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Skill-Builder Series: SPSS Literacy (Part 3)

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Pat: So we're going to get started in about one minute.

There's a question about how can one know what specific statistical procedure to best -- that best fits one study.

So that's the art of statistics.

And it really always goes back to your research question.

So, you should never design your study around the stats test.

It's you should determine the research question and then figure out which statistical test would help you best answer that question.

And, frankly, help you best test your null and alternative hypothesis.
So, there's a lot of different types of stats tests
that we can use for that.

Okay, Kim, I have the top of the hour, so I say we go
ahead and get started.

    >> Kim: Yup.
    >> Pat: All right.

So, step one is I'm going to hit the record button.

And we are live.

    >> Kim: Yay.

    >> Pat: Welcome, everybody, to tonight's Skill Builder.

This is part 3 of a four-part series on SPSS literacy,
or another way to state it is statistics literacy.

My name is Pat Dunn and I'm joined by my colleague, Kim
Palermo-Kielb.

We both work in the Academic Skills Center.

And I'm an instructional support specialist, and Kim
basically coordinates and runs the tutoring and a lot
of the operations that goes behind that.

    So welcome, Kim.

    >> Kim: Thank you, Pat.

Welcome, everybody.
>> Pat: for those of you -- I did a poll before we started, so it sounds like a bunch of you, you're taking stats, a stats course, and you may have heard about this webinar series.

So I'm not going to assume that everybody has been on one of these before.

So, let me explain the format.

The way this works is keep introducing and talking in the chat and questions area, and then the Q & A area, just to the left of that, that's where we want you to post your questions.

Specifically about the topics that we cover tonight. The way this works is this goes very fast.

I'm going to talk about my topic, and I want you to start posting questions.

I will leave as much time as possible to start going through the questions, and while I'm doing that, Kim will explain some additional resources that we have.

We have, of course, our tutoring services, we have roll accounts, so if you don't get your question answered tonight, don't be alarmed or discouraged.
There are other ways to get to those questions.

So, that's what we're going to do. So, I highly recommend you, if this is the first time that you're doing the SPSS literacy to go back and we have a YouTube channel and we have a place on our website that has the recordings of all of these webinars and including this webinar will be recorded and posted within a couple of days.

But there are a lot of really good resources on our YouTube channel, a lot of video like that literally walk you through and show you how to do specific tests.

This series that we're doing is really helping you to understand best SPSS.

The first two sessions are really started with really the basics of, like, opening or creating a data set and then manipulating and managing your variables. Part 3 is really well timed for those of you just starting a stats course because what I'm going to do is I'm going to take about maybe 10 or 15 minutes and actually go through several examples of actually running statistical tests.
And next time, part 4, we're going to do the same thing with graphs.

Okay?

So, that's what we're going to do.

So, what I'll do first is I'm going to go and share my screen.

This takes a couple of minutes here to -- or a couple of moments.

This is actually that YouTube channel that I referred to, and maybe Kim can post the link in the chat area.

But there's a lot of really good resources on here.

There's several different playlists.

So, I just kind of accidentally had that up here.

But let's go to SPSS.

Now, I know when you're looking at this in your screen, it's very tiny, the numbers are probably almost too small to read.

One thing is you'll see there's a little icon right above the screen share and there are four arrows that are pointing outward.
If you want to go full screen, you can do that.

It will take your computer to full screen.

It won't mess up anything on our end.

But if you like, you know, monitoring the chat area as well, if you do that and change your mind, the reverse happens, the icons are all inward focused, you can click on it, and it takes you back into that small window.

What I'm going to do here is kind of go through several of these tests.

It's not important that you understand all of these different variables.

So the numbers themselves aren't important.

What I want you to do is just kind of understand the logic and the procedure for actually running these specific tests.

Okay.

So, and the last time we talked about we have a data view and a variable view.

Okay.
So this data set is kind of a mocked-up data set.

I'm a public health guy.

I know a lot of people on the webinar tonight are public health. So hopefully this makes sense.

It's a blood pressure data set. So we have kind of a combination of continuous variables, like blood pressures, as well as some categorical variables, like gender, ethnicity, and region.

