

## **ICPSR Data Brunch Podcast**

### **Bonus Episode: Bonus Episode The ICPSR 2021 Research Paper Winners and Measuring Daily Stressors**

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#### **Transcript**

Evie Katmanivong:

Welcome to this special bonus episode of Data Brunch with ICPSR. If you love data, this is going to be food for thought. I'm Evie Katmanivong.

Varshini Kashyap:

And I'm Varshini Kashyap. Evie and I are summer interns for ICPSR Membership and Communications, and we are so honored to guest host this episode of Data Brunch.

Evie Katmanivong:

In a moment, you'll hear from three Singapore Management University students, Matthew, Verity, and Nadya, the ICPSR 2021 Research Paper winners interviewed by ICPSR's very own Kathryn Lavender, a data project manager at the National Archive of Computerized Data on Aging or NACDA. The trio earned first place in the undergraduate competition with a paper titled Is Trait Self-Esteem a Resilience Factor Against Daily Stressors: A Multi-level Analysis. Their paper uses data from the Midlife in the United States, MIDUS 2, and the Daily Stress Project.

Varshini Kashyap:

Okay. Now, onto the interview with ICPSR's 2021 Undergraduate Research Paper Competition winners.

Kathryn Lavender:

Welcome, everyone. I'm Katherine Lavender, the data project manager for NACDA. NACDA is the National Archive of Computerized Data on Aging at ICPSR at the University of Michigan, and is funded by the National Institute on Aging. NACDA's mission is to advance research on aging by helping researchers to share and discover a broad range of data sets for secondary analysis. We acquire and preserve data relevant to gerontological research, kind of like a data

library, curating the data as needed to promote effective research use. We share the data with the research community free of charge.

Kathryn Lavender:

By preserving and making available the largest library of electronic data on aging in the United States, NACDA offers opportunities for secondary analysis on major issues of scientific and policy relevance. You can find out more about NACDA and ICPSR by visiting [NACDA-aging.org](http://NACDA-aging.org). I'm here today with our guests, Matthew from Tan Tock Seng Hospital and Verity and Nadya from Singapore Management University. They're the 2021 ICPSR Undergraduate Research Competition Paper winners. They earned first place with a paper titled *Is Trait Self-Esteem a Resilience Factor Against Daily Stressors: A Multi-Level Analysis*. The paper uses data from the Midlife United States Series, and we're going to talk about some of the collections they use. I just want to thank everyone for joining us today.

Matthew Ng:

Thank you for having us, Kathryn.

Kathryn Lavender:

Why don't you all talk about, how did you get involved with your research?

Verity Lua:

I can help with answer. The three of us were actually undergraduate psychology researchers at The Daily Experience Affective Wellbeing and Neuropsychology Lab at Singapore Management University, otherwise known as DawnLab. We were under the supervision of Dr. Andree Hartanto and the three of us got to work on many projects, including the one that we talked about just now, which we submitted for the ICPSR competition. Yeah.

Kathryn Lavender:

Great, thank you. So can you talk about, how did you discover MIDUS?

Matthew Ng:

Ooh, I think Nadya can, yeah.

Nadya Majeed:

Yeah, sure. So, like Verity said, we're under the supervision of Dr. Andree Hartanto. So, most of the labs research with MIDUS started off with him, because basically he has always been working closely with MIDUS data, the various parts

of MIDUS data. So MIDUS 2, MIDUS Refresher, the baseline studies, the Daily Diary studies, cognitive studies, and so on and so forth. So, with our advisor being very familiar with MIDUS, he encouraged us to also explore things that we could analyze that were interesting to us in MIDUS. So when we saw that the ICPSR had this opportunity, this competition, we were really interested in seeing what we could look at.

Nadya Majeed:

And also because for all of us, basically, we are interested in wellbeing, various aspects of wellbeing. So for Verity, she's really interested in effective wellbeing as an outcome. Whereas for Matthew, he is more interested in looking at resilience factors that could help in buffering against negative impacts on wellbeing. And then for me, I'm very interested in daily stress processes, be it in relation to wellbeing or other factors. So, having the three of us come together on this project was very complimentary and we each brought our own strengths and content expertise, very low level content expertise, given that we are very early career researchers, but we kind of played on to each other's strengths.

Nadya Majeed:

And the MIDUS dataset, being very rich, basically afforded us a lot of opportunities to just explore. And having the variables that it has, for example, self esteem, daily wellbeing, daily stress exposure, really just allowed us to tap onto our interests. And that's how this specific project started, I guess. In our lab, we've also looked at a lot of other variables using the MIDUS data, but I guess this would be the most relevant one for today's podcast.

