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Regards
Puja Sareen
Sr. Lecturer
Hello Mr. Gaskin,
I´m using AMOS for my diploma thesis and I saw your video on youtube (Handling 2nd order factors in AMOS). In the end of your video when you are talking about 2nd order factors in structural models you say that the user should simply ignore the 1st order factors of the latent construct, but I can´t understand this. I have a 2nd order factor with 4 1st order factors determining it and I want this 2nd order factor to predict 5 other latent variables. If I do it as you say, I draw simple arrows from the 2nd order factor to the 1st order factors and the same arrows go to the other 5 latent variables. How does AMOS discriminate between the 1st order factors of my 2nd order factor and the latent variables I want to predict, if the connection to the 2nd order factor is the same?
I wish to thank you for your videos, they already have been a great help for my work.
Greetings from Germany,
Markus Steinbild
Dear James, I really appreciate all the knowledge you share through this simple and easy to understand videos of AMOS SPSS.

I’m right now working with an example of Structural equation model Chapter 10 from Lattin & Roberts textbook; but they share the covariance matrix not the raw data.

How can I load a Covariance matrix to a path diagram?

Tks for your help!

Regards
Claudia Q
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I’m right now working with an example of Structural equation model Chapter 10 from Lattin & Roberts textbook; but they share the covariance matrix not the raw data.
How can I load a Covariance matrix to a path diagram?
Tks for your help!

Regards
Claudia Q
Hello James,

I would like to ask you a personal question if you don't mind.

So far I have been publishing mainly in Polish journals and conferences. The model I sent you on my last email is my very first attempt to publish a research in a peer-reviewed journal.

Would you recommend me to send the manuscript with a moderate fit model (not covarying error terms) or with a good fit model (covarying error terms)?

Thank you once again for the attention.

Best regards,
Bruno
HI James,
How are you? hope you doing well. I have a question about test hypothesis when we have second order model. when we have a construct B (independent) and it has 2 dimensions E and F and this independent variable(B) relates( effect ) on dependent variable A .I have two hypothesis: variable E has a positive effect on A and variable F has positive effect on A. As you see in these hypothesis I want to test the relation between dimensions of B (E and F) on dependent variable But you know in the out put of Amos or PLS softwarer we don't see any report about relation between second order variables with dependent variable(P-value).In this situation please guide me how we can test hypothesis.the model attached for clarify.

With kind Regards

Amir.Foroughi
Ph.D Candidate of Business and Entrepreneurship
National University of Malaysia(UKM)
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Amir. Foroughi
Ph.D Candidate of Business and Entrepreneurship
National University of Malaysia(UKM)

From: Amir Foroughi
To: James Gaskin
Subject: A question about second order
Date: Wednesday, February 08, 2012 6:02:08 AM
Attachments: model.pdf
HI James,
How are you? hope you doing well. I have a question about test hypothesis when we have second order model. when we have a construct B (independent) and it has 2 dimensions E and F and this independent variable(B) relates( effect ) on dependent variable A. I have two hypothesis: variable E has a positive effect on A and variable F has positive effect on A. As you see in these hypothesis I want to test the relation between dimensions of B (E and F) on dependent variable But you know in the output of Amos or PLS software we don't see any report about relation between second order variables with dependent variable(P-value). In this situation please guide me how we can test hypothesis. the model attached for clarify, --

With kind Regards

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National University of Malaysia(UKM)
Hi James,

I hope my mail will find you in the best of your health.

Well you won't probably know me, but I am one of your students or I would say virtual/online student.

I am a big fan of your youtube videos and your statwiki site. Your videos and material on statwiki really helped me in learning SEM. I am still a student of SEM.

I have a question, and I am sure you are the best person to ask, keeping in mind your expertise in SEM.

I have attached one-factor measurement model for your review. My question is:

Is it ok the way it looks? I mean if you notice I have written Customer satisfaction (CRM Success) together. Actually in my research I have mentioned that CRM success = customer satisfaction. I have written "CRM Success" in brackets in the model for an easy understanding.

I asked you this question because one of my internal examiners raised this issue that "you can't write customer satisfaction and CRM success together inside one latent variable". I told him that I wrote it because they are the same. I told him that I am using customer satisfaction as a proxy for CRM success. Other researchers have used customer retention or customer loyalty to represent CRM success. however, they did not use SEM.

Please help me, and tell me if its ok the way it is. In case if its not ok, what justification should I gave to the examiners? I have already submitted my research :(

Thanks in advance.

Regards,

TJ
Hi James,

I hope my mail will find you in the best of your health.

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Dear James,

Thanks again for your generous and prompt help. However, I have copied pasted in the right cell in your stat tool file and still did not get the calculation done. It shows me a command (after I clicked the button) that 'the object does not support this kind of application'. I have one latent variable in this model which is COMMITMENT. I am not sure if the problem is there.

I am sending you my regression weights tables for both groups (Bank-A and Bank-B) and critical ratios for differences between parameters in a normal excel file (attached to the mail). If possible, could you please run a multi-group analysis for me in your system and may be send me the results table.

If I am asking for too much of your time, could you advise me in general why this may not be working (can my operating system be non-combatable) and what could be done about it?

Sorry to bother you with this, I totally understand if you are too busy to help any further.

Thanks for the help so far and regards.

Sardana

---

Here you go. See attached. Glad to have been helpful.

James

---

Dear James,

I am a PhD student and trying to do multi group analysis in AMOS. I could not find the stats tool packages in excel files. I know you said it is available in statwiki. However, I could not find it there. I would be grateful if you could send me the link to download the package.

I cannot express in words how helpful your tutorials are. They are saving lives (of new stat users) arround the globe.

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Sorry to bother you with this, I totally understand if you are too busy to help any further.

Thanks for the help so far and regards.

Sardana

---

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Tuesday, 3 July 2012 2:51 AM
To: Khan Sardana
Subject: RE: About Stats tool packages

Here you go. See attached. Glad to have been helpful.

James

---

From: Khan Sardana [mailto:K.Sardana@latrobe.edu.au]
Sent: Monday, July 02, 2012 1:19 AM
To: James.eric.gaskin@gmail.com
Subject: About Stats tool packages

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Dear James Gaskin,

I am a PhD student in Auburn University. I am interested in your way to treat control variables in your Youtube video “http://www.youtube.com/watch?v=yMGkluhHxQY”. I appreciate if you can tell me the source of this way or to say the articles or books that support this way. I hope that I can cite it in my papers. Thank you!

Best regards,

Lin Jia
Doctoral Student, College of Business
Lowder #206
Office Phone: 334-844-6483
Auburn University
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Best regards,

Lin Jia

Doctoral Student, College of Business
Lowder #206
Office Phone: 334-844-6483
Auburn University
Hi there

I am trying to figure out if there is a way to get AMOS to tell me the power of a model used for a study - I can't find a simple way to do this (I've been googling all day). Just wondering if you have a video about that, or a process I can use? Any advice would be very much appreciated

Kevin
Hello James,

I’ve had to teach myself SEM over the last 4 months, and I have benefited greatly from your videos on SEM using AMOS. I appreciate you making them available on YouTube.

I do have one question regarding your video on Imputing Composite Variables. Does this feature in AMOS take into account measurement error? Basically, I am trying to understand the benefit of using this feature over using a composite variable based on simply summing the items that make up the latent variable.

Thanks!
-Steve

+++ 
Steven Schmidt  
Doctoral Student  
Human Development & Family Studies  
University of Connecticut  
348 Mansfield Road, U-2058  
Storrs, CT 06269
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Thanks!
-Steve

+++  Steven Schmidt
Doctoral Student
Human Development & Family Studies
University of Connecticut
348 Mansfield Road, U-2058
Storrs, CT 06269
Dear James,

First of all, I love your videos on Youtube. It really helped me to execute common method bias analysis in AMOS. However, I have a difficulty with the results of this analysis. After following your instructions to do a common latent analysis in AMOS (version 19) the results are a bit puzzling to me. I ran a 4 factor model and the regression weights with the 'common factor' were .00. However, if I replaced 1 factor in my model with another (uncorrelated) factor, and rerun the analysis, the regression weight became all 1.00. I am really puzzled what I am doing wrong? Do you have any ideas what went wrong in my analysis? Can there be any problems in my data? My data consists of 137 participants.

Thank you in advance for your response.

Best regards,
Roy Sijbom
Dear James,

I have run the CFA model again, the result seems to be much better than earlier.

But I am wondering if some variables have been cut and reduced to only 2 in each latent, is it OK? I should be at least 3, I guess. I have attached the file for your advice. Not sure which one is better.

One more thing- once I run SEM, how can I identify whether there is a positive relationship between constructed factors. My hypothesis is to test the relationship. Please guide me through. Almost there...

PS" For the stat tool package file, I did run into several computers. It showed the same error as attached.

Best regards,

Joy

On Wed, Jan 30, 2013 at 12:12 AM, Thipchutha Kosrapunyaapoom
<thipchutha@gmail.com> wrote:

Thanks a lot, I will find reference as per advice.

Have a nice day.

Regards,
Joy

james.eric.gaskin@gmail.com

Hi Joy,

You have to enable macros. Google it. The macro settings are native to your computer, so I cannot change them. The model you sent is not fantastic, but your sample size is large, so it may be difficult to obtain good fit. See Hair et al 2010 (Multivariate Data Analysis book) chapter 12 figure 4 for more info on flexible fit measure thresholds for increasing sample size. Feel free to include me in acknowledgements – I’m currently a faculty member at Brigham Young University (Utah) in the Information Systems Department. You are also welcome to cite my wiki, videos, or stats tools package as follows:

Wiki:

YouTube videos:


Stats Tools Package:


Best of luck.

James

From: Thipchutha Kosrapunyaapoom [mailto:thipchutha@gmail.com]
Sent: Tuesday, January 29, 2013 8:12 AM
To: James Gaskin
Subject: Re: AMOS questions

Dear James,

I downloaded the Stats Tools Package from the link provided in http://statwiki.kolobkreations.com/wiki/Main_Page. However, the macro is disable in the file once opened. Therefore, I can't run the data to test the validity. Please kindly provide me the new template with macro enable.

From my study, sample size is 400.

Result obtained from AMOS data is shown as below:

p value = 0.000 (should be more than 0.005)

CMIN/DF = 5.074 (should be less than 3.00)

GFI = 0.847 (should be more than 0.090)

AGFI = 0.797

PGFI = 0.639 (should be more than 0.5)

IFI = 0.926, CFI = 0.926 (above 0.90)
NFI = 0.896 (should be more than 0.90)
PCFI = 0.781
PCLOSE = 0.000
RMSEA = 0.101 (should less than 0.10)

Is this model acceptable? As I did screen all variable correlations, the M.I. of the same group was small. I'm not sure about the criteria to justify above value, would you share me some guideline?

Moreover, I would like to ask your permission to state your name in acknowledgement part in my paper if you don't mind. Thanks a lot and looking forward hearing an advice from you soon.

Best regards,

Joy

On Tue, Jan 29, 2013 at 7:13 AM, Thipchutha Kosrapunyaapoom <thipchutha@gmail.com> wrote:

Dear James,

Thanks a lot, I will try on it. Your Learnkng tool on youtube is quite useful, i will go through it more in today time.

Regards,
Thipchutha

james.eric.gaskin@gmail.com

You can run it without the covariances between the exogenous variables, but then you might not achieve good fit. If you achieve good fit without covarying them, then no problem. But if not, then go ahead and covary them.
Dear James,

According to youtube, I learn how to run data via AMOS software from your guideline.

I tried to run data using SEM via AMOS version 21.

There is one mediating variable in my construct and I am struggling how to run data. Once I clicked calculate estimate, there is a pop up message showing as attached.

I am not sure whether I have to draw covariance or do anything more.

Customer satisfaction is acting as a mediating variable in my construct.
My hypotheses are that of testing relationship between factors:

Perceived usefulness --> Continuance intention
Innovativeness --> Continuance intention
Social Influences --> Continuance intention

Please kindly guide me through as I have to run and analyse data soonest for my graduate study program.

Looking forward hearing your advice, thanks.
Best regards,

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- Social Influences --> Continuance intention

Please kindly guide me through as I have to run and analyse data soonest for my graduate study program.
Looking forward hearing your advice, thanks.

Best regards,

Thipchutha
Dear All,

I am trying to find out the **standardized indirect effect parameter values** for multiple mediators. I read AMOS manual and watch your videos on AMOS website and I was only able to produce the unstandardized effect using the following visual basic syntax.

```vbnet
Dim x(3) As Double
x(0) = v.ParameterValue("A") * v.ParameterValue("B")
x(1) = v.ParameterValue("C") * v.ParameterValue("D")
x(2) = v.ParameterValue("E") * v.ParameterValue("F")
x(3) = x(0) + x(1) + x(2)
Return x
```

**Can you please tell me what is the syntax that I can write to generate the standardized effect for multiple mediators.**

Your time and effort is highly appreciated.
Dear James,

I get the following error when I try to calculate AVE and CR in your excel spreadsheet. Can you see where the error is?

I have had some problems in doing moderated mediation in AMOS. In the few sources that address the topic I've told that either Mplus can't do it or you standardize the items in SPSS, multiply these standardized items and create a new latent (moderation) variable:

Do you know if that is the right approach? I hope that you can help me.

Thanks in advance.

Med venlig hilsen / Best regards

Simon S. Torp
Associate Professor, Ph.D.
Aarhus Universitet
Business and Social Sciences
AU Herning (tidligere AU-HIH)
Birk Centerpark 15
7400 Herning
T: 87 16 69 76
M: simon@hih.au.dk
W: www.hih.au.dk
Dear Prof. Gaskin,

I have just one question and I hope that you can help me.
I am using AMOS and intend calculation CMB. Hence I use the procedure "Common Latent Factor" and calculate the squared unstandardized regression coefficients. I just ask myself if there exists an threshold comparable to Harman's single factor test (< 50%). Currently, I could not interpret the squared coefficient.

Thanks a lot for your help and all your work.
Have a nice day,
Michael
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Thanks a lot for your help and all your work.
Have a nice day,
Michael
Dear James,

I have run data via SEM in AMOS and looking at variance-covariance matrix in order to identify which one causing high variance in my model. MI doesn't show me any indication to cut off variable since it's in cross-variable.

My question is how can I identify what par_5 means which pair variable? From my perspective, the model will be improved once the variance is reduced. Not sure whether it's related or not.

Attached file is for your reference.

Looking forward hearing for your kind advice. Thanks a lot.

Regards,

Joy
Sir, in my regression weights table, why is first value 1? In your video it is not 1......... Am I doing something wrong?

Thanks a ton for all your help and valuable time.

Regards
Puja Sareen
Dear James,

Sorry to spam you with my questions. I'm learning AMOS by myself through reading some books and articles and watching your youtube video's. I first did a CFA like you showed on youtube. After that I want to predict intentions by attitude, perceived control and social norms. Should I use the model that came out by the CFA (e.g. some items were removed because they were non-significant) and give the constructs all error terms? and then draw prediction lines. Because that's what someone showed me. But then I see in your youtube videos (and another book) that only the unobserved constructs are used in the prediction models and only the dependent variables are given an error term. So here only the constructs and not the separate items are used. And then all the independent variables were covaried as I saw.

Which method is correct?
The first gives a very large Chi square, the latter a much more normal one and the CFI is perfect straight away....

Thank you so much for your help... as I promised earlier, I will at least put you in the acknowledgments once my paper is finished on this...

Britt
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Britt
From: Puja Sareen
To: James Gaskin
Subject: anova
Date: Wednesday, March 13, 2013 11:43:53 PM

Can I use anova to compare only two groups 1. indian and 2. mnc

for all the factors and their variables?

--
Regards
Puja Sareen
Sr. Lecturer
CFA

To: Gaskination

Hello,
I am very impressive about your tutorial on CFA. I writing you to ask some help about a problem I have. I used AMOS for some month and I need to constraint (or fix) the correlation between two latent variables to 1. I don't know how to do that.
I will be very pleased if you can send me the process
Thank's alot in advance
Have a nice day
Best regards
Julien Adrian

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Your help would be much appreciated.

Kind regards,
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Your help would be much appreciated.

Kind regards,

Astou
James,

I’m prepping for a CFA class, and I was reading on the Statwiki.

http://statwiki.kolobkreations.com/wiki/Confirmatory_Factor_Analysis

In the link above you call CR Composite Reliability - but in Hair (p. 687) this is referred to as Construct Reliability. Are these the same or are you referring to something different from Hair?

Also, I cannot find ASV and MSV in Hair. Are they from Fornell & Larcker (1981) possibly?

Best,
Aron


--

Aron Lindberg

Doctoral Candidate, Information Systems
Weatherhead School of Management, Case Western Reserve University
Sent with Sparrow
Dr. Gaskin,

I am writing you this email because I have a question regarding SEM that I cannot seem to find a straightforward solution to and thought this would not hurt to try you. After coming across several of your YouTube videos regarding AMOS, I think your ability to discuss various SEM issues is above and beyond anyone else. I am a doctoral candidate in criminology and criminal justice at Old Dominion University in Norfolk, VA asking a question regarding my dissertation.

Basically, I am conducting a cross-lagged autoregressive model where I have 1, 4 indicator latent variable at Wave 1, predicting this same repeated measure at Wave 2. Additionally, a time-variant control variable is also assessed at Wave 1 and Wave 2. Lastly, 2 constant variables are predicting both Time Variable Wave 1 variables (latent and control) and both time variable Wave 2 variables. It is autoregressive in that the Wave 1 latent is predicting itself and the control at Wave 2 and the control is predicting itself and the latent at Wave 2. The 4 error terms from the Wave 1 latent variable are correlated with the error terms from the Wave 2 latent variable (repeated measurement error in identical measurement techniques).

Here is my problem: the coefficient is only moderate in strength (standardized value = 0.28, s.e. = .10). I'm aware repeated measures should be much stronger (like .70 -.95 or so). So I was under the impression that the weakness in this value is because the measure is probably changing at Wave 2. However...

Using the comparison of means test as described by Arbuckle the latent variable mean difference (using the multi-group SEM approach) from Wave 1 to Wave 2 was NOT statistically significant (suggesting no change). So in a nutshell, what would you suggest when:

1. The latent variable at Wave 1 is not strongly predictive of itself at Wave 2.
2. The variable itself is not significantly changing from Wave 1 to Wave 2.

All data have been checked for normality, error terms are not drastic, and the models achieve appropriate fit. If this makes any sense to you, then I would be impressed as I think I may have lost anyone reading this. Any information you provide would be above and beyond what I am expecting so thank you in advance for even looking this over. I apologize for this long email and I apologize for taking up your time, but at this point I have looked at numerous resources for weeks and cannot seem to find an appropriate way to move forward on this dilemma I'm having.

Best Regards and Thank You,
Jesse

Jesse R. McKee
Department of Sociology and Criminal Justice
Old Dominion University
Norfolk, VA 23529
(520) 906-1025
Hi there

I found your statswiki and in particular your xls to help calculate discriminant and convergent validity absolutely brilliant. Thanks so much for that.

I got a model with two latent factors, though and in your comments on the youtube video you say you got an old stats tool package and video that works for two variables. Would it be possible to use that?

Many thanks!

Tina

--------------------

Dr Tina Kiefer
Associate Professor of Organizational Behaviour
Warwick Business School
University of Warwick
Coventry
CV4 7AL
UK

Tel:  +44 (0)24 7652 2308
Fax:  +44 (0)24 7652 4410

http://www.wbs.ac.uk/faculty/members/Tina/Kiefer
Dear James

I have two formative latent variables with low AVEs (i.e. 39.9 for the first and 42 for the second one) is this a problem? Could you please help me to find an article said that it is allowed with formative indicators for AVEs to be lower than usual.

Best Regards

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PhD Researcher (Tourism Organisations)
School of Tourism & Hospitality
Plymouth Business School
Room 510, Cookworthy Building,
University of Plymouth,
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PL6 4AA
Tel: 07578605487
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Thanks so much for this quick reply! Even though I will need to keep looking for a solution, at least I know that I’m not misunderstanding anything so far.