Okay.

So that's how this data set is set up, and there's a whole bunch of records in here. So tonight we're going to really focus on the analyze tab.

And what I want to do first is start with some things that nobody really ever shows you how to do but are kind of important.

So the first thing, when you click on analyze, a lot of the courses, you're going to be asked to run a code book.
So, again, you go analyze reports, code book, and then what you can do is you can run a code book for any specific variable in your data set.

So I'm just going to select a couple here. Just so you can kind of get the idea. So I'm selecting, select all of them, you can only select one, that's entirely up to you.

Click okay. And now you get output.

The way SPSS works, you have your -- the actual data and you also -- it also creates a separate output file. So that's what this code book does.

And then as I go through these demos tonight, this output file is just going to become one big large file of my output.

So that's a code book.

Again, we're going to stay on the analyze tab.

The next area are descriptive statistics. In almost any type of research that you'll do, you'll want to do descriptives.

And there's really two forms.
There are descriptive statistics, like, you know, mean and standard deviation, and there's also frequencies for the categorical variables.

So let's start by running descriptives.

Okay.

So you're going to run descriptives on continuous variables.

So let's just do simple.

I'm going to do my baseline, systolic and diastolic pressure.

You want to always get in the habit of looking at your options over here. So you can see, I've got main and standard deviation, minimum and maximum already kind of preselected. You can even select variance, range, and the standard error of the mean if you choose to. I'm just going to keep the defaults for now because just -- this is just to show you how it works.

Click okay.

And you see here, I have a little box here with my two variables and my number, minimum, maximum, mean, and
standard deviation.

Now, if you want to do that for your categorical variables, you're better off using frequencies.

Okay.

Because it doesn't make any sense to do a mean of, say, gender and ethnicity, okay.

So you're going to run a frequency table.

Now, when you do that, if you click over here, you can actually select some statistics.

There are no statistics that apply to gender and ethnicity.

So I'm actually going to leave this alone.

If you want to, you can actually run some charts.

We can do a bar chart or a pie chart here.

I'm going to click "continue."

And I am going to display my frequency tables.

Okay.

So, now I have two frequency tables.

One for gender and one for ethnicity.

And it gives me --

[ audio cut out ]
-- for each of my categories.

So male and female.

Same thing done here with my ethnicity variable.

And I have my two pie charts.

Next time we'll get more into the details of how to create and even manipulate these charts.

One thing that's interesting in SPSS is that you can actually run descriptive statistics from the frequencies box.

So, let's say you did want to run -- you want to use frequencies and go back to those blood pressure readings.

Click here under statistics and, look, you even have more options.

This is kind of funny.

I don't know why SPSS did that.

Maybe just to make us crazy.

Okay.

Because you can do the median and the mode from the frequencies, but you could not do it from the descriptives.
And click continue.

Now, here's a really important thing.

If you're going to do this, deselect display frequency tables, otherwise you're going to get a huge table with all of your data points.

Whoops.

Whoops.

I made it do a pie chart.

I should not have done that.

But here I do have the table.

And I do have my descriptive statistics running out of the frequency.

This is a good example of why you wouldn't want to run a pie chart on a continuous variable.

You get a whole bunch of crazy stuff.

All right.

We're going to go -- this is why we do these live, Kim, so it's just -- we do it just like it happens in nature, right?

>> Kim: Yeah, that's the beauty of it, so they can see.

>> Pat: That's right.
Kim: Look, this happened. Know not what to do, right?

Pat: That's right, absolutely. So the next area I'm going to cover a couple -- I'm going to do compare means, I'm going to do some regression, a couple of nonparametrics, and then we'll call it a night and start going to the questions.

But under compare means, this is important, there are a couple of different types here.

So one is a one sample t-Test. Let's say, for example, I took my blood pressure a little bit earlier, and my systolic pressure was 116. And I want to see if that's within the confidence interval of my systolic blood pressure.

So, what I'm going to do is I'm going to put in my test value. And I'm going to click on my options, all that's good. I'm going to click okay. And I get a table here. And what I see here, I have my mean, standard deviation, just like I had before.
So I have a mean of 133.