Kathryn Lavender:

Thank you. Yeah, that's great. It's so helpful to have an advisor to just be a resource and a mentor. And then you hear so much about group projects being stressful in life in general, not just in college, but later on too. And so, it's great that you all were able to bring your strengths together for this project. And yeah, MIDUS is a wonderful resource. So, it sounds like you didn't need to seek out any other data collections aside from MIDUS when you were looking into this. But if there are other data collections that you think about that you'd like to suggest to people researching similar topics, please feel free. Excuse me.

Nadya Majeed:

Yes, another data set that I've seen people look at, in addition to MIDUS, would be the Health Retirement Survey. I think it's on ICPSR, as well. Yeah, so I've seen a lot of studies that analyze both and compare whether the results are the same,

are replicable over the two samples, so on and so off. So, I guess if people are interested in looking at variables that exist across both studies, that's definitely something that would be helpful. It would be interesting to look at how the samples differ or how they're similar. And it's also always more helpful to have more data.

Kathryn Lavender:

Yeah, thank you, yes. So, the Health and Retirement Study, they host their own data but we definitely help make it discoverable. And we're all under the Institute for Social Research umbrella. So, when we're back in the building, we'll be neighbors to them, physically. But anyway, so why don't you talk about the central objectives of your recent work?

Matthew Ng:

Okay. So, the central objectives of our recent work was that research suggests that self-esteem could be a resilience factor for things like major stressors, instances where it's very stressful or they're traumatic situations or unfavorable ones. But little research has been done on the stress buffering role of self-esteem in the context of daily stressors. And daily stressors are smaller, they're more chronic problems and smaller issues that you experience throughout the day, like missing your bus, forgetting your keys on the way to work and so on and so forth. So we wanted to see whether self esteem could moderate the relationship between daily stresses and effective reactivity, at least for the ICPSR study. After the ICPSR study, we actually continued to observe... We ran our own studies to explore any possible cross-cultural differences between the United States and Singapore, in terms of the data set that we collected.

Kathryn Lavender:

That sounds really interesting, that's great. So, from your work with MIDUS and looking into how trait self-esteem was measured, and I read in your paper the idea about a stressor day. How did you use information from your research with MIDUS in this research you did after the fact? In your primary research, basically.

Matthew Ng:

I guess what we did was, we ran a replication study of the data that we used in the ICPSR Daily Stressor Study. Wait, sorry, hold on. Yeah, and we decided to try and run that replication study in the context of Singaporean college students. So, we essentially follow the study that was done in ICPSR in the same way in Singapore, where we follow participants over the course of about a week,

collecting their data, as well as their effective reactivity and whether or not they experienced stressful situations throughout the day.

Nadya Majeed:

So, just to add on more to what Matthew said, so this primary data set that we generated was actually a very large scale, in terms of having many variables, study conducted by our lab. So, because our lab looks primarily at daily experiences, it's obviously very natural for us to run Daily Diary studies all the time. So, we currently have data from two waves of the Daily Diary study. So, similar to how MIDUS has MIDUS 2 and MIDUS Refresher, we also have two separate, unique samples of Daily Diary data. Like what Matthew said, ours is with an undergrad sample. So not as impressive as MIDUS, but of course it does give us some preliminary data if we are trying to compare cross-cultural things.

Nadya Majeed:

So for example, comparing MIDUS to our own data, we can look at U.S. versus Singapore in context, although it does have to be qualified with the fact that MIDUS data is across the adult lifespan. Whereas for ours, it's really restricted to an undergrad sample. And of course there are other differences, like the year, so there's always things to take into account, like temporal effects. But other than that, our Daily Diary studies was run very similar to MIDUS, in that it wasn't just restricted to self-esteem and daily effective reactivity kind of thing. It really looked at a very wide range of variables, of which this subset was just a small selection.

Kathryn Lavender:

That sounds great. So, you collected some other health measures and other social measures in this primary research collection? Well, you know, the life course doesn't have an age limit, really. So we do focus on aging populations, but really the long run is the goal and youth is a part of that. Can you talk some more about your major findings and also some of the challenges you came across in the research process?

Matthew Ng:

Okay. So, for the ICPSR paper submission, we found significant interactions between self-esteem and stress exposure for negative effect, but not for positive effect, even after controlling for demographics, for participants enrolled in the MIDUS 2 and MIDUS 2 Daily Stress sub-project. However, these interactions became non-significant after controlling for quality of life and the big five personality factors. After the ICPSR submission for our replication study, with

our Singaporean sample containing college-aged students, we found that self-esteem actually did not moderate the relationship between stress exposure and daily effect. And what we did for our paper was, we also conducted an internal meta-analysis aggregating all of our findings from both the MIDUS paper, as well as the two primary samples that we collected in Singapore. And we also unfortunately found that self-esteem did not moderate that relationship between daily stress exposure and daily effect. And unfortunately our findings, once aggregated and taking all of this together, run contrary to the literature surrounding the stress buffering roles of self-esteem.