Best regards,
Michael

You are correct that it cannot be done in SmartPLS. Hopefully the results of the factor analysis do not vary greatly when changing the paths between latent variables – so then you could just stick with SmartPLS. PLS-graph is currently unavailable. Wynne Chin is the distributor and he is otherwise engaged and is not responding to requests. He’s actually in the process of making a version 4.0, but it is taking him much longer than expected.

Best of luck.
James

Dear James:

I have seen (and liked) some of your tutorials on youtube regarding the use of PLS (SmartPLS and PLSgraph) as well as the StatWiki – thank you so much for putting these information online, they have been a great help to me so far.

As I have one question to which I cannot find an answer so far, I hope it is ok that I directly address you via this email:

I would like to ask if it is possible to do a factor analysis without specifying a path model also in SmartPLS. In your tutorial on factor analysis in PLSgraph apparently no path is required to “connect” the latent variables. In SmartPLS, however, I do not see how to restrict myself to the factor analysis without any specified path. I have tried it out myself in the program and it would only “run” once all latent variables are part of at least one path. (I found a remark saying that such a factor analysis could be done by simply connecting the latent variables (and choosing “factor weighting scheme”) despite absence of meaning for it and then simply analyzing the outer model appropriateness. I tried doing this, but varying the “meaningless paths” directions to confirm adequacy of this methodology yielded different results for the outer model, so I assume that the methodology was not correct, right?)
So – do I need PLSgraph for doing a factor analysis with both reflective and formative constructs? If so, do you know how to get PLSgraph (even though I liked SmartPLS so far…)?

Any help on this would be highly appreciated, many thanks in advance and kind regards from Germany,

Michael

-----------------------------------------------
Michael Baur
WHU - Otto Beisheim School of Management
Doktorand am Lehrstuhl für Betriebswirtschaftslehre, insbesondere Technologie- und Innovationsmanagement
Doctoral Student at the Chair of Technology and Innovation Management
Burgplatz 2, 56179 Vallendar, Germany
Tel: +49 177 444 - 5449
Fax: +49 261 6509 - 249
michael.baur@whu.edu
www.whu.edu
Die Stiftung WHU ist Träger der WHU – Otto Beisheim School of Management
WHU – Otto Beisheim School of Management is the Business School of the WHU Foundation
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Reliability: the CR for satisfaction is less than 0.70.

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An: "Chris Bartl" <chris_bartl@web.de>
Betreff: RE: Problem with Stats Tool Package

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To: james.eric.gaskin@gmail.com
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I just wanted to note something regarding modifying the model using modification indices...

in your video http://www.youtube.com/watch?v=JkZGWUjdLg (and statwiki) it seems that you don't provide a cutoff value for the M.I .... I think that anything equal or larger "3.84"should be dropped for the M.I and the cut-off value for the residual covaritions used is (|2.58| or greater) .... it seems that almost all of your M.I in the video are above this point ...

I wonder if you can elaborate on that .... thanx

Regards

Mo
From: mhdamro@googlemail.com
To: James Gaskin
Subject: CFA model modification using M.I
Date: Monday, July 30, 2012 3:53:11 AM

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I have been following your much thankful contribution via the statwiki portal and your youtube videos were of great help for me...

I just wanted to note something regarding modifying the model using modification indices...

in your video http://www.youtube.com/watch?v=JkZGWUjdlg (and statwiki) it seems that you don't provide a cutoff value for the M.I .... I think that anything equal or larger “3.84” should be dropped for the M.I and the cut-off value for the residual covariations used is (|2.58| or greater) .... it seems that almost all of your M.I in the video are above this point ...

I wonder if you can elaborate on that .... thanx

Regards

Mo
Thanks for lovely beneficial video on you type...I tried to find that excel sheet but could not find it...may I ask you to send it to me by mail.

Much thanks

Allen
Thanks for lovely beneficial video on you type...I tried to find that excel sheet but could not find it...may I ask you to send it to me by mail.

Much thanks

Allen
Hello Dr. Gaskination,

First of all, thank you for uploading your videos on Youtube. It helps me a lot.

My name is Youngbum Kwon in the sport management Ph.D. program at the University of Michigan. I have a question about CFA. In the video (http://www.youtube.com/watch?v=JkZGWUUjdLg) you take care of covariances in a same factor to get a higher fit. I was wondering when we report our CFA model or SEM model based on CFA in a journal, do we need to report the model including a connected covariances? If my memory is right, I haven't seen it before in a publicated paper.

Also, If you have a chance, could you please let me know some references for a connected covariances as long as they belong to a same factor?

Thank you so much,

Youngbum

--

Youngbum Kwon
Ph.D. Candidate, Graduate Student Research Assistant, Data Analyst
Sport Management | School of Kinesiology | UM-Health Management Research Center
University of Michigan
1015 East Huron Street
Ann Arbor, MI 48104-1689
Office: (734) 764-3556 - Fax: (734) 763-2206

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Hi James

Please advise the citation reference I should use for Harman's single factor test described in Gaskination's StatWiki
Thanks
Regards
Robin Eng
Hi James

Please advise the citation reference I should use for Harman's single factor test described in Gaskination's StatWiki

Thanks

Regards

Robin Eng
Hi Dr. Gaskin

I hope you don't mind this email and I hope I have found the right address (it's from BYU's website).

I am doing my masters and am doing cluster analysis in SPSS. I watched your youtube video ages ago when I started, it was very helpful. I am a bit stuck right now because my supervisor wants to see what the probability of an individual being in cluster 1 or 2 is (not just the fact that an individual is in cluster 1 or 2). He wants something like "individual x is 0.80 in cluster 2". This way I may be able to say that individuals between say 0.40-0.70 are not confidently clustered. I'm trying to identify males and females so I want to avoid misclassification.

I cannot figure out how to get a probability and I have tried everything I can think of. I went back to your video and wanted to ask you since you're familiar with this technique in SPSS. Do you know if SPSS can give assignment probability? I'm hoping there is a setting. Or is there a way to do it post hoc?

I think some cluster analysis techniques in R may be able to do it, but I've come so far using SPSS and I just want to finish, this is the last thing needed.

Any help would be much appreciated!
Thank you

--
Katherine
James, I'm still screwing around with this model, trying to get it right. So when I did
the new CMB, it was not invariant once I imputed and checked it. So I went back
and eliminated a construct, AO since that was the only one showing up that had
CMB issues. Then there were a few others that had CMB issues, (see CLF final) but I
decided to constrain all the lines from the CLF to be equal and then I had no issues
with CMB. It seems to me to make sense that the CMB influences should be the
same/equal with each item. Does this make sense to you? You can see the two
excel files that I did. My objective is to NOT have CMB obviously since I know the
model runs when I impute it straight. Will this work the way I've done it? Deirdre
PS I showed the model to Dick last night (without AO) and he liked it and said it
was good one

--
Deirdre Dixon
deirdre.dixon84@gmail.com
813 765-8527
Dear James,

I watched your video on CMV, thanks for posting videos they are quite helpful.

I have also seen on the comments that you are willing to give a hand when after following your steps still a result does not seem to go through.

If so, I would much appreciate it. I am attaching the AMOS version of the drawn variables and the observed values and the common factor. I also attach the SPSS file where the data is loaded. I run everything but I get no result at the end. You may get what I am doing wrong.

I did the Harman Factor and I got less than 30% variance on the first factor.

Finally, on your video you mention that first you get -0.13, you square the value and get around 2% common variance. What is the maximum allowed to infer there is no problem with CMV?

I do thank you for helping if possible and getting the value of the rows constrained to "a" as you show on your video.

Thanks

Cristian
PhD Student
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Thanks

Cristian
PhD Student
--

Regards
Puja Sareen
Sr. Lecturer
Hi James,

Hope this email finds you well, I have a quick query and it's regarding the common method bias. Should one conduct a common method bias on related latent constructs or on the unrelated latent constructs? Also, what would be considered as a high regression value for a common method bias in AMOS? Your time and consideration are very much appreciated.

Kind regards,

Iftakar
Hi James,

I recently came across your wiki and related AMOS videos...the information you provide is very helpful. Thanks for sharing your knowledge. I only wish I had these great resources when I was getting my PhD down the road from you at Kent State University (finished in 2009).

Your video on tests for common method bias was particularly interesting. I’m familiar with the Harman one-factor test and have performed the common latent factor test using AMOS in the past. However, I’ve always run the test a little differently. It has been my understanding that the common factor is regressed against the observed variables only (i.e. the original measurement model’s latent factors and their covariances are not included in the test). Your approach is philosophically different in that it looks at the common/shared variance explained by the factor when added to the original measurement model...and this makes sense. Can you provide a reference that supports this approach? I have only seen references to the other approach. It’s always nice to have a couple tests in the toolkit to pull from.

Thanks in advance for your help and best of luck finishing up at Case.

Kevin

Kevin J. Trainor  
Assistant Professor of Marketing  
The W.A. Franke College of Business  
Northern Arizona University  
franke.nau.edu
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franke.nau.edu
Hello James,

I've been following your youtube videos for over 2 months now with great interest and I've learned a lot from those videos. So thank you!

I've been trying to play around with conjoint analysis and am wondering if you could shed some light. SPSS can only handle conjoint using the script so I did that, created some dummy variables to see if the analysis would run. My nightmares from my RA days have come back to haunt me - problem with the scripts. I can send you the files if this is within your area. If not, that's fine too.

Chris

Christopher Chan, PhD (*Murdoch University*)
Associate Professor of Human Resource Management
(Honorary Research Fellow at the Faculty of Business, Australian Catholic University)
School of Human Resource Management
Faculty of Liberal Arts & Professional Studies
York University
4700 Keele Street
Toronto, Ontario M3J 1P3
CANADA

Tel: +1 (416) 736 2100 ext. 30593
Fax: + 1 (416) 736 5188
Hi James, hope you fine.

James,

How if one of my CR is 0.5942. (after calculating AVE and SV)

Is it acceptable or can be tolerate?

Can I proceed with the analysis?

Thanks so much.

SAH
Hope you will be enjoying good health!

I am encountered with several issues in data analysis...I am attaching data file and results of half of my data. I dont know where the problem exists in data. Other thing is what are different tests that are required for running moderation in hierarchial regression and lastly is Herman test is important to apply and how to apply it. Padoskoff article on Herman test is difficult to understand. How can I understand it in simpler way and with ease...

Hope to get answers...

Regards
Qandeel Anjum
MS scholar
Hi James,

Hope your OK... i had a very quick query if i may.. you have an excellent excel spreadsheet on how to calculate discriminant validity.. however i was wondering if there was a reference to use that explains the formula that you have adopted to calculate the AVE, MSV, CR and ASV.

Kind regards,
Amara
Hi James,
I am trying to determine Adequacy Residuals but have realized that I am not having the Reproduced Correlation table appear. Can you tell me what I am doing wrong and why this table is not appearing?

Hope you had wonderful holiday with your family.

Sorry to bother you with this issue but not sure what I am doing wrong.

Best wishes,
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Best wishes,
Larry Griffith
Hello Mr. Gaskin.

First of all, congratulations for your videos! I am a Brazilian psychologist and I am studying SEM (at Amos) in order to develop my thesis.

Please, if possible, I have a doubt about imputing variables that you have explained in your YouTube video:

http://www.youtube.com/watch?v=ds09tqjxW8

I would like to transform the dimensions of 2 different instruments into observed variables (rectangles).

The first instrument - resilience (figure 1) is composed by 5 dimensions (factors) - SE, ST, CE, AS, EM

The second one - burnout (figure 2) is composed by (the author proposition) 2 predictors factors (COP/CON) and 3 factors EE, DEs, DEm).

I would like to know how to imput composite variables in both instruments simultaneously in the same archive. Is it possible?

Thanks for your attention,

Respectfully

Pedro G. Basso Machado
Psicólogo - CRP 08/14026
Doutorando em Psicologia Clínica e da Saúde - Universidad Autónoma de Madrid
Curriculum Lattes
Hello

I have a doubt. I want to do convergent and discriminant validity analysis. Could you please give me any idea how to calculate these on R. I calculated the correlation matrix for each variable. I attached my data file also.

Mithun Haridas
Amrita University
India
Hello James,

First, to say thank you very much for your youtube videos on SEM they are GREAT.

I was wondering whether you can provide me with the references you used for these two videos:
http://www.youtube.com/watch?v=jNDD5WSsOXI&list=UUOMWLcopuV4xj8U3dePhVIQ&index=45
http://www.youtube.com/watch?v=JkZGWUUjdLg

specifically the part where you modify the model using MI's and and Standardised Residuals (deleting the problematic residuals that are higher than .04 across the board)

They have been very helpful and would like to read more on it. Using these for my thesis analyses.

Thanks,

Marielle Asseraf
MA candidate, Educational Counselling
Faculty of Education
University of Ottawa
Ontario, Canada
Thanks for the great youtube videos. I have a question regarding gender differences in exploratory factor analysis. If I am hypothesizing differences between men and women, does this affect the exploratory factor analysis? I saw that you checked for gender differences in the CFA but I wasn't sure how this related to the EFA. I'd appreciate any thoughts on this. Best wishes,

Nick

Nicholas J. Beutell, Ph.D.
Hagan School of Business
Iona College
New Rochelle, NY 10801
(914) 633-2663 Voice
(914) 633-2012 FAX
<http://www.iona.edu/hagan>
<http://www.beutell.com>
Dr. B on mp3 <http://itunes.apple.com/itunes-u/principles-of-management/id383152521#ls=1>=

Dear Prof. James,

To analyze data, can we just run CFA without running EFA first?

What is / are the implication/s?

Thank you very much for your answer.

SAH
Hello James,
Thanks for your reply regarding the cut-offs used in the Stats Tool Package to calculate group differences. This was quite helpful. I was actually more wondering how I can cite your work, rather than the z-score table :)

Anyway, I have another question and I hope I am not bothering you. I am a PhD student in my last year and unfortunately my supervisors cannot help me with the analyses I have to conduct in AMOS. It is actually quite difficult to get any help, that’s why I am contacting you.
I have developed a questionnaire based on 4 existing surveys and have tried to retain the best items for each a priori determined factor. I have 10 factors which have 3-6 indicator variables each (these relate to feeding). I followed your video to create composite scores for these. I also have 1 measured outcome variable (weight) and 4 continuous independent variables (these relate to parenting) which I can easily dichotomize since they h... more

You can reply to this message by visiting your inbox.
Hi James,

Thank you so much for your videos, its helping me a lot in my PhD.

I am getting this error, and don’t know how to sort it out.

I read your reply on Youtube that you did not fix it yet, so if you have any recommendation please let me know

Attached is a sample of my data

Your help is much appreciated

Ali Tarhini
PhD Candidate
Center of Human Computer Interaction (HCI)
School of Information Systems and Computing
121 St. Johns Building
Brunel University
Uxbridge    UB8 3PH
United Kingdom
Email: Ali.Tarhini@brunel.ac.uk
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James,

I have a 196 in our sample, when I run the multigroup I receive an error message – see attached. Is this due to the relatively small sample size? How do I get around this?

David Klossner  
President  
TLT-Babcock, Inc.  
260 Springside Drive  
Akron, Ohio 44333  
Tel: 1-330-869-4755

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Dear James,

I hope you are doing well.

Many thanks for the great help you provide to me in analysing my data by your great video in youtube.

Here I would like to ask you weather is it possible to use the same Excel sheets that you are using. And if yes, how can I get it.

Please not that I am talking about the excel sheets for validity tests (CR, AVE).

Many thanks again.

Cheers,
Sokkar
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Please not that I am talking about the excel sheets for validity tests (CR, AVE).

Many thanks again.

Cheers,
Sokkar
Hi James

I’ve just come across your video where you used an excel tool to calculate AVE from an AMOS output. Is this tool available online? I am using Mplus and was wondering if I could use the same tool to do the calculation.

Thanks in advance!

Regards
Stephen
hello sir James,
thank you for your video and your answers to my questions. excel tool does not work properly, (error 91) ou problem of visuel basic. I followed the instructions but it does not work.
have you an resolution for this problem?
Thank you in advance
Hi James,

I just wanted to shoot through a quick email and say thank you for making that spreadsheet available. I also had one quick question. With the AVE calculation in the spreadsheet, the error terms are mentioned i.e., e1, e2 etc, but then the only data that is added comes from the between-factor correlations and regression weights. I am no stats whiz, so I just wanted to check that the error terms (i.e., derived from the data entered in some way; cf Fornell and Larcker, 1981) are considered in the AVE calculation.

Thanks again, that sheet will be with me for years!

Daniel

Daniel Lock PhD
Lecturer
Department of Tourism, Leisure, Hotel and Sport Management
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Glynn Davis Building (N72), 0.39
Nathan Campus, Griffith University,
170 Kessels Road, Nathan
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Email: d.lock@griffith.edu.au

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Griffith Business School seeks to excel as a provider of high quality, cross-disciplinary and internationally relevant business and public policy education and research, emphasising the relationship between business and society in promoting sustainable enterprises and communities.

CRICOS Provider 00233E
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I'd like to see if I can duplicate the results of the EFA you show in this video (http://www.youtube.com/watch?v=jNDD5WSsQXI&list=UUOMWLcopuV4xj8U3dePhVIQ&index=25&feature=plcp) in PSPP (the open source version of SPSS), but would need the data set on which you performed this EFA.

Would you be willing to share that data set?

I'm a very new user of software packages like SPSS, and am exploring their usefulness in analyzing data in secondary public schools (thus the interest in the open source version). An example to follow as clear as yours would be extremely helpful.

Thanks in advance,

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I actually learned about you from Nicholas Spezza, who lives down here in NM (a DM student). I am on Nicholas' dissertation committee. Totally by chance, around the same time I started working with Nicholas, I found some of the stats tools you created and have used them; they are excellent. Thanks for sharing them with all of us.

In terms of the question, I am working with another CASE DM (an Alum, Ed Mahon) and Richard Boyatzis to get the DM’s dissertation submitted to AMJ. In working with his data, I found that he reported unstandardized regression coefficients in his regression tables, but he used the same coefficients as standardized coefficients to plot the two-way interaction effects in Excel. Is that permissible? I always thought you had to use the same type of coefficients reported in the tables to plot your interactions. When I plot the two types of coefficients, the plots do not look the same (which is probably why the DM used the standardized for the two-way interaction figures).

Any help you can provide would be helpful. Good luck in finishing up at CASE and in heading to BYU.

Scott

Scott N. Taylor, PhD
Daniels Fund Business Ethics Fellow
Assistant Professor
Department of Organizational Studies
Anderson School of Management
University of New Mexico
MSC05 3090
1 University of New Mexico
1924 Las Lomas NE
Albuquerque, NM 87131
Office: 505.277.2749
Fax: 505.277.7108
Email: sntaylor@unm.edu
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In terms of the question, I am working with another CASE DM (an Alum, Ed Mahon) and Richard Boyatzis to get the DM’s dissertation submitted to AMJ. In working with his data, I found that he reported unstandardized regression coefficients in his regression tables, but he used the same coefficients as standardized coefficients to plot the two-way interaction effects in Excel. Is that permissible? I always thought you had to use the same type of coefficients reported in the tables to plot your interactions. When I plot the two types of coefficients, the plots do not look the same (which is probably why the DM used the standardized for the two-way interaction figures).

Any help you can provide would be helpful. Good luck in finishing up at CASE and in heading to BYU.

Scott

Scott N. Taylor, PhD
Daniels Fund Business Ethics Fellow
Assistant Professor
Department of Organizational Studies
Anderson School of Management
University of New Mexico
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1 University of New Mexico
1924 Las Lomas NE
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Office: 505.277.2749
Fax: 505.277.7108
Email: sntaylor@unm.edu
Hello James,

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Dear Sir,

Thank you very much for accepting my request.

I am sending you 5 files which has been generated by AMOS. 1 file is of SPSS which is having data of related model.

1 file is of MS Word. Word file is having 2 models let me know how they can be generated with the help of AMOS. I have tried to create them a lot of time, but always it is giving me bundle of errors.

I will be very kind-full to you.