Standard deviation of 20.

And that's a mean difference of 17.4.

And it's statistically significant.

Okay?

So, my blood pressure was statistically significantly lower than this sample of blood pressures. We'll get into more of the interpretation later in your course, but that's how you would run a one sample t-Test.

What about an independent sample t-Test?

Here's where it can get confusing. An independent sample t-Test you must have a continuous variable.

So these variables here that look like little rulers, those are continuous variables.

Okay.

So we can pick baseline systolic.

And in an independent sample, the independent variable, also known as the grouping variable here, must be categorical and it can only have two levels.
So we're going to pick gender.

If you remember back in the data set, look here, my
gender is coded as 1s and 2s.

What does that mean?
I click here on the variable view, go to gender, and go
to values, I can see, oh, okay, 1 equals male, 2 equals
female.

All right.

So I'm good.

So, I'm going back to my test here.

And I just need to simply define this.
So group 1 is a 1, group 2 is a 2.

Click continue, click okay.

And here we go.

Again, a lot of numbers here.

But I have descriptives in the upper table, and I have
my independent sample t-Test.

[ audio cut out ]

You'll notice there's actually two sigs here.
You'll also notice there's two tests going on.
The first test is the Levene's test for equality of
variance.

This is looking for not the means and it's asking the question, is there a difference between these two numbers?

And in this case, there actually just barely is, .04 is less than .05.

Okay.

Therefore, we would use the bottom row.

There is a significant difference.

We can't assume equal variance.

Which is an assumption of this test.

But the second test, the t-Test for equality of means, is really the one we're looking for.

It's looking for what is the P value here?

Or the Sig value?

Is this level less than .05, and .82 is clearly not less than .05, therefore there's no significant difference, and you can eyeball it and see these numbers are pretty close.

That makes sense.

And then, finally, we have the paired sample t-Test.
A paired sample has to be the same variable taken at two different points in time.

So I could do baseline systolic to last systolic.

That would work.

I can't do baseline systolic to baseline diastolic.

That's an inappropriate use of that test.

And here, we get the same thing.

There's no Levene's test, because it's the same variable.

I do see, now there's actually a difference, you know, 133.461 down to 129.514.

And that number is statistically different.

One thing SPSS does, it puts the Sig in different places in the table which is a little confusing on different tests.

But the Sig 2-tailed here is the same as the Sig 2-tailed here.

And finally we have the one-way ANOVA.

The difference between a one-way ANOVA and a t-Test is you use, the dependent variable must be continuous, the categorical variable can have more than two levels.
So we're going to use region of the country here as opposed to gender because it has -- there's different -- and we're going to select post hoc tests here and we're all good.

Under options, I always select descriptives.
And you want to have this homogeneity variance test, which is the same as that Levene's test for equality of variances.
And click here.
We've got seven different regions.
We have a significant test of homogeneity variance and our ANOVA is significant, there is a difference.
It doesn't tell you where those differences are.
That's why you have to run the post hoc test.
And how do you know which post hoc test to run?
Well, the Levene's test is significant.
Therefore, if you go back to when we set this up, the Games-Howell was one of the tests used for when you can't assume equality of variances.
If the Levene's test had been greater than .05, we
could have used this top one.

Usually they're pretty close.

But that's the purpose of the post hoc.
For time purposes, I'm going to just jump -- I know I jumped over a lot of information there -- to the correlation and regression.

You can click correlate, you can do it bivariate correlation, let's say baseline systolic to baseline diastolic.

It's going to give us a Pearson correlation.

Click okay.

And here we go.

So we have a correlation co-efficient of .586.

And it's significant.

When it says 000 in the SPSS, it doesn't mean it's truly zero, it means that the decimal places are beyond 3 decimal and it's just to avoid having really wide columns.

So triple zeros means it's statistically significant.

Even if it was at the .01 level.

Now, the difference between a correlation and a
regression, in a regression, so you can do -- there's different types of regression, there's logistic regression.

We're going to just do linear regression, that's the most common.

The only difference here is that you're going to have a dependent variable that's continuous. And we're going to do an independent variable that's also continuous.