Verity Lua:

I think just to add on, sorry, just to add on a little bit. We found that it became non-significant after we controlled for proxies of quality of life. So, what this showed us was that it seems that these effects that might have been found in the past, might be due to quality of life rather than self-esteem as a buffer. So in the past, some studies didn't control for quality of life, and when we controlled for it, we didn't find what we expected to find. So we believe that this may be one of the reasons why our findings was non-significant. So, it's still interesting to compare our findings with the previous findings. Even though they don't seem to be aligned, they kind can be explained by controlling for quality of life, yeah.

Kathryn Lavender:

Definitely. And I think that's the value of secondary data use. You get to challenge existing perspectives and sometimes what you find goes along with what's already out there, sometimes it doesn't. And I think that it's interesting having the higher trait self-esteem doesn't necessarily make a stressful day easier. And this is not based on any research I can quote, but listening to the radio, I once heard that the average person might have something like four wins in a day. And a win could be anything from eating your favorite lunch, to you had a successful presentation, or something like that. Minor things to more significant things, but four wins on average. And so it would be interesting to have research around how people perceive the different stressors, actually. I think what we're saying is, losing your keys is more stressful to one person than another person. And how do we measure, I don't know, how people control their stress? And when you're talking about quality of life, stress is a huge factor. So, I think it's very important work that you're doing and any step in that direction is a good step.

Matthew Ng:

Yes, definitely. And so major stresses, I think people experience major stresses in terms of things like making rent, for example. And those things hang over

people's heads all the time. Whereas we are also interested to see how smaller stresses could affect someone on their day-to-day life. And we find that looking at some of these things would be relatively important, especially if we understand how this could impact someone's wellbeing in the future or in their daily lives.

Kathryn Lavender:

For sure. Having shelter is a basic need and it would be a huge stressor not to be able to meet a basic need. So, that's definitely a factor. And I think it's great that you balanced out your research for that and like you said, it kind of explains why it doesn't match. So, what advice would you give to others out there trying to use data for multi-level analysis or trying to use MIDUS data? Or just any advice for other researchers who may be at any level, just getting started versus maybe a new perspective that researchers in the field established might consider?

Nadya Majeed:

Maybe I'll answer this. So, I think one major thing is that if people are trying to look at Daily Diary kind of data, or in fact, any kind of data that is dynamic or temporal in nature, where you have multiple data points for a single person. I think that it's really important to have a proper conceptual and statistical understanding of the kind of data that you're working with. And then this also lends itself to having a proper understanding of the kind of analysis that are appropriate for this kind of data. Because this kind of data is very, very rich, but it also comes with a lot of complications in analysis. I think most undergrads would not be equipped to deal with this kind of dynamic data, just because it's not taught at an undergrad level. I think even from postgraduate, so for example, masters or PhD students, it may or may not be covered at their graduate level of statistics classes.

Nadya Majeed:

And even if it is covered, it might just be a one lesson kind of thing. But the thing is that, this kind of data can hide a lot of patterns. When you try to disentangle effects that happen within the person, as well as effects that happen between people. So differences between people, as compared to differences for the same person from day-to-day or from time point to time point, however small or large the interval is, the patterns can sometimes be opposite. So, if you're looking at the wrong level of analysis, or if you are aggregating your data in a certain way, it might mask interesting patterns or more accurate patterns that you should be looking at instead.

Nadya Majeed:

So, I think the important thing is to know what research question you're asking and then know what is the appropriate level of analysis for that. So, that applies not just to Daily Diary data, but it also applies to other things, for example, people studying groups versus individuals. So, for example, in industrial organizational psychology or studies where you want to look at things like teamwork or group think, it's really important to know where your level of analysis lies. And then not just that, but then once you know that, then how do you properly analyze the data? Especially since this is something that may not be taught in much detail. So, I think that as researchers, we do have a responsibility to produce research that is accurate, not just because we want to be right, but because our research, hopefully, does have impact on people. So, we do owe it to consumers of research to ensure that our research is valid, trustworthy. And the first step towards doing that is ensuring that you treat your data in the way that it should be treated.