Thanking You,

Best Regards,

Rahul Pratap Singh Kaurav

C/o, Mr. Dheer Singh Tomar,
86, Nehru colony, Thatipur,
Gwalior, (Madhya Pradesh),
PIN - 474011

Mobile: +91-9826569573
URL: www.rsinghkaurav.webs.com
Skype: RPSKaurav
Dear James,

Hope you're doing well.
This time I really need your help. I'm trying to assess this formative model but have identification problem. Would you be able to help with the analysis of this model. I'm quite happy to pay for any time you're devoting on this. I asked many people for advice but nobody is familiar with formative models. Thanks and looking forward to hearing from you.

Regards,
Leila
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Regards,
Leila
Hi James,

I found 2 different email addresses for you based on YouTube and your Wiki. Not sure which it is so I figured that I would forward my message here too, just in case!

Thank you!
Alex

---------- Forwarded message ----------
From: Alex Dunn <adunn33@uncc.edu>
Date: Fri, Jan 11, 2013 at 4:29 PM
Subject: CMV Marker Variable question based on YouTube video
To: gaskin@gmail.com

Hi James,

I have watched your YouTube video and have conducted the Marker Variable test, but am having problems figuring out how to write about the results of it in a paper. The regression weights for the marker variable test were .17 (p < .01). When I square that it is .03. However I am not really sure what this means. I know you uploaded another video about using the common latent factor, but I am supposed to be using the marker variable analysis.

When I run the model without the marker variable, the regression weights are .16 (not significant). Should I be comparing these two numbers? If not, how would I write about the results of the marker variable test?

I have read a few different papers that write about the marker variable, but some talk about it with correlations and some talk about including the marker variable in a model. I am trying to figure out what exactly you did here so that I can write about the test correctly.

Any insights would be great! Thank you in advance for your help!
Alex

--
Alexandra Dunn
PhD Student | Organizational Science

--
Alexandra Dunn
PhD Student | Organizational Science
UNC Charlotte | 4059 Colvard Hall
http://orgscience.uncc.edu/
Dear Prof Gaskin,

Thank you for your immediate response on you-tube. It has been very helpful in my doctoral work. I am attaching the model which has been derived after model-fit and modification indices for your quick reference.

In this attachment, some of the possible mediation have been identified in the next 5 slides. Please suggest how should I go about testing the same. Should I remove on mediation link from the model and test or just take the three variables (IV, DV, and moderation separately and test).

Also, particularly, in case of slide 5 how should I go about.

Thank you for your guidance.

Warm regards
Pavitra

--

Pavitra Mishra
FPM - HBOD Area
MDI Gurgaon
Contact: 9811638408

--

Pavitra Mishra
FPM - HBOD Area
MDI Gurgaon
Contact: 9811638408
HI James,

Many thanks for giving me your email and for helping with this problem.

The attachment is the result which I putted on Stats Tool Package. Every time when I run it, it always shows 'The macro may not be available in this workbook or all macro may disable.'

I can run other functions but not ValidityMaster.

Regards,
Vivian

---------- Forwarded message ----------
From: YouTube Service <noreply@youtube.com>
Date: 2013/2/26
Subject: Reply from James Gaskin on "Validity during CFA made easy"
To: Vivian Cheng <vivian.cheng1202@gmail.com>

James Gaskin has replied to your comment on
Validity during CFA made easy

To reply back click here. To see all comments on this video click here.

Feel free to email it to me and I can troubleshoot it. My email address is: james.gaskin@byu.edu

Help centre • Email options • Report spam • Unsubscribe

©2013 YouTube, LLC 901 Cherry Ave, San Bruno, CA 94066
Hi Puja,

I am not at all surprised to receive an email from a complete stranger. I get about 10-20 per day asking about statistics advice. Your data wouldn’t run for a couple reasons:

1. The first relationship in both tables did not have a label in the label column (this is stated explicitly on the button as a prerequisite).

2. The two tables you are using are identical (both for the same group).

3. You have removed the table titles which my code uses to identify the tables and navigate.

I have attached your tables the way they should look (except that they are both still identical). This will run if you click the button. Notice that I have removed the first relationship and I have added back some table titles.

Best of luck.

James

A very good morning to you!
You might be surprised upon receiving an email from an unknown person, so let me first introduce myself. I am Puja Sareen, working as a lecturer in Ansal university, India & pursuing my doctorate in HR. I was thoroughly impressed by not only the enormous amount of work you have done in various research area's & published so many books and journals. But more importantly, what gave me the courage to reach out to you directly was that you have been open to sharing your learning & experience with anyone who wants without anybody requesting you for help. Truly appreciate your openness.

As I mentioned, I a currently working on my thesis & my research work involves a comparative study of Indian and Multinational companies with respect to the e-HRM systems being used by them. It is a perception study on a 5 point Likert scale. I have been going through your video's on web and your blog and have learnt quite a bit. After I completed my CFA in AMOS 18, I am stuck & unable to move ahead due to an error which comes up when I try to use one of your tools, "The Statistical Tools package" in excel. I have been trying to find group differences for Indian and multinational companies but after feeding the data at correct places (from your video) I encounter an error "Runtime Error". I am attaching the screen shot of the error message for your kind reference along with the statistical tools file where I have tried to paste the data but getting that error. I am also sending along with these the amos output file which has regression tables for both the groups (Indian & MNC). I would be highly obliged if you could help me determine the cause of this error and what can be done to get out of my situation. This is the only option which I know for group comparison & if this doesn't work, it will be a big setback for me.

Thanks in advance for your kind assistance

Regards
Puja Sareen
Sr. Lecturer

91 0 9911574469

--
Regards
Puja Sareen
Sr. Lecturer
Greetings!!!

URGENT BUSINESS PROPOSAL OVERVIEW FOR YOU, FROM HONG KONG!!!!

It is understandable that you might be a little bit apprehensive because you do not know me, Please forgive this unusual manner to contact you, but this particular letter/email is of exceptional and very private nature, as by virtue of my vantage position in Hang Seng Bank Ltd -Hong Kong I have a lucrative business proposal of mutual interest to share with you. There is no way for me to know whether I will be properly understood, but it is my duty to write and reach out to you, TRUSTING that you will give this proposal a positive consideration. I am Mr. Peter T.S.Wong from Hong Kong, 53 years old and happily married with grown-up children, and I am a Director and a Senior Executive Officer of Hang Seng Bank Ltd, in charge of the International Remittance Department. I will need you to assist me in executing a business project from our bank worth US$22.5 Million. These funds were deposited with our bank by a customer of our bank who is a national{citizen} of your country, who unfortunately died in the December

The deceased account has been declared dormant since 2006 and these funds will be confiscated/declared unserviceable and turned over to the Hong Kong government if the deceased business associates or Next-of-Kin did not claim this money; since all efforts to trace any living relative of the deceased proved abortive we have decided that I will have you claim this money as the deceased business associate/or Next-of-Kin, since you are from the same country and perhaps have some similarities in certain areas. Everything concerning this transaction shall be LEGALLY done without hitch, as I was the deceased account Officer and all the relevant documents of this deposit were kept under my care. Please endeavour to observe utmost discretion in all matters concerning this issue, as I hope that you are a sincere, honest, matured person and above all TRUSTWORTHY.

Once the funds have been successfully transferred into your account, we shall share it in a ratio of 30% for you, 60% for me and my associates in the bank and the reminder 10% to take care of contingencies. I will prefer you reach me on my private email address below: Emails: peterwongts@blumail.org or tungpetershunwong@yahoo.com.hk ) and finally after that I shall furnish you with more information about this operation. I am counting on your anticipated co-operation for a successful and hitch free business transaction between us, that will be mutually beneficial, for a start, oblige me these information:-1.Your Full name{s}:-

2. Current contact address:-3.Your presents Occupation:-

4. Your age:-5.Contact phone numbers {Office and Mobile {cell}}:-Please if you are not interested delete this email and do not hurt me because I am putting my career and the life of my family at stake with this venture. Although nothing ventured is nothing gained, as it is said, the taste of the pudding is in the eating, do give this proposal SERIOUS AND POSITIVE CONSIDERATION. Your earliest response to this letter will be highly appreciated.
Kind Regards,

Mr. Peter T.S.Wong  
Hang Seng Bank Limited  
Hong Kong. (Asia)  

Tel/Fax: -852-3017-6738.  
Emails: peterwongts95@yahoo.com.hk or tungpetershunwong@yahoo.com.hk
Greetings!!!

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http://news.bbc.co.uk/cbbcnews/hi/newsid_4530000/newsid_4537600/4537601.stm
http://www.globalsecurity.org/eye/andaman-us.htm

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Hang Seng Bank Limited
Hong Kong. (Asia)

Tel/Fax: -852-3017-6738.
Emails: peterwongts95@yahoo.com.hk or tungpetershunwong@yahoo.com.hk
Hi,

I just watched your video and downloaded the excel. Greet tool... unfortunately I doesn’t work, I always get a debug message. I tried it different ways (copy-past from excel in number formatting, etc., et.c.,). Can you please help out?

BTW, once I run the macro, the red button disappears also

Thanks

Marc

Marc Fetscherin
Associate Professor and Cornell Distinguished Faculty

Rollins College
College of Professional Studies
Department of International Business
1000 Holt Avenue - 2723
Winter Park, FL 32789
United States
Tel: +1 407 691 1759

Fellow
Harvard University
Ash Institute - Asia Program
79 John F. Kennedy Street - Box 130
Cambridge, MA 02138
United States
Tel: +1 617 495 5574

www.fetscherin.com
Dear Dr. James,

Thanks for the knowledge sharing in your notes, youtube demos and etc..

Would appreciate a lot if Dr. can direct me to the learning materials (youtube demos for example) on Handling Non-Normal Data in SEM using AMOS.

Thanks :)

Best regards,

Ms. Wong Yue Teng
Hello James,

I've watched you're youtube video's and and they are fantastic! I've also used your excel tool: handy dandy, to calculate the AVE, and besides it is a great tool I have a question about it.

I'm still learning a lot about construct validity, however I still find it a difficult subject. With your handy dandy tool, you can calculate the AVE of the constructs. With this value it is possible to check your convergent validity of your measurement.

However, to check the discriminant validity you have to check that the variance shared between any two construct is less than the AVE by the constructs.

I think I understand how I can check the discriminant validity with the ValidityMaster tab, however, I'm not 100% sure. I have attached a screenshot in this email, could you please check if this is the right way to check discriminant validity?

Thanks! And keep up the good work!

Best regards,
Twan Peters
Dear Mr. James

First let me thank you for your invaluable statistics videos on Youtube. As a graduate student I really appreciate your efforts and want to thank you and offer my sincere appreciation. I Recently watched your video on a simple guide to mediation and finally understood what mediation is and how to work with AMOS. Your basic amos video helped me to run my model and I am testing my mediation model now using your advice.

I would appreciate, if time permits, you could answer my 2 questions or suggest additional readings for me. I am running my mediation model with 2 mediators and have been following changes in path coefficients to guide me. Should I follow the standardized coefficients? (I have a 900 Dataset with no missing data).

Also, there is an option in amos for performing bootstrap (I think up to many times). What is the function of bootstrapping? is it an alternative to sobel test? and what number should I specify the AMOS bootstrap.

I would appreciate if you could get back to me with my questions.

Once again Thank you sir and best regards,
Sam
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I would appreciate if you could get back to me with my questions.

Once again Thank you sir and best regards,

Sam
Dear Professor,

I am a master's program student from Federal University of Minas Gerais. I have always been very interested in all your publications, and in fact I have been using them in almost every research of mine. I am running a Factor Analysis (EFA) and my questionnaire has 47 items (6 factors, I hope!). I read at your webpage STATWIKI about convergent and discriminant validity in EFA, and I feel very comfortable with the explanations you showed. But I need the authors that support this view to quote them in my dissertation. I could not find anything about this in Hair's book. Would you please send me the authors or references that will help me in this issue?

Also, there are some material that states that the sample must be of 5 to 10 respondents to each item. So, as my questionnaire has 47 items, I must have from 235 to 470 respondents, is it right? Well, assuming that is really what is said, would you please be kind enough to send to me the references?

Thank you in advance,

Francio
Hi, James:

How are you? Hope all is well with you! I am sorry to trouble you. But I need your help

I am working with my survey data. I have two issues I am not so sure.

Based on my survey and modified plan, I need to include some categorical variables as DV (organizational infrastructure for collaboration items with answers of Yes, No, or Not Sure) and DV (the outcome of the collaboration: generated paper, grant etc with answers of Yes or No).

1. I plan to use it just the way we use other categorical variables such as sex (assign numeric numbers for answers) etc in AMOS, but I am also aware I need to treat this in a special way (ordered categorical recoding) according to the info I googled.
2. Since I have several items for each variable, I will add the answers (assigned numeric numbers for answers) together to obtain an index for each variable, and then use this index in SEM. Is this OK to do? If this is Ok, then I assume I do not need to do anything regarding “ordered categorical recoding”.

I understand that you do not have to help me since you are not my method advisor, but I trust you will provide me with a useful and non-complicated solution. Since it is the weekend, so no rush (I hesitated for a while about if I should bother you or not for a long time)

Thank you very much! Your time and help are appreciated

Yunmei
This is a result of EFA WHICH i HAVE DONE ON COMBINED DATA OF BOTH GROUPS USING VARI MAX OPTION:

KMO and Bartlett's Test
Kaiser-Meyer-Olkin Measure of Sampling Adequacy. .870
Bartlett's Test of Sphericity Approx. Chi-Square 2704.323
df 630
Sig. .000

fACTORS IN A ROTATED MATRIX AS :

Rotated Component Matrix(a)
Component
1 2 3 4 5
losing people touch .877
implementation is time consuming exercise .870
perception of ‘doing HR’s job’ and work overload .866
RESISTANCE IS HIGH .824
challenge of Technology acceptance .819
frustration over ‘ease of use’ of e-HRM system .803
cost of transitioning to e-HR is a limiting factor .758 .327
lots of training costs, to train employees for its usage. .618
18. The use of e-HRM tools in my organisation, has improved the ability to disseminate HR information globally. .554
aligning HR function with the strategic objectives .304 .772
react quickly to a continually changing business envir .751 .312
seamlessly linked HR with other corporate functions .357 .746
innovativeness in the way HR department functions .736
re-engineering of the HR function. .729
facilitates decision making by top management .322 .711 .313 .339
developing the organisation’s social capital .676
allowed for improvement in overall business .661 .334 .338
C4 empowers employees .884
C2 data at fingertips .774
C1 co-ordinates HR initiatives .768
C3 increases self efficacy .744
C6 Communication Facilitator .743 .331
better HR related services .725
improves employee morale .312 .610
A4 reduced data maintenance activities in my organisation to a great extent. .833
A1 Information generated by the e-HRM system has increased coordination between HR department and top administrators of my organisation.] .305 .762
A3 reduce administrative costs in my department .742 .301
A5 system used in my organisation has simplified the HR processes .735
A2cost efficiently. .734
A7Brought about standardisation of HR processes, in my organisation. .387 .698
A6I think that using the e-HRM system has significantly optimized the HR effort. .489 .644
B2information allows to make better people related decisions .766
B1increases information responsiveness .757
B3accuracy of information .360 .706
B5data privacy .312 .541
B4facilitates the flow of knowledge .423 .440
Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

Sorry the format is not correct.

Now can I take these 6 factors and compare both groups for each factor using anova?
--
Regards
Puja Sareen
Sr. Lecturer
Thanks Sir

I will do comparison using anova. Plz solve one more problem- how do I find which particular factor and its variables are more important between 2 groups-indian and mnc.

eg: operational efficency (factor) is more important in Indian or in mnc?

-------- Forwarded message --------
From: Puja Sareen <puja.sareen@aitgurgaon.org>
Date: Thu, Mar 14, 2013 at 10:56 AM
Subject: Re: plz solve my confusion
To: James Gaskin <james.eric.gaskin@gmail.com>

THANKS.

Then I need not make constructs in amos , CFA and then do group differences? Actually I was not getting a satisfactory EFA(variables were not coming under exact factors) so my guide told me to do cfa.

On Thu, Mar 14, 2013 at 10:48 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Sounds like you just need to do an ANOVA like I did in the last email. This will tell you the extent of differences between the two countries for each of the variables you are interested in.

James

-------- Forwarded message --------
From: Puja Sareen [mailto:puja.sareen@aitgurgaon.org]
Sent: Wednesday, March 13, 2013 10:48 PM

To: James Gaskin
Subject: Re: plz solve my confusion

Thanks

Like this I have 4 more factors with variables.

If I get u right, then should I compare each of these constructs/factors separately
or make one model in amos combining all the factors and then run annova?

In this case do I need group differences in sytats wiki.

At present I have made 4 separate constructs in amos to compare. Attaching them. Do I need amos and set up a combined model or only use anova in spss. I want to assess what is the difference in Indian and MNC for all the 4 factors and their variables (attached AMOS sheets).

I am really indebted to you. You have been a true guide to me.

On Thu, Mar 14, 2013 at 10:06 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

But the model you are testing is a single factor. At least, the tables you sent me and the model you sent me are just a single latent factor with 9 indicators. If you just want to know if there are significant differences between the two groups, then I would do an ANOVA test. Here are the results using Country as the factoring variable. The Sig. column indicates whether there is a significant difference between the two countries. So, this says that there is a significant difference between these two countries for all the variables of interest.

<table>
<thead>
<tr>
<th>ANOVA</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>83.662</td>
<td>1</td>
<td>83.662</td>
<td>158.507</td>
<td>.000</td>
</tr>
<tr>
<td>VAR00071</td>
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<td>75.384</td>
<td>86.023</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>40.642</td>
<td>77</td>
<td>.528</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAR00077</td>
<td>67.477</td>
<td>77</td>
<td>.876</td>
<td></td>
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</tr>
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<td>Total</td>
<td>124.304</td>
<td>78</td>
<td>.528</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>75.285</td>
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<td>75.285</td>
<td>142.467</td>
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<tr>
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<td>78</td>
<td>.528</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I have to compare Indian and Multinational companies for e-HRM benefits. I have 4 constructs made in AMOS each with variables(6-7) under it. I find critical ratios and regression weights for these variables in AMOS and then do a multigroup moderation in Staswiki in group differences to get z scores for each of these 4 factors. Is it the right approach?

But I face this problem that when I take those variables in a factor whose regression weight is more than 0.5 only, then the z scores are not above 1.96? How do I do a comparison of factors?

Plz let me know where I am wrong or if I need to compare these groups in another way. The way you compare in your video-multigroup moderation in AMOS.
On Thu, Mar 14, 2013 at 1:19 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

The real question is, what are you trying to accomplish? Looks like a single factor measurement model, but then why are you doing an invariance test? Is it because you are doing a multigroup moderation later? But if so, then why don’t you have more than one factor?

James

Hi James

Sorry for bothering again.

If I keep only those variables whose Standard regression weights are more than 0.5, then z score are not significant in group comparison. On the other hand if I include all variables whether or not there standard regression weight is 0.5 or more- then z score has values more than 1.96.

What to do? I am attaching 2 files. One with z score significant but there std regression weights are mixed and other with only 0.5 or more std weights.

I badly need your expertise.

--

Regards
Puja Sareen
Regards
Puja Sareen
Sr. Lecturer

--
Regards
Puja Sareen
Sr. Lecturer

--
Regards
Puja Sareen
Sr. Lecturer

--
Regards
Puja Sareen
Sr. Lecturer
Hi James,

I am analysing some data to investigate multi-group differences using the critical ratios section in your Stats Tools spreadsheet:

http://statwiki.kolobkreations.com/wiki/Structural_Equation_Modeling#Multi-group
http://www.youtube.com/watch?v=ZMYS90AU8bs

I was wondering whether you could recommend some further reading so I can learn more about what the technique is doing.