And we can get a bunch of tests here. But basically we're going to run and you're going to get -- so what you get with the regression is, so, in correlation we call it Pearson correlation.

In regression, we call it R, it's the same thing.

Okay.

And the R square is the R times itself.

Okay.

And then finally you're going to get your co-efficients table down here.

And this gives you your -- the standard regression equation Y equals A plus BX.
Where Y is the dependent variable, X is the independent variable, A is the Y intercept, this is the A right here, the 132, and B is the slope.

And that's this number right here.

Okay.

More to come in your courses on that.

Just showing you tonight how to run the test.

Finally, I'm going to show you a couple of nonparametric tests.

So a common nonparametric test is the Kai square, you can run Kai square from disruptive statistics by using cross-tabs.

With nonparametric, you're going to be using nominal and ordinal variables here.

So we're going to do gender, follow the protocol.

And under statistics, we're going to select the Kai square.

And you get a Kai square table here.

The top row here is the Pearson Kai square calculation, and we have -- it's not -- it's close to significant, one-sided, but still not statistically significant.
The other way to do a Kai square is from nonparametric test.

Click on nonparametrics.

Click legacy dialogues.

And you can do the Kai square.

This type of Kai square is called the Kai square goodness of fit test.

It's a slightly different type of test.

What you do, again, categorical variables, put it into the box here.

In this case we're going to assume that they're all equal.

We're going to click okay.

And we have a Kai square.

And that's the Kai square value, that's the significance level here.

Real quickly, so we have some more time.

There's some other nonparametric tests.

I run -- tend to run nonparametrics from the legacy dialogues.

You can also build them on your own.
But these kind of work analogously to the t-Test and the ANOVA.

Okay.

So if we had a independent sample test that's nonparametric, what does that sound like and with two independent samples?

Does that sound like the independent sample t-Test?

And if you click here, this is called the Mann Whitney test.

And you could do, again, I'm just going to pop some variables in here, just for -- can only be two groups, just like the -- just like the t-Test.

Continue.

Click okay.

And we have a Mann Whitney.

And it is significant.

You can go back and run an independent sample with more than two variables.

What does that sound like?

Does that sound more like the ANOVA?

So, again, we can run our -- we'll put ethnicity and
we'll put blood pressure calculation in here.

And now we get what's called the Cisco Wallace.

Now, what it wants is to define, in ethnicity we had -- we're just going to do five levels and we have -- so the top five ethnicities, and, again, we have significance.

All right.

Kim, I'm going stop there because I'm sure everybody's heads are spinning.

I just wanted to get through a couple of these.

>> Kim: Yeah.

>> Pat: This is like stats, everything you want to know about stats in 15 minutes or less.

>> Kim: Yeah.

This was -- you were covering a lot there.

So, at least they'll understand if they hear those terms, you know, coming up.

>> Pat: So, because most people are, like, now probably freakin' out, goin', oh, my gosh, I don't understand 5% of what he just showed me, Kim, can you explain a little bit more about our resources, our tutoring and
roll accounts and all that stuff?

>> Kim: Sure.
    Yeah, sure.

So, first of all, give us -- I'll give everyone a
little background on the program.

So we're a tutoring services program.

We're a free service for Walden students.

And the program started as a mentor program back in

2011.

And mentors were put in courses where Walden considered

barrier courses because these were courses that
students were not doing so well in, they had some high
attrition rates and students were taking more than once
and just not doing so well.

So, Walden put mentors in these courses to help support
students.

So, before I was a coordinator, I started with the ASC
as a peer mentor, supporting students in the
quantitative reasoning analysis courses and Pat was
also in the public health and the biostats courses.

So we've been here quite a while.
The tutoring services program offers one-to-one free tutoring to Walden students in the areas of general statistics, biostatistics, dissertation statistics and Microsoft Office.

Our tutoring center is available to students via an online platform called WConline, and I'll put that link in the chat soon, and also we use Skype for appointments that require screen sharing, similar to what Pat was doing with SPSS, you can work with a tutor like that, where you can work together through SPSS on a screen share type of tutoring appointment.