Kathryn Lavender:

Thank you. I think that's great advice. So, as far as key takeaways from that, I'm going to say definitely reading and having some kind of quality review. You have a team here, so you were able to discuss and check each other's work and you have your mentor. That's another thing, is network. Reach out to your community and like you said, have a good foundation of understanding of what you are researching. That's great.

Nadya Majeed:

Yeah, I guess not just the understanding of what you are looking at to research, but also an understanding of the actual structure of the data that you're working with. So, you may have a specific research question, but sometimes the structure of your data just doesn't answer the question or it might be able to answer it in a very different way. And if you analyze it, if you interpret it in the wrong way, it might give you misleading results or opposite results or something like that.

Nadya Majeed:

And I guess on that point that you brought up about networks and community, it's not just about the people at your institution, for example. I think during our time as young researchers, we have sometimes reached out to, for example, professors at other universities who don't even know us, but they're experts in whatever content area or statistical area. And oftentimes, they are very willing to help out. They may not always reply very quickly, because of course professors are very busy, but they're usually very willing to answer a few questions, point us in the right direction.

Nadya Majeed:

So, I guess for other early career researchers descending in, don't be afraid to seek out help when you need it. Not just from the people close to you, around you, but also people in your field who you don't even know. They're usually very willing to help as long as you're nice about it and you give enough details for them to help.

Kathryn Lavender:

Thank you. Yeah. I think that's wonderful that you would reach out to people. It's something that we've heard other researchers recommend too. It takes time, but people who are really invested in finding out more to help people in those topics, they will usually respond and point you at least in the right direction. So, that's great. So I'm curious, this is going to be a little bit of a tangent and then yeah, we'll kind of start to wrap up, but what stats package did you use?

Nadya Majeed:

So, in our lab we usually use R. So, R is an open source language. Most younger researchers would be familiar with it. Of course, other labs might use things like Python. We don't really use Python in our lab. We usually use R. Some of the other lab members, both who may not be so comfortable with working with Syntax or programming directly, they might use other open source software, such as GIS. So GIS is basically a 0.9 click interface, but it is built on R. It's also free, so for people starting out research who are not very comfortable with programming, I would highly recommend that they try out GIS. Otherwise at our institution, most of the undergrads are actually trained in SPSS, which is the traditional software used by psychologists, I guess, older psychologists, especially.

Nadya Majeed:

So, for people who are maybe looking to break into research and they want to know what kind of skills they should be working on, I guess for us, we would suggest R and SPSS. But the issue with SPSS is that, of course it's not free. You need a license to use it. Your institution may or may not have student licenses available. But it definitely is a useful skill, especially when working with some of the more traditional advisors who may not be comfortable moving to newer, so-called software, such as R. Although R is obviously not really new, but we have encountered cases where in Southern Labs, the lab directors insist on using all the software like SPSS and Mplus. So, of course these skills are still important.

Kathryn Lavender:

Thank you. I think that's great, yes. I can't remember when, let me think exactly. ICPSR and NACTA, the way that we release the files, we call it the full product suite and it used to just include SPSS SAS data, and then ASKi-Data and Syntax in each of those packages. And I was working at ICPSR when we first began retrofitting studies to include R and when it became a part of the active, full product suite that we created. And so, you're right, it's not new, but it's still new to a lot of people. I really appreciate you sharing that, that's great.

Kathryn Lavender:

And I'm going to put in a, what do they call it, shameless promotion here. If you have Syntax you want to share from this project, you can share it through our open-aging repository, the NACDA-OAR, and you can also link it to your related publication and other people can use it. And that increases the potential for more data reuse. So, something to consider. And it's fine that it's in R, as long as it's well documented, that's all we ask. So okay, I think that this will be our last question and each of you can respond and I'd like you to talk a little bit about, what excites you about being a researcher right now?

Matthew Ng:

I'll go first, I guess. So, I think related to the conversation that we're having just now, I think that it's an incredibly exciting time to be a young researcher, now. There are many new technologies which can help everything, from data collection to statistical analysis. And I think we have really observed, as listening to stories from our advisors over time, that barriers going into research have been gradually coming down and it allows... and all this technology now allows us to have effective research practices and collaboration between researchers and allow us to be open to resources that we would not otherwise have had the opportunity to tap on before the age of the internet and stuff like that. So, I really think that it's very exciting to be a researcher now. And at the same time, I think researchers like us are looking at the current state of things within academia, and we're looking about areas that we could try and contribute to improve the status of how things are in research and academia right now. So, yeah, Verity?

Verity Lua:

I think Nadya can go first. She was ready to..

Nadya Majeed:

... Take over.