Your help is much appreciated

Best Regards,

Ali Tarhini
PhD Candidate
Center of Human Computer Interaction (HCI)
School of Information Systems and Computing
121 St. Johns Building
Brunel University
Uxbridge UB8 3PH
United Kingdom
Email: Ali.Tarhini@brunel.ac.uk
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121 St. Johns Building
Brunel University
Uxbridge  UB8 3PH
United Kingdom
Email: Ali.Tarhini@brunel.ac.uk
HI DEAR SIR
I HAVE DOWNLOADED STATS PACKAGE TOOLS BUT CANNOT FIND COVARRIANCE CLEANER IN THIS FILE PLEASE DO SEND ME A STATS TOOLS PACKAGE CONTAINING COVARRIANCE CLEANER FILE AS I AM UNABLE TO RUN IT IN VALIDITY FILE AS I PASTE TABLES IN IT IT IS NOT WORKING PLEASE DO SND ME STATS TOOLS PACKAGE WHICH CAN HELP ME TO RUN MY VALIDITY TEST REGARDS WAITING FOR UR REPLY TAHIR PHD STUDENT
HI DEAR SIR
I HAVE DOWNLOADED STATS PACKAGE TOOLS BUT CANNOT FIND COVARRIANCE CLEANER IN THIS FILE PLEASE DO SEND ME A STATS TOOLS PACKAGE CONTAINING COVARRIANCE CLEANER FILE AS I AM UNABLE TO RUN IT IN VALIDITY FILE AS I PASTE TABLES IN IT IT IS NOT WORKING PLEASE DO SND ME STATS TOOLS PACKAGE WHICH CAN HELP ME TO RUN MY VALIDITY TEST REGARDS WAITING FOR UR REPLY TAHIR PHD STUDENT
From: tahir_iqbal
To: james.eric.gaskin@gmail.com
Subject: HELP REQUEST
Date: Thursday, January 26, 2012 5:00:47 AM

HI DEAR SIR
I HAVE DOWNLOADED STATS PACKAGE TOOLS BUT CANNOT FIND COVARRIANCE CLEANER IN THIS FILE PLEASE DO SEND ME A STATS TOOLS PACKAGE CONTAINING COVARRIANCE CLEANER FILE AS I AM UNABLE TO RUN IT IN VALIDITY FILE AS I PASTE TABLES IN IT IT IS NOT WORKING PLEASE DO SND ME STATS TOOLS PACKAGE WHICH CAN HELP ME TO RUN MY VALIDITY TEST REGARDS WAITING FOR UR REPLY TAHIR PHD STUDENT
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Hi Dear Sir
i am mr tahir
needs your help i am sending you my model and spss file as well
it is having some convergence issues like low GFI, AGFI, CFI high RMSEA valus if
you can help me as you are expert of handling such problems
hope you will extend your kind assistance to me in this regards
regards

--
Tahir Iqbal
PhD Candidate
Department of Engineering Management
National University of Sciences and Technology (NUST)
College of Electrical and Mechanical Engineering (EME)
Peshawar Road Rawalpindi Pakistan
00923009469363
Hi dear sir
i need your help can you provide me some date with six constructs all having
indicators four to five and having positive correlations i need to teach some exercise
with some master level students..
hope you will help me you may change the variable name available with u with 1, 2, 3 i dnt mind
hope you will give a sincere attention to help me out
regards
tahir

--
Tahir Iqbal
PhD Candidate
Department of Engineering Management
National University of Sciences and Technology (NUST)
College of Electrical and Mechanical Engineering (EME)
Peshawar Road Rawalpindi Pakistan
00923009469363
Dear James,

I am a PhD student struggling with multigroup moderation...saw your you tube video tx..... can't find the parameter spreadsheet on statwiki..... Are you able to send it to me?

Tx
Cheree

--
Cheree Murrihy
PhD Candidate (Psychology)
Institute of Human Development and Counseling
Monash University
Australia
dear dr. james

im mahmoud from egypt im phd candidate

please help me for doing the analysis for my data by structural equation modeling technique

in my study i have 4 variables as following

independent variable : leadership styles (transformational ;leadership style and transactional leadership style

dependent variable which is organizational learning

moderating variable which is organizational culture

my hypotheses are

there is a positive relationship between transformational leadership style and the organizational learning -1

there is a relationship between transactional leadership style and organizational learning -2

organizational culture moderates the relationship between transformational leadership and organizational learning -3

organizational culture moderates the relationship between transactional leadership and organizational learning

:i send to you the data in spss file that contains the following

x11 , x12, x13, x14, x15 is dimensions of transformational leadership style

x21,x22,x23,x24 are the dimensions of the transactional leadership style

z1,z2,z3,z4 are the dimensions of the organizational culture

y1,y2,y3,y4,y5,y6,y7 are the dimensions of organizational learning

each dimension of the above represent the mean of the respondents in this dimension

please ..please .... please ... help me for doing the statistical analysis for test the hypothesis

and please use the CFA and the necessary techniques

and the fit indices and send to me the results
please dr james i feel that i fail to prove the research framework ... so please help me

your sincerly

mahmoud

my mobile

00972592789261
Hi James

I hope that everything go well for you and your family.

I'm writing you because I would like to write a paper focus on the mediation role of Networking. So, I would like to review my data and fix anything to be sure that the reviewers don't destroy my statistics (or at least decreasing the likelihood) :( 

Do you have some articles that deal with mediation using PLS and/ or examples, tutorial.....anything that could help me to run mediational test and serve as an example to write the paper.

As always, I appreciate your help ;)

Very Best,

Moraima

"Jehova te bendiga, y te guarde; Jehova haga resplandecer su rostro sobre ti, y tenga de ti misericordia; Jehova alce sobre ti su rostro, y ponga en ti paz."
Numeros 6:24-26

"The LORD bless thee, and keep thee; The LORD make his face shine upon thee, and be gracious unto thee; The LORD lift up his countenance upon thee, and give thee peace." Numbers 6:24-26
Hi Dear James Gaskin

I am Mr. Tahir have been getting guidance from you previously and really acknowledge your support.

I have one simple question can we run simple one factor CFA in AMOS and if yes then how many minimum measured variables (items) should be there to conduct CFA.

I am sending you the picture sample as well.

Hope I am able to make you understand my question please do find sometime to offer your comments on it.

Regards Tahir
Hi Dear James Gaskin
i am mr tahir have been getting guidance from you previously and really acknowledge your support
i have one simple question can we run simple one factor CFA in AMOS and if yes then how many minimum measured variables(items) should be there to conduct CFA
i am sending u the picture sample as well

\[\begin{align*}
  &e1 &\downarrow 1 &x1 \\
  &e2 &\downarrow 1 &x2 \\
  &e3 &\downarrow 1 &x3 \\
  &e4 &\downarrow 1 &x4 \\
  &\downarrow 1 & &\text{factor}
\end{align*}\]

hope i am able to make u understand my question please do find sometime to offer ur comments on it.
regards tahir
Hi Gaskin
while running common method bias test in amos what is threshold value for this test
i mean what is variance % cut off value
regards
tahir
HI DEAR JAMES GASKIN
i need to know about one query
that if i have to conduct factor anlaysis for each factor seperately then how i will calculate the AVE and CR
please go through the research paper i am sending you as he has conducted independent CFA and the results CR and AVE for each factor are shown on page no 453 APPENDIX A
hope u will help me
regards
tahir
HI DEAR JAMES GASKIN

i need to know about one query

that if i have to conduct factor analysis for each factor separately then how i will calculate the AVE and CR

please go through the research paper i am sending you as he has conducted independent CFA and the results CR and AVE for each factor are shown on page no 453 APPENDIX A

hope u will help me

regards

tahir
Discriminant validity analysis
Discriminant validity measures the degree to which a construct and its indicators are different from another construct and its indicators. Discriminant validity can be assessed by conducting a series of $\chi^2$ difference tests between nested CFA models for all pairs of constructs. CFA is run on each pair of constructs, where the two constructs are allowed to correlate freely (called the unconstrained model). The $\chi^2$ obtained from this model is subtracted from the $\chi^2$ obtained from another CFA run, where the correlation between the two constructs is constrained to 1 (the constrained model) (Bagozzi et al., 1991). Table 5 lists the $\chi^2$ for the constrained and unconstrained models. The table shows that the $\chi^2$ difference tests between all pairs of constructs are significant, suggesting strong discriminant validity (Bagozzi et al., 1991).

but once i do the same procedure in AMOS it does not run the constrained model. is it possible to run such constrained model in AMOS please offer ur expert opinion
Hi Dear Sir James
how a re you. my this mail will find you in best of your health and spirit.
dear sir i have one query what is the difference between path analysis and SEM as
in few papers i read that path analysis was conducted and could not conduct SEM
due to insufficient sample size
would you please like to me clear on this issue
regards
tahir iqbal
Hi Dear Sir James

how are you. my this mail will find you in best of your health and spirit.
dear sir i have one query what is the difference between path analysis and SEM as
in few papers i read that path analysis was conducted and could not conduct SEM
due to insufficient sample size
would you please like to me clear on this issue

regards

tahir iqbal
Hi Sir

how are you my this mail will find you in best of your health and spirit

i have one query once i run my model i get all values fine less GFI

CFI is 0.95
TLI is over 0.9
RMSEA is 0.056
but GFI is not getting upto 0.9 i have tried all the modification indices is this value is acceptable sample size 300

how to report a model like this
please do find some time to answer me

even when i try measurement model i dint find any convergent or discriminant validity issue all are perfect alright

<table>
<thead>
<tr>
<th>CR</th>
<th>AVE</th>
<th>MSV</th>
<th>ASV</th>
<th>perfo</th>
<th>JIT</th>
<th>TQM</th>
<th>cel</th>
<th>FIN</th>
<th>TMC</th>
<th>opp</th>
<th>cii</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
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<tr>
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<td>0.271</td>
<td>0.124</td>
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<td>0.269</td>
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</tr>
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<td>0.631</td>
<td>0.764</td>
<td>0.441</td>
<td>0.435</td>
</tr>
</tbody>
</table>

No Validity Concerns -
Wahoo!

regards

--
Tahir Iqbal
PhD Candidate
Department of Engineering Management
National University of Sciences and Technology (NUST)
College of Electrical and Mechanical Engineering (EME)
Peshawar Road Rawalpindi Pakistan
00923009469363
shld i wait for your feedback on making a casual model for all the factors and their relation with e-HRM systems of indian and mnc?

--
Regards
Puja Sareen
Sr. Lecturer
Hi Sir

Since I have already done CFA for each factor and then found z scores through your statistical tool as well, then can u tell me how I use these z scores in my interpretation to show difference in groups. Attaching a file of z scores.

--
Regards
Puja Sareen
Sr. Lecturer
Dear James

Sorry I have a question, and I hope to help me.

How can convert 7-point likert scales to 5-point likert?

Regards,

MO
Dear James,

I went through all your online tutorials and wiki today. I learned a lot from them. During past months, I was reading a number of books and papers and you made all of them clear for me. Thank you 😊

If it is possible, I would like to get your advice regarding to a problem I currently work on?! (please see the attachment)

Your response is highly appreciated,

Best regards,

Atefeh Dehghani

Power and Energy Systems Research Group
School of Information Technology & Electrical Engineering,
University of Queensland,
St Lucia Qld 4072, Australia
Email: atefeh@uq.edu.au
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Atefeh Dehghani

Power and Energy Systems Research Group
School of Information Technology & Electrical Engineering,
University of Queensland,
St Lucia Qld 4072, Australia
Email: atefeh@uq.edu.au
Dear James,

I have used your procedures to test moderation effects in a SEM model as you described in your video series. By the way, thank you very much!

I have a question: do you have a published reference I could use to cite this procedure (critical ration, z-test) in a paper? Reference to a psychology or social psychology journal would be ideal (I am planning to submit to Journal of Applied Psychology). An example of actual reporting would also be greatly useful.

Best regards,

Guillaume
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Best regards,

Guillaume
Hi, James,

Thanks for posting the youtube video to demonstrate a quicker and easier way to conduct moderation analysis in AMOS. I'm wondering how to cite you about that????

Regards,
Shuang
Hi, James,

Thanks for posting the youtube video to demonstrate a quicker and easier way to conduct moderation analysis in AMOS. I'm wondering how to cite you about that????

Regards,
Shuang
Hi James! Very good day..I've facing one confusing matters regarding the use and the interpretation of moderator analysis. Based on the following moderator analysis, which technique is should use, either product indicator or multi-group analysis and the most important issue is what is the analysis that provide the information like "such that the effect will be stronger for women, particularly younger women, and particularly at early stages of experience"

So here the hypothesis (Venkatesh et al 2003)

H2: The influence of effort expectancy on behavioral intention will be moderated by gender, age, and experience, such that the effect will be stronger for women, particularly younger women, and particularly at early stages of experience.

Thanks A Lot James!
Hi James,

who we can refer to for Hybrid Model in SEM or CFA? so that I can state in my references.

can we rely on the fit statistics of Hybrid Model?

thank you very much James.

thanks so much.

SAH
OK, I have done your recommendation and I need some more help. I have eliminated one at a time 5 items (see the green ones highlighted on the spreadsheet is what I eliminated) and my model is still invariant at the CFA level. I’m afraid I am just ripping apart the constructs by eliminating so many items. Is there a better way to do this? IE is there a way to tell the ONE construct that is causing the issue, or do I just need to keep eliminating one by one? Here is the second Chi square test I did and as you can see not much improvement. Do you think it could be the fact that I have three groups versus two. Should I be doing one versus another and doing it three times? It would seem to be to be more powerful doing it with all three. I’m ready for any ideas you may have.

Thanks, Deirdre

---

Deirdre Dixon
deirdre.dixon84@gmail.com
813 765-8527
James, I'm having the weirdest thing happen to me when I check for my CMB. I have done this numerous times and numerous ways. I even wrote Yunmei and asked her to do it to see what I am doing wrong. She could not find anything. When I try to check for my differences, for some reason, the construct AO does not show up on the diagram under the standardized regression weights With CLF. (see the CMB 3 14 not good excell to see the illustration. I checked the SPSS file and the data for AO is in there (Q46-49). IF I seperate the data into groups, it shows up for the military and the fire firghters, but not the big all group or the law enforcement. Can you tell me what you think may be going on with this? Or give me ideas on how I can fix it? If you want to SKYPE me through it, I should be back home by 2 pm my time. Disraught in Tampa, Deirdre

--
Deirdre Dixon
deirdre.dixon84@gmail.com
813 765-8527
Hi James,

Hope you are well. I was wondering if you was able to give me a hand in interpreting an interaction effect graph. Please see attached. This is how i interpret the graph, is it correct in terms of what the arrows show. I apologize in advance for the inconvenience caused; it’s just that I’m really struggling to interpret this graph.

"the lower the consumers attitude the more likely consumers express a brand with the Egotistical factor Negative Brand Personality at low levels of Brand Similarity. so consumers with low attitude are more likely to become confused at low levels of brand similarity and consequently assign a brand with Egotistical factor of negative brand personality”.

Your time and consideration is much appreciated.

Kind regards,

Iftakar
Dear James Gaskin,

Many thanks for your useful resources in statwiki and youtube. I have a moderator in the model I proposed and I have checked different approaches, but what I don’t understand is the following approach that I read in an article. I would really appreciate if you could elaborate on this or refer me to your web or videos. The part “centered each of the two predictor is vague for me.

"We tested this by creating an interaction term. To correct for possible multicollinearity, we centered each of the two predictor variables, "X" and "Y", by subtracting the sample mean from each variable before generating the interaction term. The interaction term was formed by multiplying the two centered predictor variables"

Best Regards,
Setareh
Dear James Gaskin,

Many thanks for your useful resources in statwiki and youtube. I have a moderator in the model I proposed and I have checked different approaches, but what I don't understand is the following approach that I read in an article. I would really appreciate if you could elaborate on this or refer me to your web or videos. The part "centered each of the two predictor is vague for me.

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Best Regards,
Setareh
Dear James,

Hope you are well, I was wondering if you were able to help, I’ve read about item parcelling which I have done, but a condition for item parcelling is that one is expected to set the error variance. I’ve worked my error variance but I have no idea how to input this in AMOS. Do you have any idea how this may be conducted?

Kind regards,

Amara
Dear Professor Gaskin,

I apologize for bothering you with some questions about the conceptual model that I have developed for my PhD. I realize that you may not have the necessary time to answer everyone’s questions. However, I just want to make sure that the model could be tested as it appears in the file I attached to this email. More specifically, I would like you to suggest me a way to test the first part of my model (the one marked with red). I do not know if AMOS allows me to consider the Overall Quality as a latent variable with two items with each of them being influenced by several service quality dimensions.

**Note: - Variables in the model:**

- PF, OC, A, MV, PAP, FN (latent variables) – service quality dimensions, each composed by several items specific to bank services offered in territorial units – these dimensions are supposed to have a positive and significant impact on Perceived Service Quality (Territorial Units)

- S, UU, P, OC_e, A_e (latent variables) – service quality dimensions, each composed by several items specific to electronic bank services – these dimensions are supposed to have a positive and significant impact on Perceived Service Quality (Electronic Services)

- Perceived Service Quality (Territorial Units) and Perceived Service Quality (Electronic Services) are observed variables

- **Overall Quality** is a latent variable composed by Perceived Service Quality (Territorial Units) and Perceived Service Quality (Electronic Services).

In case that this model cannot be tested in AMOS, please tell me if there is any other program that would allow me to analyze these relationships.

Thank you for taking your time to read my email, and if possible, please let me know your opinion and suggestions.

I am looking forward for you answer.

Kind regards,

Lacramioara Radomir
hi sir
i need to know i did sent u a model and u suggested some modification indices
i need to know that can we to converge a model have liberty to do such modifications
a. co vary error terms of one factor with other factor error term,
b. with error term of other endogenous latent variable
c. or endogenous variables error terms with each other please guide me on this issue
regards

--
Tahir Iqbal
PhD Candidate
Department of Engineering Management
National University of Sciences and Technology (NUST)
College of Electrical and Mechanical Engineering (EME)
Peshawar Road Rawalpindi Pakistan
00923009469363
hi dear Gaskin
how are you i need your assistance hope you will help me
your two videos as a reference

From Measurement Model to Structur...
and handling 2nd order factors

with due respect can you share data set with me used in these two videos i need to practice and teach my students
regards

Tahir Iqbal
PhD Candidate
Department of Engineering Management
National University of Sciences and Technology (NUST)
College of Electrical and Mechanical Engineering (EME)
Peshawar Road Rawalpindi Pakistan
00923009469363
Dear Gaskin,

Could you explain or refer me in your website or the videos you uploaded on the following matter that how to do this

"as variables are represented by single observed variables, we corrected for measurement error by setting an error variance equal to: \((1-\alpha)^2 \times s.d.2)\"

Best Regards,
Hossein
Dear Gaskin,

Could you explain or refer me in your website or the videos you uploaded on the following matter that how to do this

"as variables are represented by single observed variables, we corrected for measurement error by setting an error variance equal to:

\((1-\alpha) \times \text{s.d.}^2\)"

Best Regards,
Hossein
Hi james,

i howp you are ok, i was just looking at the you tube tutorial the one that is about measurement model invairnace. would i be right in saying teh following:

"Byrne et al. 1989 and Mackenzie et al 2011 suggests that a full metric invariance is not full metric invariance is not n ecessary for further tests of invariance and substantive analyses to be meaningful, provided that at least one item (other than the one fixed at unity to define the scale of each latent construct) is metrically invariant. Therefor the invariance of the Structural model presented in diagram XX was invarantly assessed through gender and was tested though the chi square satitic. this was tested following Gaskin ( 2011) procedure through the spreadsheet files "

im just not sure how to say that i checked for measurement model invaraince. does the passsage above capture what yo are saying in you tutorial?

Thank you in advance for your time and consideration

Amara
Hello James,

I hope you are well. I’ve subscribed to your video tutorials on youtube and have learned a lot from them. Thank you for those resources.

I’m writing because I’m working on revising a paper where I used mediation in Amos. I am having one problem and looking for some help to explain my problem. I was wondering if you would be willing to field my question. It wouldn't take long, probably five minutes of your time. However, I know you are probably busy, so either way if fine. Just let me know.

Respectfully,
Jamaal Matthews

Hi Jamaal,

You can find it on my wiki: http://statwiki.kolobkreations.com on the homepage. You may find other materials in the wiki useful. I’ve also attached the excel workbook. It has macros embedded in it, so you may have to enable the macros.

