



Spring 2021

# WISCONSIN LONGITUDINAL STUDY

Respondent Report

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# Dear Friends of the WLS,

It's been about 64 years since members of the class of 1957 first filled out the survey that would launch the Wisconsin Longitudinal Study (WLS), and a lot has happened since. Graduates and their siblings have answered many questions about school, work, family, friendships, activities, opinions, and health. The information you shared has helped researchers in Wisconsin and beyond learn about the relationship between experiences in early life and well-being later in adulthood, and about the things that matter most to people as they age. We are extremely grateful for all the time you've spent in interviews, and truly appreciate your continued dedication to this extraordinary scientific study.

Over the years, the WLS has been directed by several scholars who worked to enhance the study's vitality and impact. Dr. Robert Hauser led the study starting in 1975, gathering information about the experiences of graduates and their siblings in the labor force and learning about their families and activities as they approached retirement. Dr. Pamela Herd succeeded Dr. Hauser in 2010, and expanded the study's focus on health. Under her leadership, the WLS collected information on physical and mental health, cognition, and -- thanks to the willingness of many of you to share some saliva -- the complex relationships between genes, environments, behaviors, and various health outcomes.

Dr. Herd is now at Georgetown University, but together with Dr. Sanjay Asthana, a physician who heads the University of Wisconsin's Division of Geriatrics and Gerontology, she continues to oversee projects exploring memory and the way our minds process information.



In January 2021, in the midst of a pandemic that has changed so much about how we live, Dr. Michal Engelman became the new principal investigator of the WLS. Dr. Engelman is an Associate Professor of Sociology at UW-Madison, and she studies health and aging. With a background in public health and history, she is especially interested in how social and economic experiences throughout people's lives influence their health and well-being at older ages.



**DR. MICHAL ENGELMAN**

# WLS: LOOKING *FORWARD*

In addition to extending the WLS's tradition of research linking information collected from respondents across the life course, Dr. Engelman is also deeply committed to expanding the WLS to include more Wisconsin residents from populations who have not previously been fully visible in the study.

In the coming years, she plans to recruit additional respondents from Wisconsin's Black, Native American, Hispanic, and Asian-American communities. The combined sample of 1957 graduates, siblings, and their soon-to-join peers will enable us to learn more about aging among diverse groups of people who all -- at some point in their lives -- called Wisconsin home (see p.6).



**DR. CAROL ROAN**

Dr. Carol Roan, who has been helping to steer the WLS since 2005, continues to manage the daily work of producing and sharing the data you all have contributed to. She, Dr. Engelman, and the dedicated WLS and UW Survey Center staff are excited about this opportunity to tell you about recent developments with the study, and will be happy to hear from you with questions or comments. Thanks for staying in touch with us, and we look forward to writing yet another chapter in the story of the WLS together with you.

Sincerely,



Dr. Michal Engelman  
Principal Investigator  
Associate Professor of Sociology  
University of Wisconsin-Madison



Dr. Carol Roan  
Senior Scientist  
College of Letters and Science  
University of Wisconsin-Madison

## A NOTE ABOUT SALIVA COLLECTION

The saliva collected from WLS respondents yielded genetic data that proved invaluable in helping scientists explore complex links between genes, environments, and life experiences such as completing college or finding a good job<sup>1</sup>. The data were also used in studies of longevity<sup>2</sup>, which could inform efforts to prolong healthy lives.

1. Belsky, D. W., et al. Genetic analysis of social-class mobility in five longitudinal studies. *Proceedings of the National Academy of Sciences* 115.31 (2018): E7275-E7284.

2. Pilling, L. C., et al. Human longevity: 25 genetic loci associated in 389,166 UK biobank respondents. *Aging* 9.12 (2017): 2504.