Nadya Majeed:

So, just adding on to what Matthew was saying. I guess for me, one of the very exciting things about being an early stage researcher is really being able to challenge norms. I think when you are someone who has been in the area, industry, job, whatever, not just in research, but anywhere, if you're someone who's been there for very long, you get very entrenched in traditions and what you are used to, habits, those kinds of things, which may not always be the best way to go about doing things. So, it might be inefficient or certain things might be outright wrong. So for example, in psychology and in broader science, we do know that five, 10 years ago there was a very huge replication crisis. And I think for us being early stage researchers who started our undergrad degrees after the replication crisis, the kind of education that we got was very, very different.

Nadya Majeed:

There's a lot more emphasis on ensuring that you really have a strong understanding of statistics and research design and those kinds of things, which was not really emphasized last time. Or it may have been taught, but not really, but kind of overlooked. So for us, being part of the generation that really is very critical of these kinds of things, it's very exciting to be able to produce research that will hopefully be able to stand the test of time more strongly. I'm sure that in the future, even our sample sizes now will look tiny in comparison. I'm sure people will criticize what we are doing now also, for being outdated or not good enough, not strong enough, but it's always nice to be part of a group that manages to push for improvement, I guess, for me. So, especially for me as I move on to my PhD, where I hope to specialize more in quantitative advances in steps, advances in methodology, like what Matthew said, is really something that excites me.

Nadya Majeed:

And for me personally, I appreciate that my advisors are always open to me challenging them when their beliefs might be outdated or their beliefs might be unfounded or wrong. They're always open to me, kind of correcting them, of course with evidence, not just off the top of my head, with proper mathematical proof or some form of references or citations. They're always receptive to it. And I think that creates a very healthy environment for young researchers to grow. And it just is a very positive and nurturing environment that I feel can produce a very strong generation of future researchers.

Verity Lua:

I think for me, I kind of agree with both of them, honestly. I think technology has really made researching so fun nowadays because I've gotten to work with profs

from around the globe. So even though I'm in Singapore, I've worked with profs from Australia and this has been made possible thanks to technology. And I've been able to attend conferences and share my work through online platforms. And this is something I probably might not have been able to do if I had to fly there physically to attend the conference because I still have my classes to go to, right? And I think it's very exciting how much more connected our world is now and how people from all around the world, in different cultures, having different experiences, can come together and contribute to one piece of work at the same time.

Verity Lua:

Yeah, and I think also because of this interconnectedness, we have improved at a very fast pace. I think this alludes to what Nadya said, as well. I think now there's a push for open science and I think it's a very good push and everyone is, I wouldn't say everyone, but a lot of young researchers are realizing how important it is for open data, open materials, open scripts to make your research research reproducible, right? Yeah, and I think this is, to me, it's very encouraging because I can see that researchers are coming together and trying to push the field to improve, yeah. And I think technology has helped to speed that up as well, yeah.

Kathryn Lavender:

Thank you so much. I think your answers are very inspiring and I think it's been just wonderful to talk with each of you today about this and thank you so much for submitting your paper for the competition. I think just putting yourself out there, it takes courage. Even if you like what you're doing, even if you are sure you're doing it well. And so I think it's great that you've started doing this work and that you continue to think about how to improve it and that you agreed to talk with us to help other people learn from you. It's wonderful, so thank you so much.

Matthew Ng:

Yeah. Thank you for having us on and it was a pleasure to share our experiences with you.

Kathryn Lavender:

Great. So, you can find the links to studies we referenced by viewing the description and content below. And if you have questions or ideas, please email us at ICPSR-NACTA@umich.edu. And we're going to wrap up for today, so thanks again. And hopefully we see even more from you all in the future. And again, if you have data or Syntax to share, please consider sharing them through us.

Varshini Kashyap:

It was fascinating to hear how controlling for the study participants' quality of life influenced results, contrary to the existing literature on self-esteem and stress.

Evie Katmanivong:

Definitely. I was very surprised to hear that the results from the replicate study indicated that self-esteem did not have a significant stress buffering effect.

Varshini Kashyap:

For everyone listening, have you been writing research papers for class? Undergrad and graduate students can win up to a thousand dollars for submitting papers on any topic using data from the ICPSR general archive or thematic collections. We will include a submission link in our episode notes. Before we sign off, we wanted to remind you to save the date. The next ICPSR Data Fair will take place September 19-23, 2022. More details at [ICPSR.UMICH.edu](https://icpsr.umich.edu). I'm Varshini.

Evie Katmanivong:

And I'm Evie. Thanks for joining us for this bonus episode of Data Brunch. We are looking forward to season three, which starts in September of 2022.