James

Greetings James,

I happened to stumble across your youtube video on moderated mediation and found it really informative! I’m working on this concept for a paper of mine through Amos and wanted to know if you have the heterogeneity spreadsheet that you mentioned in your video to test for significant differences between indirect effects. If so, would you be willing to send me to spreadsheet? Let me know your thoughts.

Thanks you for your time,
Jamaal Matthews
James,

Would you have a few minutes to explain a mediation/moderation question to me? It'll just take 5 minutes.

I wonder if we are filling out a moderated mediation table using bootstrapped data for direct and indirect betas (as described in http://www.kolobkreations.com/Mediation%20Step%20by%20Step%20with%20Bootstrapping.pptx)

Should we first trim the paths as described in the multi-group moderation video (http://youtu.be/mirI5ETQRTA)?

Best,
Aron

--
Aron Lindberg

Doctoral Student, Management, Design & Information Systems
Weatherhead School of Management, Case Western Reserve University
cell: +1 216 924 7819
skype: aronlindberg
Sent with Sparrow
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I wonder if we are filling out a moderated mediation table using bootstrapped data for direct and indirect betas (as described in http://www.kolobkreations.com/Mediation%20Step%20by%20Step%20with%20Bootstrapping.pptx)

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Sent with Sparrow
Hello James,

I am a french student working on my dissertation and I am wondering something: I followed all the tutorial for CFA with Amos (congratulations for it!) but by the end, I get several covariances between the items. Some of them have 2 and sometimes 3 covariances on them.

I removed those items (which have several covariances) and I get a better RMSEA and a better CFI. The question is: do you think I should remove those items because the difference between before and after this removal is not so important concerning the RMSEA and the CFI?

Thank you

Jérôme L. CHAMAYOU
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Thank you

Jérôme L. CHAMAYOU
thanks for suggestion but I couldn't find your video on moderation interaction in SPSS through hierarchical regression if there are three types of moderators and most importantly regression diagnostics like check for autocorrelation, tests residuals by KMO test and outliers e.t.c... Detailed tests before applying linear regression to make data pure and justified for regression analysis and how to test response bias.
James,

Since I am using Smart PLS instead of AMOS, I cannot use your tool to determine ASV and MSV. I have been looking for information on how to calculate them, but have not been successful. How are they calculated? Kalle sent out a sheet of what is supposed to be in the quant paper and he specifically mentions these. I have calculated construct means, and SDs, the program provides me with AVE and I have demonstrated discriminant and convergent validity based on CR, AVE, and alpha. Do I need to be doing MSV/ASV?

Also, I know that I cannot provide the fit statistics that are used to assess CBSEM, I am using blindfolding along with r², loadings and effect sizes to demonstrate both the fit and results. (BTW, Richard said the results looked great).

I want to be sure I have dotted all the i's and crossed all the t's so that if I have any rewriting to do it won't be on the stats part of the paper.

Thanks,

Joe
Dear James,

Today, I want to explore the multigroup analysis using AMOS. Once I copied data and input in statwiki tool, I found the error. Not sure what's wrong. I crossed check several times and it seems that I did put in the correct column as advised in the VDO. Would you help to advise me?

I have attached the one I used, and the error I found after clicked the button for your reference.

Best regards,

Joy
James,

I used your excel macro for the parameter comparisons, and love it! Definitely saves time--- I’m passing this along to all my colleagues!

I am left with a question however, and I’m hoping you might help- without making me look like a doo-doo bird.

Mainly, I’m struggling w/some interpretation issues:

1. Let’s say the path from family violence to substance use is significant for females, but not for males ...however, the z score parameter comparison is not significant--- how do I interpret this? Clearly these two path coefficients aren’t DIFFERENT enough to be a significant contrast- can you help me clarify for the readership of this article?

Otherwise stated, what do we say when a path is significant for only one gender- but not robust enough to suggest gender is moderating/modifying this relationship?

2. Similarly, I have cases where the path for males and females are both non-significant, but the z-score comparison is....would I conclude that moderation is not present, despite a significantly elevated path coefficient for one group?

3. As you aptly state, the hardest part of moderation is interpretation 😊

Thanks,
Sabina
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3. As you aptly state, the hardest part of moderation is interpretation 😊

Thanks,
Sabina
Dear James,

I am trying to use the Multigroup Moderation Analysis in Amos that you described in your video. I got the same error message that some of the users mentioned. You advised to delete the rows that have Latent --> indicator when we paste the regression weights tables into Excel. The model that I am using is a second-order factor model. I am not sure which "Latent --> indicator" rows I should be removing. I removed the first six regressions but it did not worked. I am attaching the screen shot showing the model and regression weights. Any advice is appreciated. Please note that I analyzed measurement model invariance and it turned out to be not invariant across the two groups.

Regards,

Hessam
Hi James,

I first want to thank you for posting so many helpful videos on YouTube. They have been a great help for me when working through problems in AMOS. I'm trying to do a multigroup moderation using your tutorial and stats tutorial spreadsheet but am having problems generating the table for group differences. I keep getting an error. I was wondering if you could help me troubleshoot the issue I'm having. I do have latent to indicator variables but I delete them before I click the button...but the Excel spreadsheet still gives me an error. (they are included in the table attached)

I have attached the three tables to this email and was wondering if you could see if you can get the analysis to run. Thanks a lot.

Rows 11-29 are my measured variables. I've also included a screen shot of my model. If you need me to explain anything just let me know.

Thank you,
Todd Morgan
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Hi James,

I hope all is well with you and you are getting settled in SLC. I have a quick question for you. I’m doing a multi-group moderation using your Stats Took spreadsheet. Is there any way to see the actual p-value of the z-scores?

Thanks
Mike
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Thanks

Mike
James, Hope you are feeling better today and have a better week coming up! Here is my latest, but I don't want to do anymore until I get your OK ..... According to doing the multi group moderation this way, we have structural invariance for my model. (using X2d) But now my model has bad model fit. I was wondering if I can covary an error term and an IV? I looked on Kenny's site, but I was not clear. If you look at my model with that covaried, all of the issue go away. I even get a P value! What are your thoughts?

--
Deirdre Dixon
deirdre.dixon84@gmail.com
813 765-8527
James, I have been playing with my numbers for about a week and I have hit a spot that I can't seem to get past. A summary of what I have done is in the word document. I have reached the Common Method Bias step and have discovered (no surprise really) that I have a bunch. I used the old method, and the numbers came up with 38%. Then I used your video on doing a common latent factor, and I was able to figure out the three questions that have above .2, but then I can't seem to correctly impute these variables. It keeps saying that my model is unidentified. I have been working with this for two days. I have redrawn the diagram, asked classmates for help, gone on the internet, etc and can't seem to fix this. Any suggestions? thanks, Deirdre

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813 765-8527
Dear James,

I just see your video on YouTube. It was so great!! I'm a Ph.D. student in Thailand. Now I'm facing problems to examine the convergent and discriminant validity in Amos. I really don't know how to run and see. Could you please send me the example of files on how to do it or anything you need to recommend me? Waiting for your answers.

Sent from my iPhone=
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Sent from my iPhone=
Hi James

I am Muhammad Rizwan working as a faculty member in Department of Management Sciences, The Islamia University of Bahawalpur, Pakistan. Currently I am pursuing my MS from Iqra University, Islamabad, Pakistan.

First of all, I do admit that you are a amazing personality, your way of teaching, style and demonstration is great. I really inspire with your videos on SPSS and AMOS. Being a small town and lack of technical person it was very difficult to learn these statistical softwares but you made it possible with your videos on YOU TUBE.

I am working on my thesis now a days and encounter with a major problem which I suppose can be best solved by you. I am doing CFA to check my model fit on AMOS. All other values like GFI, AGFI, CFI, TLI, RMSEA and CMIN/DF are ok but I struck with a paradox with the p value of Chi Square. Most previous researches present the p value less than 0.05 but literature on CFA ask for a insignificant p value (I think should be greater than 0.05). The p value of my model is 0.236. What is your recommendation for this problem? I do remember one of your sentence during your video on CFA that was "Ooo even we have a p value"

I hope you will understand my problem and solve it. I will be thankful to you for this kindness. I am really obliged with a quick response as I should submit my thesis before 25 May, 2012.

Best Regards,

Muhammad Rizwan
Lecturer
Department of Management Sciences
The Islamia University of Bahawalpur, Pakistan.

Mob # +92 300 9687985
Home # +92 62 2874137
Office # +92 62 9250258
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Lecturer
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Office # +92 62 9250258
Hi James, thanks a lot for your valuable videos and all the information you posted in your stat wiki. I have some questions related to testing moderation mediation, so please guide me to solve them:

In my structural model I’m using two types of moderators: A- Categorical (firm size-small/large), and B- Continues (Customer integration: used four items likert-scale to measure this construct). Also, I’m using a third variable MeV that is expected to mediate the relationship between my IV and DV, keeping in mind that I’m using two IVs and one DV which is a second order-construct. At the same time I’m expecting the two moderators (A & B) to moderator the direct relationship between IV and DV, and to moderated the mediation effect of the MeV. What do you think should be done to test the moderation effects of the direct and indirect relationships? Should I use a multi group moderation test when testing the moderation effect of the first moderator and use interaction term moderation test for the second moderator or should I use the same approach (multi group-illustrated in video/ Moderated Mediation and Controls) to test the moderated mediation effect of both types of moderators? If the interaction term is used with the two moderators, do you think I should use the composite measure (cantered interaction term) and if that should be done do you think that I still can use the excel sheet which you developed (video: moderation made easy)? How to create a composite variable for the second order construct?

Note: Attached is a sample of the mode which I’m trying to test, so can easily understand my questions

Please I need your help and your valuable comments in order to solve these problems.

Thanks a lot for you kind support.

Best Regards,

Anwar

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This message has been checked for viruses but the contents of an attachment may still contain software viruses which could damage your computer system: you are advised to perform your own checks. Email communications with the University of Nottingham may be monitored as permitted by UK legislation.
Dear Dr James

Could you please let me know how can we test Nomological Validity through PLS.

Thank you very much in advance and Best Regards
Ahmed Elbaz
Associate Lecturer
PhD Researcher (Tourism Organisations)
School of Tourism & Hospitality
Plymouth Business School
Room 510, Cookworthy Building,
University of Plymouth,
England, United Kingdom
PL6 4AA
Tel: 07578605487
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Room 510, Cookworthy Building,
University of Plymouth.
England, United Kingdom
PL6 4AA
Tel: 07578605487
Respected Sir,

hello. I am pursuing M.Tech second year in Industrial Engg. at IIT-Delhi, INDIA. I want to know how Confirmatory Factor Analysis (CFA) technique be applied to test the unidimensionality of the scales of any concept. Also, how Cronbach’s alpha values for reliability are calculated for any concept based on the feedback in the form of questionnaire from the participants.

Kindly send me the relevant literature/lessons/tutorials on the calculations for the above parameters.

I shall be highly obliged for your kind act in this regard.

with best regards

apoorv dhawan
Dear professor Gaskin,

I have a short question. I am attempting to determine the convergent and discriminant validity of a model with two latent factors. In your latest version of the Stats Tool package, however, the validity master is not suited for models with only two factors. Is it possible for me to somehow obtain the old stats tool (as used in your video 'validity tutorial') in which it is possible to assess validity in a two factor model?

Thank you very much in advance!

Wiebren Jansen

--

Wiebren Jansen
PhD student Cultural diversity and integration
mon-fri
http://www.rug.nl/staff/w.s.jansen/index

University of Groningen

Faculty of Behavioural and Social Sciences
Institute for Integration and Social Efficacy

Nieuwe Kijk in 't Jatstraat 68, 9712 TS Groningen
T 050 363 64 38, M 06 47 11 35 29
www.instituutisw.nl
Hi Dear James: I watch your video about how to test CMV by this link: http://www.youtube.com/watch?v=w7zZCBIrRXog.

However, in your later video you said this method is not the most correct.

I read Podsakoff et al. (2003) on p. 896 the authors mentioned this method. I use this method in my paper, does that mean this method do not correct. Or, it is right but not the best,

With many thanks.

Best regards,
Eason

--

Best Regards,
Eason Zhang

PHD Candidate
School of Organisation and Management
Australian School of Business
University of New South Wales
Sydney, Australia
Email: yucheng.eason.zhang@gmail.com
Thanks for suggestions. I have attached output with data and also mentioned objectives of my research. Kindly suggest me how to deal with problems in output.

Regards
Qandeel Anjum
MS scholar
Hi James,

hope you are well, here in the UK we've just had a storm of snow.. and the weather is just freezing...

hope its a bit better where you are...

i keep asking you so much question and i am forever indepted to you and your woderful tutorials.. ive
on a paragraph to hopefully depicty exactly what you showed in your videos, please would it be
possibel to spare me a few mins just to have a quick read and.. to just let me know if it reads what you
display in your tutorial. your time and consideration is very much appreciated.

A final check was preformed to assess model specification following Mackenzie et al. (2011:325) recommendation of fixing a path between the latent construct and one of its indicators at nonzero value. As the authors suggested that a full metric invariance is not necessary for further tests of invariance and substantive analyses to be meaningful, provided that at least one item (other than the one fixed at unity to define the scale of each latent construct) is metrically invariant (P.354). Therefore the latent construct Gender, with items ‘male’ and ‘female’ were used to define the scale at each latent factor in order to assess metric invariance across all latent constructs within the measurement model. The chi-square difference test results, which were assessed following Gaskin (2012) and Gaskin’s stats tools package, display metric invariance across genders. This was achieved by first assessing the unconstrained covariance chi squared test, obtained from AMOS 20, which displayed a $\chi^2 = 130.8$ Df 12. The unconstrained covariance was achieved by freely covering all latent constructs across both genders, male and female. The chi square statistic was then compared with the constrained covariances at the regression weights. That is fixing the regression weights at non zero value between both groups, male and female. The constrained covariance chi squared test obtained from AMOS 20 displayed $\chi^2 = 148.9$ Df 25. When these values were plugged into Gaskin’s stats tools package, the chi squared difference test results display an insignificant p value at $p = .154$ with $p>0.05$

Thank you so much
Warmest regards,
Amara
Hi James,

Hope you are well and had a great Christmas. I also hope that you have a great new year too.

I was wondering if you could help with:

When estimating a structural path coefficient one should examine the following: an unstandardised parameter estimate, a standard error, a t-value, an error variance term, and a squared multiple correlation.

I know in the AMOS output I can get the squared multiple correlation, but I just could not find the: unstandardised parameter estimate, standard error or the t-value.

Do you know if AMOS can produce these findings?

Your time and consideration as always is appreciated.

Kind regards,

Iftakar
James:

I have a pattern matrix question if you don't mind. In our first assignment for Toni Somers we have an EFA problem. I have studied the factors given and I have run several iterations and found one I like except I have a load on an item that is 1.001. I know you said we don't want to have a load factor over 1 but I forgot why? What does a load factor greater than 1 in my pattern matrix indicate and when it exists is that item invalid meaning I should keep working until I get a "cleaner" pattern matrix?

Thanks and Happy New Year. Sorry to bother you.

Dave

--
Adjunct Professor
Weatherhead School of Management
David (Dave) E. Jones, CPA
471 PBL Building
+1 (216) 368-1057
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Good Morning James,
I am cleaning up the last homework assignment before turning it into Kalle but have a question with regard to Pattern Matrix Table values. Is there a threshold value we are looking for that says we should be concerned about an individual number? Or are we simply looking for cross loadings and the difference greater than .2 being acceptable and the values less than .2 being a concern?

Thanks,

Larry Griffith
President/CEO
The Bohning Company, Ltd.
TEL: (231) 229-4247 ext. 2101
FAX: (231) 229-4615
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James

What a couple of days in lower manhattan! No power and basement is flooded - the joys of leaving close to the water! Anyway, I hope you don't mind me bothering you with another question? My model has decent model fit, except for PCLOSE, which is <.3. Why is this and how can I improve it?

Thanks
Philiipp

Sent from my iPad
James and Kalle,

Thinking about our next research project...

I put back in the perceived safety and perceived environmental performance – and ran the model again.

- Inverse relationship with profit and perceived environmental performance (-.150)
- Inverse relationship with perceived environmental and actual safety performance (-.20)
- Intrinsic value goes into play (.23)
- Pressure goes away

Why is there an inverse relationship with perceived environmental performance and actual safety?

Why did intrinsic values come back into influence when the perceived variables of safety and environmental was added back?
The information transmitted in this correspondence is intended only for the person or entity to which it is addressed and contains confidential and/or privileged information. Any review, retransmission, dissemination or other use of, or taking of any action in reliance upon, this information by persons or entities other than the intended recipient is strictly prohibited. If you received this in error, please contact the sender and delete the material from any computer.
Dear James,

I have a question and I would be grateful if you could send me some advice at your spare time.

I have a complex model explaining factors affects active participation in online communities. One of the main depend variable is called ?active participation? which measured by four observed variables using Likert scale. The independent variables includes trust, commitment,..etc. however, I have two variables that are categorical data . These include gender (male female) and industry type( retails, services, R&D, and finance) . I am hypothesizing that

H10: there is a relationships between gender and active participation in online communities (Gender -\rightarrow active participation)

H11: there is a relationships between industry type and active participation in online communities (industry type --\rightarrow active participation)

I know about multi group analysis. Multi group analysis is to check all relationships in the model across different group.

Could you please advice how I could test the above hypothesis in AMOS? Or any other suggestions.

Many thanks

Abid
I am a Ph.D. student from Thailand. Please advise me about my thesis. When I run CFA model using AMOS, I found a negative factor loading and negative correlation between two latent variable in this model. It is possible or not for this analysis. Please reply me.

Thank you
Ph.D. student, Thailand
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Thank you
Ph.D. student, Thailand
Dear James,

First of all thank you so much for great videos

May I introduce myself; my name is Khairia PhD student at Newcastle University (UK). I carried CFA analysis to model that was took form previous work to know how well fit my data, my result in the below table.

I am really confused, there are many cut off criteria such as Hair 2010 (.90)and Hu 1999(.95). Please tell me which reference should be considered and why. Another, thing regarding to factor loading, there are a lot of them less than 0.5, it is will be effect my model fit if all over all model are ok. Also there are a lot of standardized residual great than 4 as Hair argued.

Many thanks in advance
khairia

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Hi there

I came across your PLS Graph videos on YouTube and I was wondering how can I obtain your spreadsheet for calculating the significance of the estimates between groups. I am a SmartPLS user, but I am also considering it to use PLS Graph.

Kind regards

Gert Human

UNIVERSITY OF CAPE TOWN

This e-mail is subject to the UCT ICT policies and e-mail disclaimer published on our website at http://www.uct.ac.za/about/policies/emaildisclaimer/ or obtainable from +27 21 650 9111. This e-mail is intended only for the person(s) to whom it is addressed. If the e-mail has reached you in error, please notify the author. If you are not the intended recipient of the e-mail you may not use, disclose, copy, redirect or print the content. If this e-mail is not related to the business of UCT it is sent by the sender in the sender's individual capacity.
From: Puja Sareen
To: James Gaskin
Subject: plz reply
Date: Tuesday, March 12, 2013 12:52:04 AM

Sir

Fortunately and with your guidance the stats tool is running. As my analysis involves comparing Indian multinational companies, can I do it by using Z scores that your tool gives? So now I need not do a chi square difference as in your earlier video on group moderation uploaded in 2011?

Plz help with answer.
--
Regards
Puja Sareen
Sr. Lecturer
Hi James
Sorry for bothering again.

If I keep only those variables whose Standard regression weights are more than 0.5, then z score are not significant in group comparison. On the other hand if I include all variables whether or not there standard regression weight is 0.5 or more- then z score has values more than 1.96.

What to do? I am attaching 2 files. One with z score significant but there std regression weights are mixed and other with only 0.5 or more std weights.

I badly need your expertise .
--
Regards
Puja Sareen
When I'm doing tuckey test after one way anova, I am finding this warning?

