special education services received, if the student has been suspended or expelled, if the student had extended absences from school, and availability of dedicated space and digital devices in the home for students to use for schoolwork. The next two sections collect information on family composition; siblings and their educational experiences; the race, ethnicity, and age of parent(s) and the student, and language of the family. These questions are geared toward helping researchers understand equity of opportunity for students, especially for those from diverse backgrounds.

Educational guidance received at home and school, as well as parents' own educational background and educational expectations for students, are all associated with student outcomes (Björklund & Salvanes, 2011). The parent survey collects information in these areas as well as surveying the family's economic resources and plans around financing postsecondary education. Items asking about parental education, occupation, family income, home ownership and other financial questions are used to measure the family's socioeconomic status. Research shows that family socioeconomic status is strongly associated with student achievement gaps and equity of access to educational opportunity (Reardon, 2011). Finally, the parent survey asks about educational services outside of school, and draws on new items from MGLS:2017 to address emerging areas of research interest including how parents regulate students' use of technology and the relationship between students' health and students' educational outcomes. Questions about the student's hearing will provide contextual data for the hearing assessment.

C.3 School Administrator Survey

The school administrator survey collects information in several topic areas including school and teacher characteristics, school programs and coursework, discipline and safety, school administrator characteristics and experience, school climate, and relationships with stakeholders. The school administrator survey may be administered in two parts. The school administrator must answer the questions related to their own characteristics and experience, school climate, and relationships with stakeholders. The other parts of the survey may be completed by another school staff member if the school administrator chooses to delegate to a designee.

The purpose of the HS&B:22 school administrator survey is to support the study's main research objectives of understanding how young adults choose the pathways they do and understanding the role that high school environment and high school experiences play in those decisions. To achieve its purpose, the school administrator survey has been designed to provide school-level contextual data for examining and interpreting students' decision making and planning processes. Further, because HS&B:22 schools comprise a nationally representative sample, school administrator survey data may also be used to draw a descriptive profile of American high schools with 9th grades. Data gathered in the school administrator survey can be merged with data from the student, parent, teacher, and counselor surveys and correlated with student outcomes. This link will allow researchers to determine the school structures, policies, and practices that may encourage or discourage different high school trajectories and decisions.

The school administrator survey collects data on school administrator, teacher, and student body characteristics and provide essential information about the school environment. Information on the student body includes the percentage who are racial or ethnic minorities, percentage who are eligible for free- or reduced-price lunch, percentage who are English Language Learners (ELLs), and percentage of graduates who

entered college or the labor market. These data will help support research that has shown correlations between school population characteristics and student achievement and access to educational opportunities (Wang & Eccles, 2013; Wilms, 2010). Additional questions about teaching staff and teacher qualifications, give insight into some of the human capital resources available to students at the school. Questions about the school administrator ask about their demographic characteristics, education and certification, and professional experience. Items about the school administrator's background and experience allow researchers to make connections between school leadership and student outcomes. The questions on school programs and coursework include items about the availability of advanced courses for students and whether schools offer services/programs for English Language Learners (ELLs) or competency-based education options for students. Questions about school discipline and safety are timely given public and research interest in how schools ensure student safety and if disciplinary practices differ across different school populations. Finally, the survey includes several items related to school climate. Research has shown that school climate is strongly associated with student outcomes; positive climates have a beneficial impact whereas climates characterized by high incidences of violence, conflict, absenteeism, and disciplinary issues adversely affect students' academic achievement (Thapa et al., 2013; Wang & Degol, 2016).

C.4 Mathematics Teacher Survey

Mathematics teachers of participating students will be surveyed. The purpose of the teacher survey is to understand the dynamics associated with the mathematics classroom and the broader school context for surveyed students. HS&B:22 will not include a nationally representative sample of teachers, so data cannot be used to generalize to all 9th grade mathematics teachers. Instead, data gathered from the math teacher survey can be merged with data from the student survey. This linkage of data will allow researchers to use the teacher data contextually with the student as the primary unit of analysis. The teacher survey complements the student survey by providing school contextual data about the opportunities and resources available to support students' achievement and experiences in their mathematics classes. The mathematics teacher survey collects information about the math class in which the sampled student is taught, the teacher's evaluation and expectations for the student, the teacher's experience and background, and school climate and teaching practices.

Teachers will provide information about the students' mathematics class and the student's performance and engagement in that classroom. Mathematics achievement is highly correlated with a host of positive student outcomes, including entry to postsecondary institutions and higher earnings in the workforce (Byun et al., 2015; Kim et al., 2015). Understanding students' mathematics experiences and their teacher's educational approach will enable researchers to study a host of outcomes related to mathematics and other academic factors.

Classroom-level questions include items about the rigor of the students' mathematics course, the course curriculum, the teacher's mathematics teaching objectives, the classroom behavior of students, and the achievement level of the class. Student-level questions focus on surveyed students' demonstrated mathematics abilities and levels of engagement in the subject. Teacher background questions include items about the teacher's academic background, certification, and years of teaching experience. Data of this type can be used to examine such topics as equity of access to highly qualified teachers. The mathematics teacher survey collects data at the school-level around emerging research areas such as internet access at the school, how students at the school use technology for schoolwork, and the teacher's growth mindset. Finally, it asks questions about school climate and safety, giving insight into students' school environment.

C.5 School Counselor Survey

The school counselor survey of HS&B:22 is targeted to the head counselor or whomever the head counselor designates as a knowledgeable source about the survey contents. The HS&B:22 base year study will provide valuable information about the counseling services available to sampled students, but it is not a study of school counselors and cannot be used to generalize about school counselors as a population. It can, however, be used to generalize to the school-level when the questions concern school policies and academic offerings. The purpose of the school counselor survey is to provide contextual data about the characteristics and practices of the schools attended by surveyed students, as well as the type of counseling supports available to students. The school counselor survey collects information about school and counseling program characteristics; school

courses and academic programs; counseling and support services; and graduation requirements and transitions after high school.

Information collected on the school and counseling program characteristics includes the number of full-time and part-time counselors, certification of those counselors, number of students served per counselor, and goals of the counseling program. The section on school courses and academic programs includes questions about how students are placed into 9th-grade courses and how counselors assist students with the transition from 8th to 9th grade. Ensuring that all students begin 9th grade with a course sequence that will enable them to enter a postsecondary institution is a topic of interest to researchers, especially in terms of equity, and understanding how students are placed into courses will give insight into this topic. Other questions ask about the availability of Advanced Placement (AP) and International Baccalaureate (IB) courses, as well as dual enrollment offerings, career and technical education, and online courses. Access to these types of programs can vary based on school characteristics, such as minority enrollment and students' socioeconomic status, so data about these topics will be of interest to researchers.

The counseling and support services section includes items on supports for students who need extra assistance, the existence of enrichment programs at the school site, and credit recovery programs. Additional items collect information about early warning indicator systems, which have gained widespread use in schools across the country in recent years. These systems flag students at-risk of academic failure or dropout, and the data collected here will help researchers understand the effectiveness of these systems. The final section includes items about the school's graduation requirements and the supports provided for helping students prepare for transitions to postsecondary education and careers after high school.

How students are placed into courses and the resources available to students as they plan for transitions into postsecondary education or careers are of particular interest to researchers. Research indicates that 9th grade is a critical year that lays the foundation for students' ultimate success in high school and students' ability to enter postsecondary institutions or careers of their choosing (Easton, Johnson, & Sartain, 2017; Roybal, Thornton, & Usinger, 2014).

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