

# Twin Matters

## Message from the Director



\*Photo Credit: VCU DAR

Dear MATR Community,

Talk about twins making an impact! Over the past year we invited thousands of you to take part in our research studies, and you answered the MATR's call. If you haven't been tapped for a study with us recently, don't worry! We are preparing to send out an email invitation to a new survey for all of our adult MATR twins. Make sure you send us your updated email address in order to receive an invitation (use the QR code below).

I am also thrilled to announce that we are forming a Twin Advisory Board this year. The purpose of this Board is to bring our MATR twins together to ask for your feedback on our projects. We would like to gather your ideas on ways we can best support our MATR community members. We are so grateful for your participation and want to make sure we hear your voices and do our best to give back to our members. We will send out a sign-up email soon, or you can let us know if you would like to volunteer ([matr@vcu.edu](mailto:matr@vcu.edu)).

I thank each and every one of you for your continued participation in the MATR and for your support of the important twin research we conduct. We are excited to continue on our journey with you and make 2025 the best year yet.

With deepest gratitude,

*Elizabeth Prom-Wormley*

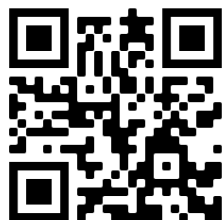
Elizabeth Prom-Wormley, MPH, PhD

## We Need Your Email

Many of our surveys are online and require that we send email invitations to our twins. Make sure to send us your current email address so we can include you!

Simply scan the QR code and click on the link that pops up. (TO SCAN: open your mobile device camera, point it at the QR code, and click the link) or visit:

[go.vcu.edu/matrupdate](https://go.vcu.edu/matrupdate)



MATR twins who submit their email address will be entered into a raffle for a (\$25) gift card as a token of our appreciation. We value you!

## A Twin Story: Opposite Sides of the Coin

My 40+-year-old sororal twin sister and I are truly opposite sides of the same coin: Our preferences are as opposite as our looks. We enjoy it! It's also unfortunately a challenge when, as twins, everyone compares you and expects you to be and do everything the same.

We moved to Georgia when we were eight, two years after joining the Mid-Atlantic Twin Registry in 1987 while living in Virginia. I have lived elsewhere as an adult, but I am back home - with my twin. To be honest, though, we both look forward to the day I move into a place of my own ... just not thousands of miles and several states away like before. Absence makes the heart grow fonder, but we are still tethered to the leash that is our twin kinship, or "twinship," if you will. We both love and need that, though; we need to be close geographically to be well emotionally.

I like having remained a part of the MATR because metro Atlanta doesn't have a program dedicated to honoring and/or working with twins. My twin and I are special - our status as multiples (among other things) makes us so - and we like having that recognized. We like people understanding and reaching out to us, catering to our specific needs and recognizing the unique hardships we face as twins rather than just gawking at us. Thank you for doing that very thing, MATR Team!

*-Story provided by S. McGill, one of our founding participants that joined the MATR at 8 years old. That means they have been part of our MATR community for almost 40 years!! A big THANK YOU to this pair and others that have helped make the MATR what it is today! Note: Wording was slightly edited for confidentiality.*

## Study Update – Substance Use Resistance (SUR) Twin Study

This study, which seeks to understand factors that lead individuals to NOT use illicit substances, such as drugs and alcohol, is divided into two phases and Phase 1 is currently underway.

Phase 1: A number of MATR twins have completed the group concept maps (brainstorming, sorting, and rating) on the groupwisdom platform. The study is now hosting virtual Focus Groups to gain even deeper insights from our twin participants!

Phase 2: The insights provided by twins during Phase 1 will be used to develop a research survey that will be distributed to a different group of twins in Phase 2. The twins invited to Phase 2 have participated in prior MATR research studies, either the Virginia Twin Study of Adolescent Behavioral Development (VTSABD) or the African American Adolescent Twin Study (AAATS). Both of these studies occurred 20+ years ago, and many participants may recall being part of the VTSABD project, as that study involved multiple home visits by research staff who conducted extensive in-person interviews with both of the twins as well as their parents.

Thank you to those twins that have been part of Phase 1 thus far! We hope to start Phase 2 in spring of 2025. Invitations to Phase 2 will likely begin through email, so if you took part in VTSABD or AAATS please keep an eye out for your invitation!

## Study Update – Twin Spectrum

Recruitment for the Twin Spectrum Study is still open! This study, led by researchers at the National Institute of Mental Health (NIMH), seeks to learn more about how genetic and environmental factors influence neurological development and cognition, with particular interest in autism spectrum disorder (ASD). However, the study needs participants that represent the entire spectrum of neurological development, including twins who are not on the autism spectrum. Participation in this study involves a parent or legal guardian of juvenile twins completing a survey with questions on a range of topics including gestational health, developmental milestones, physical and mental health, interests, behaviors and more. To date, more than 780 (!!!) twin families have completed the survey. We greatly appreciate the time parents and legal guardians of MATR twins have taken to help reach this incredible milestone!

