To begin, can you outline the purpose of Project TALENT and expand on the context of the original study carried out in the 1960s?

SL: Project TALENT is a nationally representative longitudinal study of about 377,000 men and women who were in high school in the US in 1960 and who are now in their late sixties and early seventies. Conducted by the American Institutes for Research (AIR), Project TALENT began as a major effort to assess the critical period of transition to adult life beginning in high school and continuing past the age of 30. In the spring of 1960, participants were given a battery of tests and inventories during four half-day sessions that included measures of language and mathematics, reasoning ability, demographic characteristics, family background, interests, aspirations for further education, health, activities in and outside school, plans for college, military, career and family. In subsequent follow-up interviews, participants were asked about their post-high school education and work experiences, personal life, future plans, aspirations and quality of life. Now, more than 50 years later, Project TALENT has the potential to become one of the largest and most representative longitudinal studies of ageing ever to be conducted.

What methods are you using to ascertain the impact of family factors, gender and birth order on a wide range of variables?

SL: One major focus of our current research is to investigate whether and to what extent adolescent cognitive ability and personality traits predict mortality across the lifespan after controlling for basic demographic background characteristics such as socioeconomic status and race. We have used a series of Cox proportional hazard regression models to investigate these relationships using the Project TALENT pilot data of approximately 5,000 individuals. Due to different mortality rates for men and women, as well as our expectation that personality and cognitive ability would operate differently for men and women, we are conducting separate analyses by gender.

Overall, our findings reveal that personality measured at high school significantly predicted later life all-cause mortality in both males and females, after controlling for demographic background. In contrast, cognitive ability at adolescence showed marginal effects on male all-cause mortality and no significant effects on female mortality. Additionally, our analyses suggest that effects of personality on mortality risk operate through different dimensions of personality traits for men and women. For males, impulsiveness and vigour were significantly associated with all-cause mortality, whereas only calmness was associated with all-cause mortality for females.

How are you looking at the way historical events could have an impact on the results of your study?

GR: Growing up in the US Civil Rights Movement era undoubtedly impacted the life course of the project participants in unique ways that we hope to document scientifically. For example, Project TALENT includes a large number of African-Americans who were educated in racially segregated schools. We are planning a study looking at the relationships between Project TALENT participants in all-black versus predominantly white high schools and their respective later life outcomes, including educational achievements across the life course. We are interested in the diverse impact of the adolescent high school experience on education, occupation, health and socioeconomic status and the impact of school segregation on the prevalence and severity of chronic illness later in life.

Why is the study of twins over their lifetime of particular interest?

SL: We plan to conduct a 50-year follow-up study of the Project TALENT twins and their siblings along with a randomly-selected comparison group of siblings from 1,000 other families who attended the same schools. The data will form the Project TALENT Twin and Sibling Study (PTTS) which will be developed as a scientific resource for identifying determinants of healthy psychological and physical ageing.

The sample will include over 4,500 twins and over 1,200 siblings of participating twins. We will assess the sample to obtain zygosity
and family structure information, as well as DNA, current cognitive functioning, health history, occupational and psychological outcomes, wellbeing, and other behavioural and psychological measures associated with healthy ageing. We will validate the zygosity of the twins based on self-report and high school yearbook photos against genotyping. As part of this study, we will create a PTTS data archive by merging new data with existing data from twins and siblings for other researchers to use to address a wide range of ageing-related questions. A major goal of this research is to determine genetic and environmental influences on cognitive change over a 50-year period.

What are the key challenges faced by researchers conducting longitudinal studies?

GR: Relocating participants, most of whom have not been contacted by the study in 37-53 years, presents a significant challenge to researchers. In the preliminary study of about one per cent of the original sample, we found that certain groups – most notably women, students with low adolescent cognitive scores, men attending high minority schools, females from less affluent families and females attending schools situated in very large urban communities – have disproportionately low tracking rates. Locating these participants will be crucial to the success of our follow-up efforts.

Have you developed any new methods for ensuring that such studies are effective in producing results over a long period of time?

GR: The preliminary study highlighted the importance of tracking methods in reaching a diverse population and revealed areas where improvements in these methods would be beneficial. Efforts are currently underway to develop carefully designed, intensive, but still cost-effective methods for tracking hard-to-reach individuals so they can be included in future longitudinal research. These methods capitalise on family and classmate social networks, community organisations as well as local, state and national records and databases (such as vital statistics offices and social service agencies). Monetary incentives are also an effective means of encouraging participation in follow-up studies.

In what ways will the project impact on various early life activities such as education?

SL: Project TALENT is uniquely suited to be the basis for groundbreaking studies of life course development and ageing. The long term follow-up of the 1960 Project TALENT cohort will provide important new data on how physical, cognitive, socioeconomic and demographic factors in early life influence overall educational and occupational achievement, and how a person’s level of engagement in different activities and social roles across the life course affects health and wellbeing in the post-retirement years.

Can you highlight the type of research you hope to be doing in the future related to this project?

SL: Our goal is to develop intervention models that apply what we learn from the Project TALENT participants to optimise successful development and ageing. The more we know about the early life factors that predict different life outcomes, the better we will be able to selectively target those factors to enhance people’s health and wellbeing. We plan to expand the predictors of mortality beyond personality to include adolescent interests and to examine specific forms of mortality such as cancer and cardiovascular disease. We also hope to include the sons, daughters, grandsons and granddaughters of Project TALENT participants in multigenerational studies that examine the nature and patterns of intergenerational exchanges, and cohort differences across the generations.
Enhancing wellbeing

The groundbreaking 1960 Project TALENT survey is the foundation for an exciting new study, launched by the American Institutes for Research, that offers new insights into how early life experiences impact life outcomes.