What do I do

-- Warnings
Post hoc tests are not performed for aligning HR function with the strategic objectives because there are fewer than three groups.
Post hoc tests are not performed for re-engineering of the HR function because there are fewer than three groups.
Post hoc tests are not performed for facilitates decision making by top management because there are fewer than three groups.
Post hoc tests are not performed for developing the organisation's social capital because there are fewer than three groups.
Post hoc tests are not performed for innovatiness in the way HR department functions because there are fewer than three groups.
Post hoc tests are not performed for seamlessly linked HR with other corporate functions because there are fewer than three groups.
Post hoc tests are not performed for react quickly to a continually changing business envir because there are fewer than three groups.
Post hoc tests are not performed for allowed for improvement in overall business because there are fewer than three groups.

Regards
Puja Sareen
Sr. Lecturer
Please help james!
It is for my Doctoral Thesis.
I have for to run your app with more groups, please let me know what to do to avoid same error.
Thanks from Spain, :-)
j
---
Followed yor indications:
1. I have removed Latent -- indicator rows-
2. Gives me running error: 1004, execution time. At the Microsoft Visual Basic window the underlined code is: ActiveCell.Value = Cells(zcol - 7, zrow + 7).Value
---

José Ortega Mohedano
@jortegamohedano
Dear James,

Happy New Year! I hope your new job at Brigham Young is going very well.

I am writing because you have always been very generous with your comments and in sharing your wisdom, and I have a bit of a puzzling question.

I have an SEM which I am running in AMOS using multigroup analysis based on an experimental manipulation (which I learned in large part thanks to some of your videos). I hypothesize that the impact of V1 (an exogenous variable) on V2 is stronger in one condition than in the other. The multigroup analysis supports the hypothesis. However, when my co-author ran my data through his statistical analysis using different software as a cross-check, he noticed that the hypothesized interaction was not significant. We both then ran the interactions as simple regressions, and they are not significant.

Do you know why this would happen? My (fantastic and very brilliant) coauthor tells me we cannot submit this hypothesis because it is not replicable -- he even thinks I may have done something wrong in my multigroup analysis. I would be very grateful for any thoughts you might have on this.

Many thanks and very best wishes,
Colleen Kirk

P.S. I noticed with great interest your recently released book chapter on psychological ownership in information systems, and have requested it through my library. I study psychological ownership in marketing and would be very interested in following your work on this.

Colleen P. Kirk, DPS
Assistant Professor of Marketing
Delta Mu Delta Faculty Advisor
845-569-3118 (o)
914-414-0917 (c)
Colleen.Kirk@msmc.edu

Mount Saint Mary College
330 Powell Avenue, Newburgh, New York • www.msmc.edu
Hi James,

Hope you are well. I tried doing some data imputation using your new youtube video on common methods bias, however, for some reason I am getting an error. Attached you can see the picture of the model. I asked my friend to run it but he also got the same error. I even tried with constraining every path of the control variable, but still it did not run.

I would really appreciate if could you please look at the figure and tell me if I am doing anything wrong.

Thanks in advance.

Kind Regards,

Amina Malik
PhD Candidate, HRM
York University
Toronto
Canada

Quoting James Gaskin <james.eric.gaskin@gmail.com>:

> One reason it might not be working is that you only have three relationships, and my tool is not very robust. If you send me the excel tables I can run it to see what is wrong.
> James
>
> -----Original Message-----
> From: Amina [mailto:amina14@yorku.ca]
> Sent: Thursday, February 28, 2013 2:03 PM
> To: James Gaskin
> Subject: Re: Querry regarding multi group moderation video
>
> I chose this topic for presentation, i thought i would teach this to my colleagues. But thank you so much for your help. I really appreciate it.
>
> Sent from my iPhone
>
> On 2013-02-28, at 3:28 PM, "James Gaskin" <james.eric.gaskin@gmail.com> wrote:
> > I'm not sure why it won't work then. But, your model is so small, you can just do it by hand. I can't see behind the button, but I'll do the last one for you:
> > C-->PBC: zscore = 0.155 so it is not significantly different. To find this value, I just looked at the intersection of par_9 and par_3 in the matrix. Hope this helps.
> > James
> >
> > -----Original Message-----
From: Amina Malik [mailto:amina14@yorku.ca]
Sent: Thursday, February 28, 2013 12:42 PM
To: Amina Malik
Cc: James Gaskin
Subject: RE: Query regarding multi group moderation video

sorry forgot to attach.

Quoting Amina Malik <amina14@yorku.ca>:

Hi James,
I guess, I am. I print screen and attached you can find the image of what I am doing. Even I tried removing the empty row, but again its giving me two errors (i) first selection contains multiple data values and then (ii) error 91 :

Quoting James Gaskin <james.eric.gaskin@gmail.com>:

Are you complying with the rules stated on the button? You need to remove rows that do not have a label in the label column. Shift the rest of the data up when you remove those rows.

-----Original Message-----
From: Amina Malik [mailto:amina14@yorku.ca]
Sent: Thursday, February 28, 2013 10:55 AM
To: James Gaskin
Subject: Re: Query regarding multi group moderation video

Hi James,
Sorry to bother you again. I tried doing some multi group moderation the other day and it worked. However, when I tried now, Excel file is giving me an error i.e. Run time error 9, Object variable or With Block variable not set.

I have picked the same topic for my presentation which is due on Monday,
but
now its not working. Could you please tell me any way to fix that error.

Many Thanks,

Regards,

Amina Malik

PhD Candidate, HRM

York University

Toronto

Canada

Toronto

Canada

Quoting James Gaskin <mailto:james.eric.gaskin@gmail.com>:

It is sensitive about where you click it. Make sure you click in a
blank area. Try clicking right where I click. If that doesn't work,
ask a computer-savvy friend to try it for you.

Best of luck!

James

Sent from my iPhone

On Feb 24, 2013, at 8:58 PM, Amina Malik <amina14@yorku.ca> wrote:

Hi James,

I am writing you this email in regards to your video on multi
group

moderation-

An easy way.

First of all thank you so much for the wonderful video. It would

save hours

to
do the analysis. However, when I tried it, I failed to copy and paste regression weights tables and matrix in the Excel file. It did not work. In your video, it looks really simple, just left click and then right click. But that was not the case when I tried. Is there any other way to copy and paste the formatted table in your excel file.

Many Thanks.

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Many Thanks.

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Hi James,

I am a big fan of your Youtube tutorial videos about SEM and CFA! And after watching them, I am still confused about a few things regarding 2nd order CFA and would like to consult with you about my current model. As attached, my model contain one 2nd order latent variable, and 8 first-order variables. For the 8 first-order variables, each of them has several items. I did the Amos and the result is bad. The Chi square is huge and p is significant. I am thus wondering, aside from correlate errors within the same variables, can I put arrows to correlate the 8 first-order variables? Is there any restrain to do so in CFA? And what you would suggest me to do to modify the model? Thank you very much!

Best,
Selene
Dear James,

After viewing your video on Youtube about CMB I’ve succeeded in getting the Harman’s test running (39.8%) and setting up my model for AMOS. However when I try to calculate the model my 'a' isn't turning in a regression weight. I'm using AMOS 20 and when I checked the data viewer I found these values:

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<td>,000</td>
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<tr>
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<td>,000</td>
<td>3901432,733</td>
<td>,000</td>
</tr>
</tbody>
</table>

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Kind regards,
--
Roel Kakuru Frietman
Master Student Marketing Management
Radboud University Nijmegen

Phone: +31 (0)649762022
Mail: r.frietman@gmail.com
Dear James,

After viewing your video on Youtube about CMB I've succeeded in getting the Harman's test running (39.8%) and setting up my model for AMOS. However when I try to calculate the model my 'a' isn't turning in a regression weight. I'm using AMOS 20 and when I checked the data viewer I found these values:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Common</th>
<th>Factor Loading</th>
<th>t-value</th>
<th>df</th>
<th>Significance</th>
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<tbody>
<tr>
<td>BF1</td>
<td>0.000 3901432,733 0.000 1.000 a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BF2</td>
<td>0.000 3901432,733 0.000 1.000 a</td>
<td></td>
<td></td>
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<tr>
<td>BF3</td>
<td>0.000 3901432,733 0.000 1.000 a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSC1_1</td>
<td>0.000 3901432,733 0.000 1.000 a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSC1_2</td>
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<td></td>
<td></td>
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<tr>
<td>BSC2_1</td>
<td>0.000 3901432,733 0.000 1.000 a</td>
<td></td>
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<tr>
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</tr>
<tr>
<td>EBA1</td>
<td>0.000 3901432,733 0.000 1.000 a</td>
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</tr>
<tr>
<td>EBA2</td>
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<td>EBA3</td>
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<td></td>
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Kind regards,

--
Roel Kakuru Frietman
Master Student Marketing Management
Radboud University Nijmegen

Phone: +31 (0)649762022
Mail: r.frietman@gmail.com
Dear Dr. Gaskin,

I found your information on the wiki page online. I'm wondering what is the mathematical formulation of computing the Average Shared Variance? I want to do that in my research. I May want to calculate that by hand and I can't really find a source for that. Thank you very much

Sincerely,
Yunchen Huang
James,

I am doing my analysis on my data and I had a rather strange results, so I thought I would ask about it.

I fitted my measurement model, using both the cases with full information (n=122) and then my full data set after imputing missing values in SPSS (linear interpolation) (n=193).

Because my data is non-normal, I used the Bollen-Stine bootstrap procedure to assess fit by Chi-square adjustment final p-value .311 after extracting common variance.

I then tried to run invariance for gender (male 87, rest female), the model would not converge after 49 iterations. It showed a really high negative error for one item.

So I went back and ran the model for just males and it converged no problem and good fit. I ran it for females only and it converged with good fit. Why then would it blow up when running simultaneously? There are some path differences, but they don't seem really big (3 paths out of 14 total were significantly different).

Any thoughts or suggestions?

Joe
Dear James:

I have seen (and liked) some of your tutorials on youtube regarding the use of PLS (SmartPLS and PLSgraph) as well as the StatWiki – thank you so much for putting these information online, they have been a great help to me so far.

As I have one question to which I cannot find an answer so far, I hope it is ok that I directly address you via this email:

I would like to ask if it is possible to do a factor analysis without specifying a path model also in SmartPLS. In your tutorial on factor analysis in PLSgraph apparently no path is required to “connect” the latent variables. In SmartPLS, however, I do not see how to restrict myself to the factor analysis without any specified path. I have tried it out myself in the program and it would only “run” once all latent variables are part of at least one path. (I found a remark saying that such a factor analysis could be done by simply connecting the latent variables (and choosing “factor weighting scheme”) despite absence of meaning for it and then simply analyzing the outer model appropriateness. I tried doing this, but varying the “meaningless paths’” directions to confirm adequacy of this methodology yielded different results for the outer model, so I assume that the methodology was not correct, right?)

So – do I need PLSgraph for doing a factor analysis with both reflective and formative constructs? If so, do you know how to get PLSgraph (even though I liked SmartPLS so far...)?

Any help on this would be highly appreciated, many thanks in advance and kind regards from Germany,

Michael

-------------------------------------------------------------------------------------------------------------------------

Michael Baur

WHU - Otto Beisheim School of Management

Doktorand am Lehrstuhl für Betriebswirtschaftslehre, insbesondere Technologie- und Innovationsmanagement
Doctoral Student at the Chair of Technology and Innovation Management

Burgplatz 2, 56179 Vallendar, Germany
Die Stiftung WHU ist Träger der WHU – Otto Beisheim School of Management
WHU – Otto Beisheim School of Management is the Business School of the WHU Foundation
Dear Dr. Gaskin,

Greeting from Macau, I watched your SEM education video on Youtube. First of all, thank you for sharing the great Youtube videos online. It helps me a lot on studying SEM.

May I ask you a silly question? Currently, I want to find the relationship between consumers' actual behavior with my new developed model and another model created based on planned theory of behavior. What should I do in AMOS, as run the CFA again and modification the model fit? Do I need to do? and What kind of output that I need to report?

I appreciated your help and looking forward to hear from you.

Best regards
Shanshan
Hello,

Thank you for your educational videos about Confirmatory Factor Analysis. I have a question, though, does conducting Multigroup Moderation in Amos as instructed in your video http://www.youtube.com/watch?v=ZMYS90AU8bs, also verifies Metric Invariance? I also watched your other video which uses the chi-square test to verify metric invariance, which of the two methods do you prefer? Thank you. Looking forward to your response.

Kind regards,
Anne
Hi James,

I hope you are well.

Question, what does it mean when you don’t get a number in the pattern matrix? See attached? I am working with 134 records and my survey had around 140 questions. I am only doing EFA for one of the constructs (breadth of identity = 45 questions).

Thanks,

Mili
Dear Prof. Gaskin,

This is Ashley, PhD from HEC Lausanne. I watch your videos on youtube and find them very useful, thank you for your sharing.

I recently have a question with SEM using AMOS. When I run the mode, one problem always appear that "the error term's variances are negative" and "covariance matrix is not positive definite". Could you help me solving this? Thank you very much!

Best,
Ashley
Hi,

I am a PhD candidate in psychology. I have tested a structural equation model with a latent interaction term and wish to use one of your Excel worksheets to plot a two-way interaction. Your worksheet to plot 2-way interaction effects for STANDARDIZED variables stipulates that I have to input the unstandardized regression coefficients. Given that I am working with UNSTANDARDIZED latent variables, and that standardized betas represent the strength of association between standardized variables, is it ok to simply input the STANDARDIZED regression coefficients instead of the unstandardized betas?

Thank you very much for taking the time to respond to my e-mail.

Cordially,

Sebastien Blanc
PhD candidate
Saint Mary’s University
Halifax, NS Canada
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Hi James:
Am making changes to a paper after first round of review. Here is a question I am getting from the reviewer.

Table 3, page 23: Significances of correlations should be indicated in table 3 (***), and a legend below table 3 should be added. Are the reported numbers correlations or squared correlations? Reported numbers should be correlations.

Here is table 3.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Pricing Capitalization</th>
<th>Decision-making Rationale</th>
<th>Relative Performance</th>
<th>Championing Behavior</th>
<th>Collective Mindfulness</th>
</tr>
</thead>
<tbody>
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<td>0.482</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>0.525</td>
<td>0.438</td>
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<td></td>
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<tr>
<td>Relative Performance</td>
<td>0.475</td>
<td>0.216</td>
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</tr>
<tr>
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<td>0.271</td>
<td>0.564</td>
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<tr>
<td>Collective Mindfulness</td>
<td>0.288</td>
<td>0.212</td>
<td>0.192</td>
<td>0.345</td>
<td>0.508</td>
</tr>
</tbody>
</table>

I cannot remember where to find the construct correlation table and the significance of these correlations. Can you point the place for me?

Thanks.

Stephan M. Liozu
President & CEO

ARDEX Americas
400 Ardex Park Drive
Aliquippa, PA 15001

p: 724-203-5404 | f: 724-857-6407
www.ardexamericas.com
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<th>Championing Behavior</th>
<th>Collective Mindfulness</th>
</tr>
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<tbody>
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www.ardexamericas.com
James,

with your Multi-group moderation in Amos made easy video. Looking at the model, what are your hypotheses? How many are there??

ROBERT WATT
Hi James, great videos as usual! I’m working on a 2\textsuperscript{nd} order formative construct so this is very helpful. I had a couple questions:

1) In the Formative 2\textsuperscript{nd} Order video, why did you leave all 6 items connected to BurnOut even when you had them connected via BM\textsubscript{a}, BM\textsubscript{b}, and BM\textsubscript{c}? It seems like they shouldn’t be needed twice in the model.

2) With SmartPLS do you get any overall model fit statistics? (I signed up for the download of the software but haven’t received approval yet)

Thanks,
Mike

---

Hi guys,
I heard some of you were using SmartPLS for your analyses, so I went ahead and learned it and made some videos to support it. And boy am I glad I did – 2\textsuperscript{nd} order formative factors are tricky! And the user interface is about as easy as can be expected from a stats modeling software... :p To the class of 2012; sorry I didn’t get to this sooner. Better late than never, perhaps.

Here are the links (they are also linked from the StatWiki on the PLS page at the bottom):

- **VIDEO TUTORIAL:** Getting Started
- **VIDEO TUTORIAL:** Basic Path Analysis
- **VIDEO TUTORIAL:** Factor Analysis
- **VIDEO TUTORIAL:** Moderation - Interaction
- **VIDEO TUTORIAL:** Mediation
- **VIDEO TUTORIAL:** Formative 2nd order Constructs

Enjoy!
James
Thanks again. I had found the article by Chin on the UMLC approach, but was having some difficulty translating it into Smart PLS, probably due to my own ineptitude.

I just finished Daniel Sopers little survey and downloaded his interaction tool. I'll see how that works as well.

Hope things are going well for you and the family, I am going to get back to beating my data until it talks.

Joe

I also have my own mickey mouse method:  
http://statwiki.kolobkreations.com/wiki/PLS#Common_Method_Bias

I didn’t make a video for this, but here are the most recent discourses on it:

new videos.

But I do have one question, what do you do about CMV/CMB? I saw a paper on itb but could not quite figure out how they were getting it to work.

Joe

From: James Gaskin [mailto:james.eric.gaskin@gmail.com]
Sent: Wednesday, October 17, 2012 5:12 PM
To: 'DM Class of 2013'; wsom-edm-2012@case.edu
Subject: [wsom-edm-2013] SmartPLS videos

Hi guys,
I heard some of you were using SmartPLS for your analyses, so I went ahead and learned it and made some videos to support it. And boy am I glad I did – 2\textsuperscript{nd} order formative factors are tricky! And the user interface is about as easy as can be expected from a stats modeling software... :p To the class of 2012; sorry I didn’t get to this sooner. Better late than never, perhaps.
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- YouTube VIDEO TUTORIAL: Moderation - Interaction
- YouTube VIDEO TUTORIAL: Mediation
- YouTube VIDEO TUTORIAL: Formative 2nd order Constructs

Enjoy!
James
Thanks James. I already looked at the first two. I just made the switch yesterday and it is easier than AMOS. Although I have been struggling on how to do mediation and moderation, so I appreciate the new videos.

But I do have one question, what do you do about CMV/CMB? I saw a paper on it but could not quite figure out how they were getting it to work.

Joe

Hi guys,
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- YouTube VIDEO TUTORIAL: Mediation
- YouTube VIDEO TUTORIAL: Formative 2nd order Constructs

Enjoy!
James
Thank you very much James! The fit is good enough, so I will follow your advice and keep the error terms uncovaried.
Have a great evening there!

Best regards from Poland,
Bruno

> If the fit is good enough, then just leave the error terms uncovaried. But
> if it doesn't meet minimum thresholds established in the literature, then
> I would go ahead and covary them, and then support your actions using dave
> kenny's website.
> Hope this helps.
> James
>
> -----Original Message-----
> From: bschivinsk@zie.pg.gda.pl [mailto:bschivinsk@zie.pg.gda.pl]
> Sent: Thursday, December 27, 2012 1:40 PM
> To: James Gaskin
> Subject: A personal question this time :)
> 
> Hello James,
> 
> I would like to ask you a personal question if you don't mind.
> 
> So far I have been publishing mainly in Polish journals and conferences.
> The model I sent you on my last email is my very first attempt to publish
> a research in a peer-reviewed journal.
> 
> Would you recommend me to send the manuscript with a moderate fit model
> (not covarying error terms) or with a good fit model (covarying error
> terms)?
> 
> Thank you once again for the attention.
> 
> Best regards,
> Bruno
> 
>
I apologize for disturbing you again, unfortunately the problem was not only the sample size. I corrected it, I made a ppt that includes my results. When you have time if you could check it and show me my mistakes I would be able to correct it. I read some documents however I am a biologist and not good at statistics so I missed something probably...

Best regards, and thank you.
ZH

2011/12/20 James Gaskin <james.eric.gaskin@gmail.com>

The likely reason for failure is the low sample size. You have nearly as many variables (columns) as you have sample size (rows). The standard threshold for the ratio between sample and variables is 5:1, so for 7 variables you would need a sample of 35. Using the data you have, you can still run simple linear regressions between two variables at a time, but you will not be able to successfully build a path model.

Hope this helps.