The sessions, all tutoring appointments are made and attended in eastern standard time and they can be booked for up to one hour.

Students are able to make appointments as early as a few weeks in advance or as late as the same day. And they are also able to cancel any appointment that they cannot attend up to 30 minutes prior to their time.

And we also have a wait list functionality, in WConline which allows a student to go into the schedule, if he
this don't see availability on the time that they need
or for the tutor that they want, there's a little clock
icon on that date that they can click on and they can
put themselves on a waiting list.
And then if a student happens to cancel for that time
or that they like or the tutor that they're interested
in, they will get an e-mail.
So they can get back in there and get an appointment.
Another way that a student can connect with us is
through our roll accounts.
And these accounts are specialized e-mail accounts.
We offer support through the e-mail with math and
statistics and Excel.
And I did earlier put that e-mail in the chat.
It's statssupport&Waldenu.edu, that's for any
statistics and Excel questions.
And we have Word support for Microsoft Word and we have
PowerPoint help at Waldenu.edu, that's a Microsoft
Walden roll account.
They're monitored on a daily basis by our tutors, and
responded to within 24 hours, 48 hours over the
weekend.

Another is group statistics drop-in centers, with Sara, one of our support specialists, those run every Saturday morning, 10:00 a.m. to 11:00 a.m., eastern time.

If anyone is interested, they can e-mail me, and I'll also put that in the chat when I finish, for students. And they can get the link to enter that session.

There's no sign-in required.

You can just show up.

And that's for course-related statistics help.

Now, to register for tutoring, students need to go to WConline, I'm going to put that in the chat, Pat, for students right now. And there's just a quick registration that they need to fill out and then they can get right in there and they can book with a tutor.

We just changed our scheduling for 24-hour schedule. So now we're on from 12:00 a.m. eastern until 12:00 a.m. -- it's 24 hours.

>> Pat: Around the clock.
Kim: Around the clock.

So it's nice for those students that are, like, you know, overseas or we have tutors that work in -- that are in California, so they can work later in the evening.

Let me give you my -- this is my e-mail.

ACStutoring@Waldenu.edu.

If anybody has any questions about what I just went through.

You can e-mail three me there and I can go over all this with you again.

I know we're short on time.

We have two minutes.

I want you to get to those questions, Pat, because we've got three in there.

Pat: Yeah, I've been answering them through the chat area.

I do want to -- so, Juan had a question, we're encouraged to have two independent variables and a single dependent variable.

Is it okay to perform a bivariate correlation with each
of them?

So I want to stop there.

So, in a course, you may be asked to run a specific type of test.

When you get to your own research, you're not going to be posed with, you know, having two independent variables and a single dependent variable.

You're going to go in and you're going to look at the literature and you're going to find a topic and you're going to find a gap in that literature and then you're going to form a research question based on that gap.

So that research question may include two independent variables and one dependent.

It may include one independent, one dependent.

It may include multiple dependent variables.

It's really a function of your research question and then what you are tasked to do is then test your hypothesis.

So I don't believe there's any requirements, in fact, I know there are not for the type of analysis that you
would need to run in your own research.

I see there's a follow-up to that.
So, as long as they're continuous.

So, I posed the question, if the dependent and independent variables are continuous, and your research question is you're looking for the relationships between those two variables, then a correlation or a regression is the right way.

So correlation and regression look for relationships.
If you remember back to my demo, the comparing means section, so the t-Test and the ANOVA, those are looking for differences.

So, if your research question, is there a difference in the dependent variable based on the independent variable, then you're going to be doing either a t-Test or an ANOVA.
So, again, -- and it depends on the type of variable.
If your variables are categorical variables, you may be using a Chi-square test.
If the dependent is continuous, the dependent is your outcome variable.
Okay?

So in my -- in my data set, blood pressure would be an outcome variable and following the protocol would be the independent variable.

You could run them.

And, so, if it's follow protocol, yes or no. That could be done with an independent sample t-Test.

If my independent variable has more than two levels, then I have to an analysis of variance.

And there's different types of analysis of variance.