# WLS NOW: CURRENT WAVE

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**DR. PAMELA HERD**

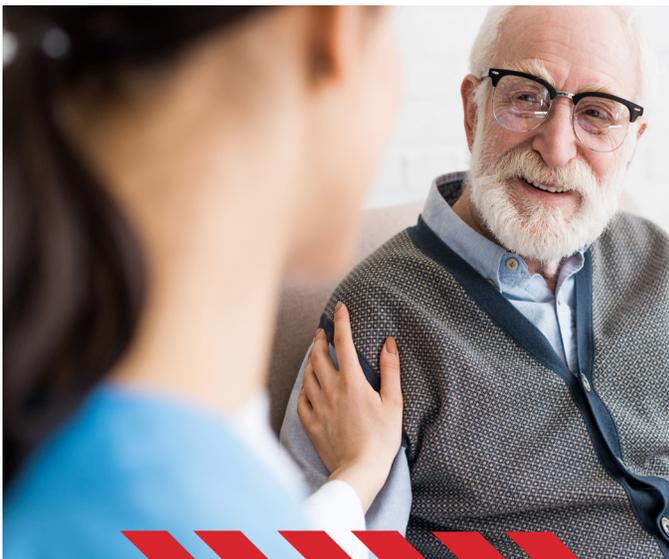
In 2019, Dr. Pamela Herd began a special scientific collaboration with Dr. Sanjay Asthana to learn about the lifetime factors that protect cognitive health. The WLS team is now out in the field (or really, due to the pandemic, on the phone) interviewing many of you to collect data in ways that will help us to better understand what makes us resilient as we age.

What makes this project so unique is that unlike most studies exploring cognition, the WLS can help clarify how experiences in adolescence and young adulthood might have implications well into our older years. For example, a recent study which appeared in the *Journal of the American Medical Association: Neurology*, used the WLS to explore how playing football in high school affects cognitive and mental health for people in their 60s and 70s. Despite concerns about connections between playing football and a greater risk for concussions, the study found no evidence of long-term harmful effects for WLS respondents who had played football in high school.

The WLS also allows us to better understand how our education, our jobs, our social engagement, and our family lives have long term influences on our cognitive health as we age. For example, a slate of recent studies using the Wisconsin Longitudinal Study have found that maintaining social engagement improves both mental and cognitive health as we age.



**DR. SANJAY ASTHANA**



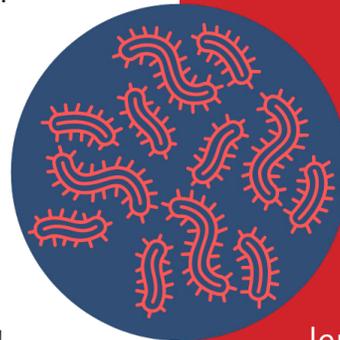
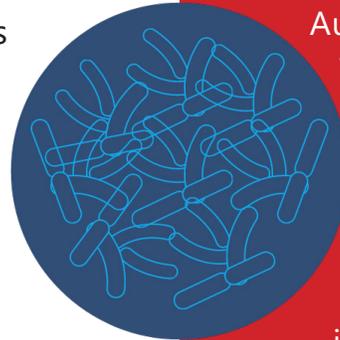
# MICROBIOME EFFORT

A few years back we approached a small number of you to participate in an innovative study exploring the gut microbiome. There are trillions of microbes that inhabit your 'gut'. A growing body of research is showing that these microbes have profound implications for our health and well-being. We also know that it's our environments -- from the food we eat to the places we live -- that have the most influence on the composition of our microbiomes. We were one of the first studies of our kind, a large longitudinal population-based study, that attempted to collect samples that allow researchers to analyze how environmental factors shape our gut microbiome.

We were delighted by the fact that nearly all of the study members that we approached were willing to participate. We were able to share our experiences with other studies to help think about how to collect similar data in other community-based studies. We have also produced some very interesting analyses showing how marriage and our social relationships have a direct influence on the composition of our gut microbiome: it turns out that people who spend a lot of time together share a lot of microbes! Our studies also show that certain characteristics of our gut microbiome are correlated with our psychological and mental well-being.

The WLS is the first study to link data on the human microbiota to comprehensive, longitudinal data on the broad array of environmental characteristics that shape the gut microbiota.

This gives researchers the opportunity to better understand how the microbiome influences human health -- and ultimately, how we can use it to improve human health.



## THE GUT-BRAIN CONNECTION

A large body of evidence shows a link between gut microbiome and brain function, though the majority of these links are based on animal models.

Audrey Renson and a team of researchers used WLS data from the microbiome effort to get a better understanding of these linkages in humans, and in older adults in particular. Findings indicate traits such as cognition, mood and personality are linked with particular taxa or biological classification of gut microbiome. According to Renson, "This lends further support for the interconnectivity between the gut and the brain, and provides potential targets for prevention or intervention around the significant public health burden of depression and cognitive dysfunction."

Renson, Audrey, et al. Gut bacterial taxonomic abundances vary with cognition, personality, and mood in the Wisconsin Longitudinal Study. *Brain, Behavior, & Immunity-Health* 9 (2020): 100155.