Good luck!

James
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Hope this helps.

Good luck!

James

Zeycan HELVACI
Hi there
Many thanks for responding - I will check that out!
Kevin

On 09/03/2013 15:53, James Gaskin wrote:

I don’t have any videos on it. What you need to do is go to Daniel soper’s website and he has a power calculator you can use.

Power Calculator:
Co. Waterford, Ireland

www: www.tssg.org/people/kdoolin

Twitter: kevindoolin
Linkedin: kevindoolin
Facebook: kevin.doolin.104
MSN: Kdoolin@tssg.org
Thanks very much for this - I understand what needs to be done now. This model has 19 endogenous variables (!), but thankfully only 2 of these have an insignificant path leading in to them... so I will do the power analysis for those.

Again thanks for taking the time to respond... much appreciated.

On 09/03/2013 16:54, James Gaskin wrote:

The R2 is for whatever endogenous variable you are predicting. We examine power for each predicted variable, not for the whole model. For the number of predictors, it wants the number of arrows going into that endogenous variable. So, in the picture below, if I were to examine power for Purchase Intention, I would use R2 of .220, confidence of 95%, and 2 predictors. Although, you never need to do a power analysis for an endogenous variable if all paths to it are significant.

Hope this helps.

James

Hi again
Can I ask a (really stupid) question? (I am trying to figure out some SEM items for a colleague of mine)... In that calculator it requests the R2 value for the model... I can see in the AMOS output where the R2 for each relationship is (i.e. the squared multiple correlation) but I cant seem to find an overall R2 for the model as a whole

Also, it requests the number of predictors... this model has a number of first order factors - I presume each first order factor is a predictor? (i.e. I dont count the individual items loading on each factor)

Thanks
On 09/03/2013 16:19, kevin doolin wrote:

Hi there
Many thanks for responding - I will check that out!
Kevin

On 09/03/2013 15:53, James Gaskin wrote:
I don't have any videos on it. What you need to do is go to Daniel Soper’s website and he has a power calculator you can use.

**Power Calculator:**

From: kevin doolin [mailto:kdoolin@tssg.org]
Sent: Saturday, March 09, 2013 7:58 AM
To: james.eric.gaskin@gmail.com
Subject: AMOS - Power

Hi there

I am trying to figure out if there is a way to get AMOS to tell me the power of a model used for a study - I can't find a simple way to do this (I've been googling all day).
Just wondering if you have a video about that, or a process I can use?
Any advice would be very much appreciated
Kevin

---

Kevin Doolin
Chief Operations Officer, TSSG

Telecommunications Software & Systems Group (TSSG),
ArcLabs Research and Innovation Building,
Waterford Institute of Technology,
Carriganore Campus, Carriganore,
Co. Waterford, Ireland

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tel: +353 (0)51 302 935
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mobile: +353 (0)86 1527691
e-mail: kdoolin@tssg.org
Skype: Kevindoolin
Twitter: kevindoolin
Linkedin: kevindoolin
Facebook: kevin.doolin.104
MSN: Kdoolin@tssg.org

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mobile: +353 (0)86 1527691
e-mail: kdoolin@tssg.org
Skype: Kevindoolin
Twitter: kevindoolin
Linkedin: kevindoolin
Facebook: kevin.doolin.104
MSN: Kdoolin@tssg.org
Hi again
Can I ask a (really stupid) question? (I am trying to figure out some SEM items for a colleague of mine)...

In that calculator it requests the R2 value for the model... I can see in the AMOS output where the R2 for each relationship is (i.e. the squared multiple correlation) but I can't seem to find an overall R2 for the model as a whole

Also, it requests the number of predictors... this model has a number of first order factors - I presume each first order factor is a predictor? (i.e. I don't count the individual items loading on each factor)

Thanks
On 09/03/2013 16:19, kevin doolin wrote:

Hi there
Many thanks for responding - I will check that out!
Kevin

On 09/03/2013 15:53, James Gaskin wrote:

I don't have any videos on it. What you need to do is go to Daniel Soper's website and he has a power calculator you can use.

Power Calculator:

Hi there

I am trying to figure out if there is a way to get AMOS to tell me the power of a model used for a study - I can't find a simple way to do this (I've been googling all day).
Just wondering if you have a video about that, or a process I can use?
Any advice would be very much appreciated
Kevin
Kevin Doolin
Chief Operations Officer, TSSG

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Twitter: kevindoolin
Linkedin: kevindoolin
Facebook: kevin.doolin.104
MSN: Kdoolin@tssg.org
Hi James,

Thank you very much for your email. I search and could not found Faligan full reference, this will be great help for me if you could please give me the full reference of Faligan, and what is the reference in the theory to use 0.70 or above loadings items loadings.

Thank you

On Thu, Mar 1, 2012 at 2:51 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Wow! 38! That’s ridiculous! Faligan recommends 4. Usually the cutoff is 0.7 for high validity and reliability, but, depending on the constructs, you can go as low as .3 (although this throws validities out the window). My recommendation is to have them average out to .7 or above, and then have no more than 7 items per construct. Assuming your constructs are reflective (rather than formative), you should never really need more than 5-7 items. Anything more than that is simply overkill.

Hope this helps.

James
Thank you

Cheers!

On Tue, Feb 28, 2012 at 3:17 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Both. Check out my other videos and my wiki for more information.

Videos: http://www.youtube.com/gaskination

Wiki: http://statwiki.kolobkreations.com

Hope these are helpful.

James

Hi Gaskin,

I saw your uploaded videos regrding CFA and Modelfit using Amos, and all are very helpful. I'm just struggling with basic concepts of Amos and read many books but not clear yet. I'm confused that:

1. First, I understand that I can use Amos graphics, to confirm my Exploratory Factor analysis results and then design a path diagram based on new factors( appeared after EFA rotation) and then draw First level model, second level model to check casual-effect.
2. Second, I Can directly use Amos graphics to confirm my conceptual model (without using EFA and items loadings) based on raw data set file, where, i
had variables and items in the questionnaire to see how statistically things are related in cause and effect.

which one of above is right or both?

Thank you!
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had variables and items in the questionnaire to see how statistically things are related in cause and effect.

which one of above is right or both?

Thank you!
Dear James

I ran the test, and i have attached the output from AMOS, my Sample size is 317, what do you reckon now.

Hope you dont mind me asking too many questions, cuz there are not anyone in my country to help me with AMOS.

regards

fawad

Here you go: http://www.youtube.com/watch?v=6j4_ZrkCxTc

I couldn't find the link to the "Metric and Configural invariance" video on YouTube, could you kindly email me the link, iw ill watch it and will let you know the details where i think i might be going wrong, again i would like to say and thx and sorry i am bothering you too much, your help and effort is highly appreciated.

regards

fawad

Have you done an invariance test as I suggested before? If you have different groups in your data, then you may have model fit issues due to variance between these groups.
Dear Mr James

It looks fine, the loading are also good, but the model fit values like RMSEA (Too high, 0.170), CMIN and others are not good, wouldn't this be an issue and I put the model in my thesis.

regards

fawad

---

From: james.eric.gaskin@gmail.com
To: kfls_83@hotmail.com
Subject: RE: AMOS Model fit Issues
Date: Wed, 30 May 2012 07:45:19 -0400

This looks fine. Is there something specific you would like to know?

---

From: Fawad Latif [mailto:kfls_83@hotmail.com]
Sent: Wednesday, May 30, 2012 1:00 AM
To: james.eric.gaskin@gmail.com
Subject: RE: AMOS Model fit Issues

Dear Mr. James

I would like to extend my heartfelt thanks for your help and support, I have four factors in my study with each factor having 5-6 sub variables/items, I have hereby attached the document if you could kindly have a look. I hope I am not bothering you too much and really appreciate your help.

regards

fawad

---

From: james.eric.gaskin@gmail.com
To: kfls_83@hotmail.com
Subject: RE: AMOS Model fit Issues
Date: Tue, 29 May 2012 11:05:39 -0400

Sounds like your sample is not too large. Is your model very complex – lots of variables? As for the independent samples t-test, that would be a simple approach to seeing if they are very different, and should be sufficient. A more rigorous approach is explained in my “Metric and Configural invariance” video on YouTube.

If you do not get good fit, then you may have to try some other things. Aside from the issues I raised earlier, you may be trying to test a reflective model when in fact your model is formative. To learn AMOS, watch my videos, starting with “A basic analysis in AMOS and SPSS”. My wiki should also be a useful resource for you: http://statwiki.kolobkreations.com

Good luck!

James

---

From: Fawad Latif [mailto:kfls_83@hotmail.com]
Sent: Tuesday, May 29, 2012 10:58 AM
To: james.eric.gaskin@gmail.com
Subject: RE: AMOS Model fit Issues
Dear James,

thank you so very much for your help. As far as the sample is concerned my sample is around 130 respondents, can i use Independent Samples T-Test to check for differences between male and female, One more question, for my PhD thesis i have to develop a Model of Effectiveness for Outsourced T&D and i am planning to use CFA for the validity, if the model fit doesn't come good my thesis might be rejected, please help what should i do, cuz can i quote in my research that my model fit is not good and this might make my thesis rejected.

also can you plz let me know some resources from where i can learn AMOS.

please advise and help

regards

fawad

From: james.eric.gaskin@gmail.com
To: kfls_83@hotmail.com
Subject: RE: AMOS Model fit Issues
Date: Tue, 29 May 2012 09:27:30 -0400

The image you pasted in the email did not come through. As for model fit, if you cannot achieve good fit, even after examining modification indices and standardized residual covariances, then your data might be bimodal based on group differences. For example, if you think men and women answered your survey quite differently, then this may cause model fit issues because items that load well on a particular factor for women may load poorly for men. To determine if this is the case, you need to do an invariance test (I have a video for this too, and you can see my wiki about it). If this still isn’t the issue, then you might be suffering from an overly complex model or a very large sample size. Chi square increases with complexity and size, and therefore some models might never achieve good fit.

Hope this helps.
James

Dear Mr. James

I hope you find this email in best of health, i am one of your subscriber for AMOS videos on YouTube, I am having model fit issues, as per your video tutorials i have co varied error terms, and also from the covariance table have deleted high values, but still my covariance looks like the following, i am having issues with good fit, as i am getting 0.161 RMSEA value.

Please advise, your help would be highly regarded and appreciated

regards

fawad
Dear James

I ran the test, and I have attached the output from AMOS, my Sample size is 317, what do you reckon now.

Hope you don't mind me asking too many questions, cuz there are not anyone in my country to help me with AMOS.

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fawad

---

From: james.eric.gaskin@gmail.com
To: kfls_83@hotmail.com
Subject: RE: AMOS Model fit Issues
Date: Sat, 2 Jun 2012 22:41:40 -0400

Here you go: [http://www.youtube.com/watch?v=6j4_ZrkCxTc](http://www.youtube.com/watch?v=6j4_ZrkCxTc)

---

From: Fawad latif [mailto:kfls_83@hotmail.com]
Sent: Saturday, June 02, 2012 12:56 PM
To: James Gaskin
Subject: RE: AMOS Model fit Issues

Dear Mr. James

I couldn't find the link to the "Metric and Configural invariance" video on YouTube, could you kindly email me the link, I will watch it and will let you know the details where I think I might be going wrong, again I would like to say and thank you and sorry I am bothering you too much, your help and effort is highly appreciated.

regards
fawad

---

From: james.eric.gaskin@gmail.com
To: kfls_83@hotmail.com
Subject: RE: AMOS Model fit Issues
Date: Wed, 30 May 2012 11:06:04 -0400

Have you done an invariance test as I suggested before? If you have different groups in your data, then you may have model fit issues due to variance between these groups.

---

From: Fawad latif [mailto:kfls_83@hotmail.com]
Sent: Wednesday, May 30, 2012 10:53 AM
To: James Gaskin
Subject: RE: AMOS Model fit Issues
Dear Mr James

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One more question, for my PhD thesis i have to develop a Model of Effectiveness for Outsourced T&D and i am planning to use CFA for the validity, if the model fit doesn't come good my thesis might be rejected, please help what should i do, cuz can i quote in my research that my model fit is not good and this might make my thesis rejected.

also can you plz let me know some resources from where i can learn AMOS.

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Hope this helps.

James

From: Fawad latif [mailto:kfls_83@hotmail.com]
Sent: Monday, May 28, 2012 5:33 AM
To: james.eric.gaskin@gmail.com
Subject: AMOS Model fit Issues

Dear Mr. James

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Please advise, your help would be highly regarded and appreciated

regards

fawad
Hi Joy,

You have to enable macros. Google it. The macro settings are native to your computer, so I cannot change them. The model you sent is not fantastic, but your sample size is large, so it may be difficult to obtain good fit. See Hair et al 2010 (Multivariate Data Analysis book) chapter 12 figure 4 for more info on flexible fit measure thresholds for increasing sample size. Feel free to include me in acknowledgements – I’m currently a faculty member at Brigham Young University (Utah) in the Information Systems Department. You are also welcome to cite my wiki, videos, or stats tools package as follows:

**Wiki:**


**YouTube videos:**


**Stats Tools Package:**


Best of luck.

James
Dear James,

I downloaded the Stats Tools Package from the link provided in http://statwiki.kolobkreations.com/wiki/Main_Page. However, the macro is disable in the file once opened. Therefore, I can't run the data to test the validity. Please kindly provide me the new template with macro enable.

From my study, sample size is 400.

Result obtained from AMOS data is shown as below:

p value = 0.000 (should be more than 0.005)
CMIN/DF =5.074 (should be less than 3.00)
GFI = 0.847 (should be more than 0.090)
AGFI=0.797
PGFI=0.639( should be more than 0.5)
IFI=0.926, CFI=0.926 (above 0.90)
NFI=0.896 (should be more than 0.90)
PCFI=0.781
PCLOSE=0.000
RMSEA=0.101 (should less than 0.10)

Is this model acceptable? As I did screen all variable correlations, the M.I. of the same group was small. I'm not sure about the criteria to justify above value, would you share me some guideline?

Moreover, I would like to ask your permission to state your name in acknowledgement part in my paper if you don't mind. Thanks a lot and looking forward hearing an advice from you soon.
On Tue, Jan 29, 2013 at 7:13 AM, Thipchutha Kosrapunyaapoom 
<thipchutha@gmail.com> wrote:

Dear James,

Thanks a lot, I will try on it. Your Learning tool on youtube is quite useful, I will go through it more in today time.

Regards,
Thipchutha

james.eric.gaskin@gmail.com

You can run it without the covariances between the exogenous variables, but then you might not achieve good fit. If you achieve good fit without covarying them, then no problem. But if not, then go ahead and covary them.

Hope this helps.

James

From: Thipchutha Kosrapunyaapoom [mailto:thipchutha@gmail.com]
Sent: Sunday, January 27, 2013 8:25 AM
To: james.eric.gaskin@gmail.com
Subject: AMOS questions

Dear James,

According to youtube, I learn how to run data via AMOS software from your guideline.

I tried to run data using SEM via AMOS version 21.
There is one mediating variable in my construct and I am struggling how to run data. Once I clicked calculate estimate, there is a pop up message showing as attached.

I am not sure whether I have to draw covariance or do anything more.

Customer satisfaction is acting as a mediating variable in my construct. My hypotheses are that of testing relationship between factors:

- Perceived usefulness --> Continuance intention
- Innovativeness --> Continuance intention
- Social Influences --> Continuance intention

Please kindly guide me through as I have to run and analyse data soonest for my graduate study program.

Looking forward hearing your advice, thanks.

Best regards,

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Best regards,

Joy

---

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Hope this helps.

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Looking forward hearing your advice, thanks.

Best regards,

Thipchutha
Dear James,

I really appreciate your time and effort in responding to my question. The link for the video that you sent me is a good one, however it is only test the standardized indirect effect through one mediator. I know you can use it for multiple mediators, however doing so only generate the total indirect effect but it does not tell you how much indirect effect through each mediator. Please see the link for the video below which provide the unstandardized unique indirect effect through each mediator. I am wondering if there is an option like the one provided in this video to test the unique standardized indirect effect through each single mediator when there are multiple mediators.

Thanks again and I really appreciate your time and effort in helping me in this issue. By the way the link takes around two minutes to open and they are from AMOS company


I am not familiar with the visual basic syntax, and I didn’t know AMOS could accept syntax. However, if you would like to obtain the standardized indirect effect through multiple mediators, all you need to do is run a bootstrap on the mediated model. See this video for a demonstration: 
http://www.youtube.com/watch?v=IkBeR2Z4bPA
Hope this helps.
James

From: Khaldoun Ababneh [mailto:kababneh@aud.edu]
Sent: Monday, November 19, 2012 10:48 PM
To: 'james.eric.gaskin@gmail.com'
Subject: AMOS

Dear All,

I am trying to find out the standardized indirect effect parameter values for multiple mediators. I read AMOS manual and watch your videos on AMOS website and I was only able to produce the unstandardized effect using the following visual basic syntax.

```
Dim x(3) As Double
x(0) = v.ParameterValue("A")*v.ParameterValue("B")
x(1) = v.ParameterValue("C")*v.ParameterValue("D")
x(2) = v.ParameterValue("E")*v.ParameterValue("F")
x(3) = x(0) + x(1) + x(2)
Return x
```

Can you please tell me what is the syntax that I can write to generate the standardized effect for multiple mediators.

Your time and effort is highly appreciated.
Dear Dr. Gaskin,

Hope this email finds you well. I have a question regarding the bootstrapping method in doing a mediating analysis. One of the reviewers is asking about the t-values. Do you know if AMOS (bootstrapping) provide the t-values?

Thank you for all your help!

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Friday, June 29, 2012 4:41 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

yes

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]
Sent: Friday, June 29, 2012 2:40 PM
To: James Gaskin
Subject: RE: AMOS

Thanks again! Yes that is what I meant and the other values are just correlations, correct?

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Friday, June 29, 2012 4:36 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

The square root of the AVE is on the diagonal.

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]
Sent: Friday, June 29, 2012 2:35 PM
To: James Gaskin
Subject: RE: AMOS

Thank you very much. Very helpful! Just to make sure I understand this correctly, the values after the ASV column (are they the square root of the AVE's for each construct), correct?

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Friday, June 29, 2012 4:09 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

The problem is that you have a variable called "CR". I list this as the third caveat. So, rename your CR variable to CRf or something like that.

Here is what your correlations table should look like:

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<th>CR</th>
<th>AVE</th>
<th>MSV</th>
<th>ASV</th>
<th>SSP</th>
<th>AGC</th>
<th>CRf</th>
<th>LEAN</th>
<th>POS</th>
<th>IS</th>
<th>IQ</th>
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</thead>
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<tr>
<td>SSP</td>
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<td>0.382</td>
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<tr>
<td>AGC</td>
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<td>0.714</td>
<td>0.271</td>
<td>0.082</td>
<td>0.198</td>
<td>0.845</td>
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</tr>
<tr>
<td>CRf</td>
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<td>0.603</td>
<td>0.191</td>
<td>0.072</td>
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<tr>
<td>LEAN</td>
<td>0.845</td>
<td>0.579</td>
<td>0.382</td>
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<td>0.618</td>
<td>0.410</td>
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<td>0.111</td>
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<td>0.518</td>
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<td>0.303</td>
<td>0.349</td>
<td>0.196</td>
<td>0.263</td>
<td>0.260</td>
<td>0.123</td>
<td>0.119</td>
<td>0.720</td>
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</table>

No Validity Concerns - Wahoo!

James
Hello James,

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Thanks for all your support!

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Saturday, June 23, 2012 12:43 AM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

You cannot trim it.

James

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]
Sent: Monday, June 18, 2012 11:40 AM
To: James Gaskin
Subject: RE: AMOS

Hello James,

I am currently working on the interaction effect and I have two questions (if you don’t mind helping me)

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1. Run the simple linear regression in SPSS first, then add the mediator in AMOS to test it there.
2. Or, if these are composite variables made from several observed items that were part of some latent factor, then just retain the latent structure and draw a regression arrow from one latent factor to the other. This should fix the degrees of freedom issue.

I prefer the second option.