## Revisiting Twins from Prior Studies

Some of our MATR twins may recall participating in research, conducted by Dr. Colleen Jackson-Cook approximately 15 years ago, that helped shed light on how aging and certain types of childhood stress impact genetic material and chromosomes. During those studies, participants provided blood samples and/or cheek swabs that were used to gain insight into how aging and certain stressors impact the structure of genetic material/chromosomes. Over the years, there have been advances in techniques used to study this relationship. Because of this, Dr. Jackson-Cook is excited to revisit this topic. She has asked the MATR to invite those who were part of one of the original studies to join in a new wave of sample and data collections so that the research team can add the new techniques to their analysis. Coupling information obtained from the prior wave of data collections with new materials and advanced techniques will give her team a dramatic advantage to learning more about how these genetic and chromosomal changes impact age-related health conditions.



Since this study needs participants that were part of the prior research, this is an invitation-only study. The MATR is currently contacting participants by email, phone, and some letters. If you were part of Dr. Jackson-Cook's prior studies, please keep an eye out for our contact!

## Study Results: The Mood and Immune Regulation in Twins (MIRT) Study

*The Mood and Immune Regulation in Twins (MIRT) Study*, which took place from approximately 2013 to 2016, examined the relationship between depression and type 2 diabetes risk by analyzing psychological, social, and biological factors in a cohort of twins. Participants recruited by the MATR included 94 individuals, comprising 43 twin pairs (mostly identical), as well as one set of triplets and some individuals without their co-twin. Participants were assessed for psychological factors, like lifetime history of major depression (MD), social stress, and biological markers, including metabolic indicators (BMI, blood pressure, HbA1c), immune function (pro- and anti-inflammatory cytokines), and RNA for gene expression. Participants were re-assessed six months later.

While additional research is needed to more fully understand the potential relationship between depression and type 2 diabetes, there were some notable outcomes. For example, results indicated that individuals with a history of depression had higher systolic and diastolic blood pressure and an increase in a pro-inflammation biomarker (called interleukin-6) compared to those without MD, suggesting a link between depression and inflammation. However, depression was not associated with other metabolic markers like BMI or HbA1c (a blood sugar measure). In pairs where one twin had depression and the other did not, depression correlated more with social stress than with metabolic or immune markers.

These results suggest that the continued use of the twin study research design is necessary to help further identify the interplay of “biopsychosocial” (i.e., psychological, social, and biological) factors that potentially drive complex health conditions like type 2 diabetes. Further study, particularly analysis of RNA to incorporate gene expression, would be helpful.

\*Mezuk B, Kelly K, Bennion E, Concha JB. Leveraging a genetically-informative study design to explore depression as a risk factor for type 2 diabetes: Rationale and participant characteristics of the Mood and Immune Regulation in Twins Study. *Front Clin Diabetes Healthc.* 2023 Mar 17;4:1026402. doi: 10.3389/fcdhc.2023.1026402. PMID: 37008275 <https://pmc.ncbi.nlm.nih.gov/articles/PMC10064086/>

## Happy Retirement to Carol Williams!



It is with a bittersweet feeling that we announce the very well-earned retirement of our erstwhile participant coordinator, Carol Williams. Many members of our MATR community likely remember her with great fondness. Carol has been part of the MATR since, well, before there even was a Mid-Atlantic Twin Registry!

Carol joined VCU in the 1970s and was part of Dr. Nance's team of individuals that helped start twin studies at VCU Health Systems (formerly Medical College of Virginia - MCV), which evolved into the Virginia Twin Registry (VTR). In 1997, she helped support the successful merging of the VTR and North Carolina Twin Registry to form the MATR. She has been involved in every study with MATR twins ...from the Virginia Twin Study of Adolescent Behavioral Development (VTSABD), the Virginia Children of Twins Study, the Stress & Coping Study, Dr. Colleen Jackson-Cook's studies on aging, stress, and chromosome structures, the GEDI study, the ABCD Study, Twin360, Twin Voice, and the list goes on. Carol's tenure included working with esteemed twin researchers, such as Drs. Kendler & Eaves. She was always a smiling face at twin events, like our former Twins Day at Kings Dominion. For decades now, Carol has been an integral piece to the MATR and its mission.

Perhaps what MATR staff and the twins that interacted with Carol will remember most are her commitment, enthusiasm, and the kindness with which she approached all of her interactions. We will miss having Carol as a day-to-day part of the team, but she will always remain part of our MATR community!

Wishing Carol all the best on her wholly deserved retirement!