# RACE AND ETHNICITY IN WLS

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Race and ethnicity are an important part of many people's self-identity. However, public conversations about these topics -- when they happen -- are often strained. This is starting to change, and the WLS team is committed to engaging with issues of diversity and inclusion in a sensitive and respectful way.



Most respondents in the WLS describe themselves as white. But not everyone. The WLS surveys have always been a product of their time, and perhaps unsurprisingly, the study never asked about your race or ethnicity in the early years. The first time we included a question asking you to indicate what you consider yourself to be was in our 2004 survey. Not everyone answered, but among the over 10,000 who did, nearly 99-percent described themselves as white. The second most frequent answer, American-Indian or Alaska Native, was chosen by one-half of one-percent of you. The remaining half-percent were spread among people who described themselves as Black, Asian, Hispanic, and Other.

Frankly, we haven't talked much about race and ethnicity in our research because we couldn't. We do not have enough people in the study who identify as Black, Hispanic, Asian-American, or Native American to statistically compare similarities and differences in life experiences across racial and ethnic groups. Dr. Engelman is reaching out to members of Wisconsin's many diverse communities in the hope of expanding their representation in our unique study of aging in the Midwest.

# RECENT FINDINGS

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## THE DIFFERENTIAL IMPACT OF SOCIAL PARTICIPATION AND SOCIAL SUPPORT ON PSYCHOLOGICAL WELL-BEING

Psychologists Neika Sjarifian and Daniel Gröhn (2018) were interested in looking at the impacts of social participation and social support on psychological well-being. Using data from WLS, they examined the age-related change in social support (having friends or people who could assist with transportation, errands, and the like), social participation (the number of occasions they got together with friends or family), and psychological well-being over 19 years. They found that those high in social participation showed a less steep decline in psychological well-being across three time points than those who were low in social participation. Interestingly, the number of people who could provide support and assistance did not help buffer against declines in psychological well-being in the same way that social gatherings did.

## SPOUSE-APPRAISED MEMORY FUNCTIONING PREDICTS MEMORY CHANGES BETTER THAN SUBJECTIVE SELF-MEMORY

A group of neuroscientists and psychologists led by Youssef Bellaali recently asked an interesting question: who has a better sense of how well our memory works: we ourselves, or the people we spend the most time with? The researchers were able to answer this question since the WLS includes numerous married couples who completed a memory questionnaire and were also asked to rate both their own memories as well as those of their spouses. Respondents may recall being asked, "During the past 4 weeks, how would you describe your ability to remember things?" In the spouse appraisal of memory, spouses were asked, "How would you rate your spouse's memory at the present time?" The findings showed that while both self-assessments and spousal appraisals were associated with performance on memory tasks, the spouses' assessment was a stronger predictor of changes in memory over time. So the next time your spouse tells you that they already told you something, they just might be right.



## FINDINGS

The research referenced here comes from the following sources:

Sjarifian, N., & Gruhn, D. (2017). The differential impact of social participation and social support on psychological well-being. *Innovation in Aging*, 1(Suppl\_1), 244-244. doi:10.1093/geroni/igx004.902

Bellaali, Y., Woodard, J. L., Hanseeuw, B., & Ivanoiu, A. (2021). Spouse-Appraised Memory Functioning Predicts Memory Decline Better Than Subjective Memory Complaints in Community Dwelling Older Adults at Genetic Risk for Alzheimer's Disease. *Frontiers in Psychiatry*, 12, 167.

For more research findings, you can visit web address:

[ssc.wisc.edu/wlsresearch/publications/](https://ssc.wisc.edu/wlsresearch/publications/)

View the complete list of WLS publications by selecting "click here" at the top of the page, or look for publications on topics of interest to you.



*We appreciate everything you do for the Wisconsin Longitudinal Study and treasure you more than you know.*

We'd like to hear from you if your telephone number, email address, or address has changed. If you are not sure if we have your correct information, please contact us to confirm. Thank you so much!

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The WLS will never ask you for a donation, but some of you have asked how you can make a gift to the WLS.

We've looked into this, and learned that there are a couple of ways to give:

Online at [www.supportuw.org/giveto/sociology](http://www.supportuw.org/giveto/sociology)

Click the box labeled "I'm making this gift "In Memory" or "In Honor" of a person or pet" and list the WLS

OR

Mail a check payable to University of Wisconsin Foundation

In the Note field, write: "Sociology Fund 112751500-WLS"

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