There's one called ANOVA, there's ANCOVA, which is analysis of covariance.

So you may actually plug in a co-variate.

There's also MANOVA, a multiple analysis of variance and that's where you have more than one dependent variable.

On the regression side of the equation, there's linear and logistic. Linear is for continuous variables.

Logistic is for categorical variables.

Within both, you could have multiple.

So you could have multiple linear regression.
So that's typically one continuous dependent variable
and more than one independent variable.

And in that case, some of the variables may be
categorical or nominal and others may be continuous.

So, ultimately, very long-winded answer to that
question is it all depends.

It depends on the research question that you have and
how you're going to test that hypothesis.

I know we're a little bit over.

So last call for questions here.

>> Kim: Yup.

And also, too, I want to let everyone know, Pat, that
we have one more, right?

Because this is 3, part 3, we have part 4 coming up at
the end of the month.

Go ahead.

>> Pat: I'm sorry, go ahead.

>> Kim: No, and also, too, I wanted to mention that the
next one is the StatsChat Live! to discuss what we just
presented.

And we have Janine as our special guest.
So that's coming up mid month on the 14th and then we have, I believe, on the 27th, the last part of your SPSS literacy.

So I wanted to put in the chat the registration page for students, if they want to go in there and register for those webinars.

So I'm going to do that now.

>> Pat: Yeah.

On the StatsChat Live!, the way -- so the format -- so the next one we do is StatsChat Live!, we recognize we didn't have a lot of time for questions, and you may be, you know, still kind of processing the information.

So, with the StatsChat Live! there's not a formal presentation. So we'll get on, we'll introduce, and then we go right to questions.

And we'll have another one of our tutors, Janine, who will be on with us and, so, between Kim and Janine and I, we will attempt to answer your questions.

>> Kim: Pat, there was a question about, a student asked, said they always get confused between
categorical versus nominal variables.

But those are pretty much the same, correct?

>> Pat: Yeah.

So, categorical, there's really two classifications of categorical.

There's nominal.

So the nominal means a named variable.

So, like, gender, you have male and female.

Ethnicity, you have black, white, Hispanic, Asian.

So those are names.

And there's no numeric value associated.

Even though we may code them as 1 for male, 2 for female, those numbers are just simply for coding purposes.

Another type of categorical variable is called an ordinal variable.

So, in my data set, I have one ordinal variable, which is blood pressure classification.

So, normal, prehypertensive and hypertensive.

And, so, that's ordinal.

An ordinal could be your grade in school.
Not the grade you get on a test but, like, you know, first grade, second grade, third grade.

Or it could be your income classification or your age group.

So both of those are considered categorical variables as opposed to continuous or scale or interval.

So, like, in my case, the blood pressures and the ages, those are continuous.

And by definition, not categorical.

I'm looking at one of the comments about accessing SPSS.

SPSS is available to all Walden students.

So you should be able to download it from Blackboard.

And I believe -- Kim, didn't we do a new video on how to -- or am I -- or am I making that up?

Did we do a new video on how to download and install SPSS?

>> Kim: I believe we did.

I have to go back and check our --

>> Pat: Look in here.

>> Kim: It would be on the YouTube channel.
>> Pat: Yeah.
>> Kim: You can get the SPSS through the Center for

Research Quality website.

I'm going to put that in.

The license.

And usually it's in the learning resources, like if

you're in a course, and like I know I'm in
dissertation, and my chair has a separate section in my
classroom for how to get SPSS.

I can find the link for the website for students.

>> Pat: Yeah, that's what I'm tryin' to...

>> Kim: We might not have -- we may not have done that.

There was a -- there was a delay, remember, with the

licensing.

>> Pat: Yeah.

>> Kim: Because we were getting a new version, and IBM,

there was kind of a hold on it.

So I think -- I don't -- you know what, I'll make

sure -- I'll e-mail you with that, Pat, and maybe you
can make another one.

I thought you did, though.
>> Pat: I thought I did.

I just don't remember where it's posted.

>> Kim: I can find it.

But let me get the Center for Research Quality, because

that's some information there, too.

>> Pat: Yeah.