AN EXTRAORDINARY RESEARCH project began in 1960 when students from over 1,300 American schools took part in the largest and most comprehensive study of high school students ever conducted in the US. Known as Project TALENT, this collaborative national longitudinal study has provided important information about social life and how children progress into adulthood. A collaborative effort between the American Institutes for Research (AIR) and a number of other research institutions, the project was funded by the United States Office of Education. The data gathered have delivered vital social science information to inform healthcare and education policy and numerous academic and government reports. In particular, there has been much interest in the key factors that influence how well a particular student does academically and how socioeconomic status can impact the many varied choices made later in life. Project TALENT also significantly advanced our understanding of career path potential. For example, it identified more accurate ways to recognise individual students’ specific talents and skills, offering novel methods and tools designed to assist students in choosing career paths, and consequently supporting the long-term prosperity of the US.

A FRESH VIEW ON PARTICIPANTS’ LIVES

The Project TALENT results highlighted the importance of individual training, personalised career development and aligning career goals with the national school teaching programme. In addition, this study has helped to provide a record of the transformation of the role of women in society over the last 50 years, including the changing attitudes towards marriage and how different factors impacted on career choices. With many of the original Project TALENT participants now in their late sixties and early seventies, AIR is following up with these participants to build an unprecedented study into ageing known as ‘Enhancing Project TALENT: Early Life Impacts on Later Life Outcomes’. As research leader Susan Lapham explains, one of the first objectives of this latest research effort was to find the original Project TALENT adolescents, which proved to be challenging as many of these individuals had no contact with the project for 50 years.

In 2011, a partnership between AIR and the University of Michigan looked at the feasibility of attempting such a major undertaking. Researchers at the University’s Institute for Survey Research (ISR) managed to locate 86 per cent of a sample of the original participants (including 15 per cent who were deceased). These results were encouraging and as a result AIR is now planning to complete a follow up study with around 100,000 original Project TALENT participants. The team is keen to assess a number of different indicators relevant to health, education and career outcomes in the hopes that they can reveal new information about influencing factors. “This long-term follow-up will provide important new data on how physical, cognitive, socioeconomic and demographic factors in early life influence lifetime educational and occupational achievement, activity engagement, expectations and concerns about the future, and social roles that affect health and wellbeing in the post-retirement years,” elucidates Lapham. The research team will be able to incorporate modern analytical tools to enhance our understanding of these factors based on the old data as well as on fresh information gathered.

EXPLORING DISTINCTIVE CHARACTERISTICS

Some of the areas that the Project TALENT follow-up study team is keen to delve into more deeply are twins, ethnic minorities and military veterans. Lapham’s colleague Dr George Rebok points out that, to their knowledge, this is the only planned research that includes the Project TALENT information on twins, siblings of twins, and other sibling students at Elizabeth Seton High School in Baltimore, Maryland taking the Project TALENT survey in 1960.
Project TALENT builds on an extensive and comprehensive study completed 50 years ago to offer some new and beneficial insights into how school and social systems can be enhanced and improved.

groups. Through this work they will have the opportunity to set up the first US national twin registry which will be a valuable resource for further studies on socioeconomic drivers of life development. When Project TALENT was first set up, many of the schools partaking in the study were racially segregated. This has provided an extraordinary opportunity to look at how this type of separation has impacted upon the adult lives of African-Americans. In addition, with so many of the original Project TALENT participants serving in the Vietnam War, this study base offers a special chance to learn about the impact of the stress following combat on long-term wellbeing and ageing.

ASSESSING PERSONALITY TRAITS

A major focus of the follow-up study by AIR is the analysis of personality traits, and how these complex traits can influence life choices and health. Lapham notes that personality traits provide a powerful tool to predict physical health and mortality as people age. As an example, she indicates that findings suggest people who are more conscientious and emotionally stable appear to have a lower risk of premature death. The original Project TALENT survey included a large number of items which were focused on testing areas such as leadership, self-confidence and calmness. As part of this latest work the researchers are attempting to identify how the items and scales from the Project TALENT personality tool conceptually match up against traditional inventories of personality known as the Big Five – namely extraversion, agreeableness, conscientiousness, neuroticism, and openness.

“In independent samples drawn from populations of younger and older participants, we have tested the relationships between the Project TALENT personality scales and several measures of the Big Five.” This has produced some very interesting findings. For instance, the researchers have learnt that original Project TALENT measures correlate ‘very highly’ with the Big Five, meaning that the team can now assess how different personality traits can help to forecast health and mortality across a person’s life.

COMMUNICATING FINDINGS

A key part of the project is disseminating the information garnered as widely as possible. This includes publishing conclusions of studies in key international journals. Lapham, along with a number of colleagues, published a paper called ‘The Project TALENT Twin and Sibling Study’ in 2013 in the journal Twin Research and Human Genetics. This work holds much importance because it is one of the first times that behavioural research has been carried out on the original Project TALENT sample. By developing new algorithms the AIR team was able to link siblings and thus create the opportunity for valuable research. Another paper presented at the American Statistical Association’s Joint Statistical Meetings described the team’s work looking at the differential coverage of three mortality record sources for a random subsample of Project TALENT participants. From Lapham’s perspective, the real worth of their work is that it builds on an extensive and comprehensive study completed 50 years ago to offer some new and beneficial insights into how school and social systems can be enhanced and improved to add value to students’ lives and, ultimately, to their long-term health and wellbeing.