>> Kim: Go ahead.

>> Pat: Yeah.

And you just follow the instructions.

>> Kim: So, yeah.

Here's...

Basically there is a license code that students can

get.

And depending if you are a Mac user or a Windows user,

that's the type of code.

So let me...

Okay.

Here is the link on SPSS from CRQ.

Pat, did I lose you?

>> Pat: No.

I'm here.
>> Kim: Oh, okay.

Okay.

I just put that link in there.

You know, if students go to the YouTube channel and search the playlist, they should be able to find it.

How to download SPSS.

>> Pat: Yeah.

>> Kim: But the Center for Research Quality has a PDF on that as well.

There's a question about multiple regression.

>> Pat: Yup.

>> Kim: We have a bunch of videos on that as well.

That's kind of out of the scope of this webinar.

>> Pat: Yeah, let me see if I can find the -- a good one.

>> Kim: Kaiya asked, SPSS is actually free, Kaiya, if you're a student needing SPSS for your course or dissertation, you can get a free license code through Walden so you don't have to pay for it.

And Lenore is asking how.

Click on that link that I put in for CRQ and that will
get you to the PDFs that kind of tell you how to get
that.

It kind of goes through, like, the Library, kind of
bounces you around a bit.

>> Pat: Yeah.

And Steven, I posted in the Q & A pod, the link to the
multivariate methods webinar.

>> Kim: Oh, great, yeah, perfect.

Yeah, I think we're up to version 23 in SPSS right now.

It might be 24 for a Mac user, I'm not quite sure.

>> Pat: Okay.

I think we did it, Kim.

>> Kim: We did.
We went ten minutes over but I think we're good.

>> Pat: Yup.

I'm going to go ahead and stop the recording.

>> Kim: Okay.

>> Pat: All right.

Well, thank you, everybody, for hanging in there.

And usually within the next couple of days we have the
recording up on our center.
And look for the -- a video on the -- on installing SPSS because I think I created it.

I don't know that I posted it yet.

But I think it exists.

>> Kim: I believe we did, Pat.

You know, we do so many.

>> Pat: I know, that's the crazy part.

>> Kim: I know we have one.

I'm just trying to find it.

We do so many videos.

But if they do a search, if they go to the YouTube channel and search the playlist, it should be there.

>> Pat: Yeah.

>> Kim: If not, it's on our web page.

But students can always e-mail me, too, at ACStutoring@waldenu.edu.

Let me go to your ending slide.

There you go.

That's how you can get us, those e-mails.

>> Pat: Yeah.

>> Kim: Yeah.
I do remember you doing it.
And I remember recording it.
I'm pretty sure I posted it.
So just got to find it.

>> Pat: So it's there somewhere.

>> Kim: Yeah.

It might be under the tutorials instead of putting it
under the Skill Builders.
We do have a quick tip installing SPSS.
It's a six-minute one.
Let me see when you did this one.

>> Pat: Yeah, the quick tip is from a while ago, but it
actually is the same procedure.

>> Kim: Yeah.

That's from 2014.

>> Pat: Um-hum.

>> Kim: But that's -- let me see.

>> Pat: I know I can find it.
I have the software for it on my computer.
>> Kim: Here's the link to the YouTube one that you did before.

We're trying to find it for you guys.

And I guess while we're here looking for this, if anybody has any more questions, they can put it in the chat, that's fine.

>> Pat: Yeah.

Yeah, I am not seein’ it.

>> Kim: Not the most recent one.

>> Pat: Not the recent one.

Anyway.

I'm sure I'll find it as soon as we hang up.

>> Kim: Yeah.

That will probably happen.

>> Pat: All right.

Well, I have a tutoring session to get ready for.

>> Kim: Oh, okay.

Then you better get going.

>> Pat: Actually.

So, those of you that are still logged in, we are officially done.
>> Kim: Yeah.

I'm just going to put our e-mail in there one more time.

And students --

[ no audio being heard right now ]

>> Pat: All right.

I'm going to log off, Kim.

>> Kim: Okay, good night, Pat.

>> Pat: Good night.

>> Kim: Good night, everybody.

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