James

You need to create a degree of freedom. The problem is that the path:variable ratio is too high. You need fewer paths. Can you remove a covariance arrow? That would be the best way to go.

I am sorry to bother you again, but for some reason I can't figure out why my model isn't running. Here what it says.

**Probability level cannot be computed**

The model has zero degrees of freedom. The model should fit the data perfectly, and the chi-square statistic should be zero. Consequently, no probability level can be assigned to the chi-square statistic. The model is untestable.
Any thoughts on this? thanks for your help!

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Thursday, June 07, 2012 3:23 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

You should never constrain the regression weight between latent variables (except when making 2nd order constructs). Not sure why it isn’t running properly. Could be any number of issues. Best of luck!

James

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]
Sent: Thursday, June 07, 2012 3:19 PM
To: James Gaskin
Subject: RE: AMOS

One more question please, when I introduce the mediator, do I need to constrain regression weight to 1? The reason I am asking because the model says Default Model Ok and there is no Chi square or degrees of freedom showing when I run it with mediator.

Thanks again!

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Thursday, June 07, 2012 3:04 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

This happens when the regression weight is constrained to equal 1. So you need to unconstrain it. To do this, go to the object properties for the regression line (right click the line and select object properties), then in the parameters tab remove the regression weight constraint. You can just leave that box empty. Then run the model again to see the results.

James

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]
Sent: Thursday, June 07, 2012 2:55 PM
To: James Gaskin
Subject: RE: AMOS

Hello James,

Hope this email finds you well. I have one questions regarding the mediating relationship. I have first tried to test the direct effect without having any mediators. When I test it, I look into the regression weights, but I don't find any values for S.E and C.R. and the P values.

I have the following answer

**Regression Weights: (Group number 1 - Default model)**

<table>
<thead>
<tr>
<th>Estimate S.E. C.R. P Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZPer &lt;--- ZAgileSC 1.000</td>
</tr>
</tbody>
</table>

Do you know why this is happening?

Thanks for your help!

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Tuesday, November 29, 2011 3:25 PM
To: Mr. Sufian Qrunfleh
Subject: RE: AMOS

This model can definitely be tested. However, it needs some clarification. Are you theorizing that external IT use moderates the mediated relationship between agile SC and SCF? Or are you theorizing that external IT use moderates the direct effect between agile SC and SCF? Also, is External IT use a continuous variable (where a higher response for the variable indicates a greater amount/strength for that variable: e.g., where a response of 1 = low external IT use and a response of 7 = high external IT use) or a categorical variable (this could be like “yes/no” or “Low/high”, or different types of IT use like “rent server space”, “outsourced services” etc..)? If categorical, this is easy to test, if continuous, it will be a bit more complex, but still doable. I’ve attached an article that discusses many different forms of moderated mediation, and an article that demonstrates it.

Here is a link to a video where I discuss moderated mediation: [http://www.youtube.com/watch?v=yMGKluHxQY](http://www.youtube.com/watch?v=yMGKluHxQY) Please forgive the
James,

Thank you very much for your prompt response. I hope that you have a safe trip to China. My question is regarding testing the moderating (interaction) and mediating at the same time. I saw your video regarding the multi-group moderating and mediating, but I believe what I am looking for is something different. I am attaching the model and I was wondering if this can be tested in AMOS? Any information would be helpful. Have a wonderful day!

Sincerely,

Sufian Qrunfleh
Assistant Professor
Kania School of Management
The University of Scranton
Office: (570) 941-7407
E-mail: qrunflehs2@scranton.edu

On 11/29/2011 2:05 PM, James Gaskin wrote:
Glad you found it useful. I hope you will also browse my wiki: http://statwiki.kolobkreations.com
Feel free to ask questions. I’ll be leaving for China in the morning and will have only occasional internet access for the next week, but I will try to answer as soon as feasible.

James

Hello James,

My name is Sufian Qrunfleh. I teach at the University of Scranton in PA. I was watching some of your videos on youtube and I was really impressed with your material (well done). I am interested to learn more about the moderating mediating relationship using AMOS.

I know that you are a very busy person, but do you mind if asked couple of questions regarding that matter. Looking forward to hearing from you.
Thank you!

--

Sincerely,

Sufian Qrunfleh
Assistant Professor
Kania School of Management
The University of Scranton
Office: (570) 941-7407
E-mail: qrunflehs2@scranton.edu
Hello Dr. Gaskin,

Hope your semester is going well. I know that I have bothered you with all my questions but I really need your help since you are an expert in AMOS. I am looking for a t-value when I do bootstrapping in mediating analysis. Do you know if AMOS provide those values. I looked but can't find any answers.

Thank you for all your support!

From: Dr. Sufian Qrunfleh
To: James Gaskin
Subject: RE: AMOS
Date: Monday, December 10, 2012 8:33:05 AM

Dear Dr. Gaskin,

Hope this email finds you well. I have a question regarding the bootstrapping method in doing a mediating analysis. One of the reviewers is asking about the t-values. Do you know if AMOS (bootstrapping) provide the t-values?

Thank you for all your help!

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Thursday, December 06, 2012 4:56 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

yes

Thanks again! Yes that is what I meant and the other values are just correlations, correct?

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Friday, June 29, 2012 4:36 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

The square root of the AVE is on the diagonal.

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]
Sent: Friday, June 29, 2012 2:35 PM
To: James Gaskin
Subject: RE: AMOS

Thank you very much. Very helpful!
Just to make sure I understand this correctly, the values after the ASV column (are they the square root of the AVE's for each construct), correct?

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Friday, June 29, 2012 4:09 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

The problem is that you have a variable called “CR”. I list this as the third caveat. So, rename your CR variable to CRf or something like that.

Here is what your correlations table should look like:

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<th></th>
<th>CR</th>
<th>AVE</th>
<th>MSV</th>
<th>ASV</th>
<th>SSP</th>
<th>AGC</th>
<th>CRf</th>
<th>LEAN</th>
<th>POS</th>
<th>IS</th>
<th>IQ</th>
<th>SCPer</th>
</tr>
</thead>
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<td>0.382</td>
<td>0.135</td>
<td>0.716</td>
<td></td>
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<tr>
<td>AGC</td>
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<td>0.714</td>
<td>0.271</td>
<td>0.082</td>
<td>0.198</td>
<td>0.845</td>
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<tr>
<td>CRf</td>
<td>0.858</td>
<td>0.603</td>
<td>0.191</td>
<td>0.072</td>
<td>0.437</td>
<td>0.125</td>
<td>0.776</td>
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<td>LEAN</td>
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<td>0.579</td>
<td>0.382</td>
<td>0.112</td>
<td>0.618</td>
<td>0.272</td>
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Sent: Wednesday, June 13, 2012 1:41 PM
To: James Gaskin
Subject: RE: AMOS

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From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Tuesday, June 12, 2012 7:10 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

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James

From: Dr. Sufian Qrunfleh (mailto:sufian.qrunfleh@scranton.edu)
Sent: Tuesday, June 12, 2012 3:09 PM
To: James Gaskin
Subject: RE: AMOS

James,

Hope this email finds you well. One minor question I have for the mediating effect and I hope that you can confirm my thoughts on it.

I checked the standardized indirect effect and I found that the estimate is .036. When I want to check the two tailed significance (BC) I found the value to be .375. This is not the p value, correct?
Because when I click on the .375, it tells me that it is significant at .001,
here is what it says

The standardized indirect (mediated) effect of Agile on Perf is significantly different from zero at the 0.001 level (p=.375 two-tailed). This is a bootstrap approximation obtained by constructing two-sided bias-corrected confidence intervals. So this means that the it is significant, correct?

Your thoughts on this would be very helpful.

Thanks again for all your help!

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Friday, June 08, 2012 7:26 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

Are the values already standardized? You only need to get standardized values if you are going to be working with interaction variables. Dissertation was successfully defended in February with no revisions requested from my committee (first time that has ever happened at Case Western Reserve University). I secured a job last November at Brigham Young University in Utah. I started that job last week.

James

From: Dr. Sufian Qrunfleh (mailto:sufian.qrunfleh@scranton.edu)
Sent: Friday, June 08, 2012 4:03 PM
To: James Gaskin
Subject: RE: AMOS
Thank you again for all your support. Never mind my last question. I think I did figure it out. Just a small comment, I noticed when I get the standardized values for the items, it does not differ that much if I just take the values (items) as it is. So I don't need to go to descriptive and get the standardized values, correct?

By the way, how is your dissertation going? may I ask ,any luck in the job market?

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Friday, June 08, 2012 2:50 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

I see nothing wrong with this model. What do you mean you can't get the answers?

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]
Sent: Friday, June 08, 2012 2:42 PM
To: James Gaskin
Subject: RE: AMOS

Sorry to keep asking you so many questions. I am hoping this is the last one.

My problem now is when I click on the output direct, indirect and total effect and When I ask it to perform a 2000 sample in bootstrapping with a BC confidence level of 95%, I can't get the answers.

I am attaching the file.
Thanks again for all your support.

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Friday, June 08, 2012 1:39 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

Oh! That is a really simple modell So what you need to do is 1 of the following:

1. Run the simple linear regression in SPSS first, then add the mediator in AMOS to test it there.

2. Or, if these are composite variables made from several observed items that were part of some latent factor, then just retain the latent structure and draw a regression arrow from one latent factor to the other. This should fix the degrees of freedom issue.

I prefer the second option.

James

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]
Sent: Friday, June 08, 2012 1:34 PM
To: James Gaskin
Subject: RE: AMOS

james,

Thanks for the email. Here is my model in the attached file

I have two constructs. I want to test the direct effect, then I want to introduce one mediator.
Can I do that for two constraints?

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Friday, June 08, 2012 1:27 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

You need to create a degree of freedom. The problem is that the path:variable ratio is too high. You need fewer paths. Can you remove a covariance arrow? That would be the best way to go.
James,

I am sorry to bother you again, but for some reason I can't figure out why my model isn't running. Here what it says.

**Probability level cannot be computed**

The model has zero degrees of freedom. The model should fit the data perfectly, and the chi-square statistic should be zero. Consequently, no probability level can be assigned to the chi-square statistic. The model is untestable.

Any thoughts on this? thanks for your help!

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Thursday, June 07, 2012 3:23 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

You should never constrain the regression weight between latent variables (except when making 2nd order constructs). Not sure why it isn’t running properly. Could be any number of issues. Best of luck!

James

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]
Sent: Thursday, June 07, 2012 3:19 PM
To: James Gaskin
Subject: RE: AMOS

One more question please, when I introduce the mediator, do I need to constrain regression weight to 1? The reason I am asking because the model says Default Model Ok and there is no Chi square or degrees of freedom showing when I run it with mediator.

Thanks again!

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Thursday, June 07, 2012 3:04 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

This happens when the regression weight is constrained to equal 1. So you need to unconstrain it. To do this, go to the object properties for the regression line (right click the line and select object properties), then in the parameters tab remove the regression weight constraint. You can just leave that box empty. Then run the model again to see the results.

James

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]
Sent: Thursday, June 07, 2012 2:55 PM
To: James Gaskin
Subject: RE: AMOS

Hello James,

Hope this email finds you well. I have one questions regarding the mediating relationship. I have first tried to test the direct effect without having any mediators. When I test it, I look into the regression weights, but I don't find any values for S.E and C.R. and the P values.

I have the following answer

**Regression Weights: (Group number 1 - Default model)**

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<tr>
<td>ZPer &lt;--- ZAgileSC</td>
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<td>1.000</td>
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Do you know why this is happening?

Thanks for your help!
This model can definitely be tested. However, it needs some clarification. Are you theorizing that external IT use moderates the mediated relationship between agile SC and SCF? Or are you theorizing that external IT use moderates the direct effect between agile SC and SCF? Also, is External IT use a continuous variable (where a higher response for the variable indicates a greater amount/strength for that variable: e.g., a response of 1 = low external IT use and a response of 7 = high external IT use) or a categorical variable (this could be like “yes/no” or “Low/high”, or different types of IT use like “rent server space”, “outsourced services” etc..)? If categorical, this is easy to test, if continuous, it will be a bit more complex, but still doable. I’ve attached an article that discusses many different forms of moderated mediation, and an article that demonstrates it.

Here is a link to a video where I discuss moderated mediation: http://www.youtube.com/watch?v=yMGkluhHxQY Please forgive the obnoxious narration...

Hope this helps.

James

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Dr. Sufian Qrunfleh
Assistant Professor
Kania School of Management
The University of Scranton
Office: (570) 941-7407
E-mail: qrunflehs2@scranton.edu

On 11/29/2011 2:05 PM, James Gaskin wrote:
Glad you found it useful. I hope you will also browse my wiki: http://statwiki.kolobkreations.com

Feel free to ask questions. I’ll be leaving for China in the morning and will have only occasional internet access for the next week, but I will try to answer as soon as feasible.

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Hello James,

My name is Sufian Qrunfleh. I teach at the University of Scranton in PA. I was watching some of your videos on youtube and I was really impressed with your material (well done). I am interested to learn more about the moderating mediating relationship using AMOS.

I know that you are a very busy person, but do you mind if asked couple of questions regarding that matter.
Looking forward to hearing from you.
Thank you!

Sincerely,

Sufian Qrunfleh
Assistant Professor
Kania School of Management
The University of Scranton
James,

Thanks very much for all your help! I truly appreciate you getting back to me with your busy schedule. Have a wonderful day!

James Gaskin, [james.eric.gaskin@gmail.com]
Sent: Monday, December 10, 2012 12:34 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

Hi Sufian,

I’ve been traveling and speaking for the last few days. I just got home this morning. The t-statistic is not automatically created for the indirect effects, but you can calculate it. It is simply the estimate divided by the standard error. So here is an example using the two tables below. The standardized indirect effect of Autonomy (aut) on Burnout is -0.019, with a standard error of 0.041. This means the t-statistic is -0.019/0.041=0.43. This is less than 1.96, so it is not significant. Whereas, the standardized indirect effect of customer rejection (cr) on Burnout is 0.236 with a standard error of 0.043. T-statistic is significant because 0.236/0.043=5.49. Hope this helps.

James

<table>
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<th></th>
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<td>0.000</td>
</tr>
</tbody>
</table>

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]
Sent: Monday, December 10, 2012 8:32 AM
To: James Gaskin
Subject: RE: AMOS

Hello Dr. Gaskin,

I know that I have bothered you with all my questions but I really need your help since you are an expert in AMOS. I am looking for a t-value when I do bootstrapping in mediating analysis. Do you know if AMOS provide those values. I looked but can’t find any answers.

Thank you for all your support!

From: Dr. Sufian Qrunfleh
Sent: Thursday, December 06, 2012 4:56 PM
To: James Gaskin
Subject: RE: AMOS

Dear Dr. Gaskin,

Hope this email finds you well. I have a question regarding the bootstrapping method in doing a mediating analysis. One of the reviewers is asking about the t-values. Do you know if AMOS (bootstrapping) provide the t-values?

Thank you for all your help!

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Friday, June 29, 2012 4:41 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS
Thanks again! Yes that is what I meant and the other values are just correlations, correct?

From: James Gaskin [james.eric.gaskin@gmail.com]  
Sent: Friday, June 29, 2012 4:36 PM  
To: Dr. Sufian Qrunfleh  
Subject: RE: AMOS

The square root of the AVE is on the diagonal.

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]  
Sent: Friday, June 29, 2012 2:35 PM  
To: James Gaskin  
Subject: RE: AMOS

Thank you very much. Very helpful!  
Just to make sure I understand this correctly, the values after the ASV column (are they the square root of the AVE’s for each construct), correct?

From: James Gaskin [james.eric.gaskin@gmail.com]  
Sent: Friday, June 29, 2012 4:09 PM  
To: Dr. Sufian Qrunfleh  
Subject: RE: AMOS

The problem is that you have a variable called “CR”. I list this as the third caveat. So, rename your CR variable to CRf or something like that.

Here is what your correlations table should look like:

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<th></th>
<th>CR</th>
<th>AVE</th>
<th>MSV</th>
<th>ASV</th>
<th>SSP</th>
<th>AGC</th>
<th>CRf</th>
<th>LEAN</th>
<th>POS</th>
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<tr>
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<td>0.410</td>
<td>0.761</td>
<td></td>
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<td>0.271</td>
<td>0.058</td>
<td>-0.035</td>
<td>0.521</td>
<td>0.004</td>
<td>0.150</td>
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<tr>
<td>IS</td>
<td>0.899</td>
<td>0.816</td>
<td>0.230</td>
<td>0.068</td>
<td>0.330</td>
<td>0.195</td>
<td>0.130</td>
<td>0.211</td>
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<tr>
<td>IQ</td>
<td>0.963</td>
<td>0.839</td>
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<td>0.073</td>
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<td>0.123</td>
<td>0.119</td>
<td>0.720</td>
</tr>
</tbody>
</table>

No Validity Concerns - Wahoo!

James

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]  
Sent: Friday, June 29, 2012 1:37 PM  
To: James Gaskin  
Subject: RE: AMOS

Hello James,  
Hope this email finds you well.  
I was using the validity master worksheet (tab) in your stat tool package to test for the validity. I followed the two steps carefully and copies the correlations and the standardized regression weight and I noticed that there are some missing values in the results although it did say that there are no validity issues. Is this okay (normal)? I am attaching the excel sheet.  
Thanks for all your support!

From: James Gaskin [james.eric.gaskin@gmail.com]  
Sent: Saturday, June 23, 2012 12:43 AM  
To: Dr. Sufian Qrunfleh  
Subject: RE: AMOS
You cannot trim it.

James

---

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]
Sent: Monday, June 18, 2012 11:40 AM
To: James Gaskin
Subject: RE: AMOS

Hello James,

I am currently working on the interaction effect and I have two questions (if you don't mind helping me)

1. I have a simple model with one depended and one independent and I want to test the interaction effect of another construct.
The results of the model (model fit) is as follows:
The direct effect of independent variable on dependent variable (performance) is significant
The interaction effect on dependent is also significant
The effect of the moderator on the dependent variable is not significant.

My question is, can I (or do I) need to trim this direct effect of the moderator on the performance, and then run it again?

If I do trim it, then how can I get the unstandardized estimate and use the value in your excel sheet to find which type of interaction it is?

I will leave the second question later since it depend on you answer for the first question

Thanks for all your help. Your videos are very helpful and I am learning a lot.

---

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Wednesday, June 13, 2012 6:14 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

From a procedural logic perspective (or a programmer’s perspective) mediation would look like this:

- **Mediation**
  - For each IV
    - For each mediator
      - Remove IV -> Mediator paths not being tested
      - Get bootstrapped standardized indirect effects (and direct effect for implied partial mediation)
        - from this IV to each DV
      - Repeat for each mediator
    - Repeat for each IV
  - End Mediation

---

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]
Sent: Wednesday, June 13, 2012 1:41 PM
To: James Gaskin
Subject: RE: AMOS

I am glad that I asked you. I was really getting confused! So they are the P values.
Thanks again for all your support and help in this matter.

Again with my questions, lets say I want to test for 5 mediators on the relationship between two constructs. Do I have to test each mediator in a separate model, or should I have the 5 mediators in one model and run it? will it make a difference?

---

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Tuesday, June 12, 2012 7:10 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

Wow! That is interesting. I’ve never actually looked at what it says when I click on the value because mine crashes when I do that. This must be an error on the developer’s part though because those are definitely p-values. So sadly the p-value of 0.375 is not significant. I will
From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]
Sent: Tuesday, June 12, 2012 3:09 PM
To: James Gaskin
Subject: RE: AMOS

James,

Hope this email finds you well. One minor question I have for the mediating effect and I hope that you can confirm my thoughts on it.

I checked the standardized indirect effect and I found that the estimate is .036. When I want to check the two tailed significance (BC) I found the value to be .375. This is not the p value, correct? Because when I click on the .375, it tells me that it is significant at .001,

here is what it says

The standardized indirect (mediated) effect of Agile on Perf is significantly different from zero at the 0.001 level (p=.375 two-tailed). This is a bootstrap approximation obtained by constructing two-sided bias-corrected confidence intervals. So this means that the it is significant, correct?

Your thoughts on this would be very helpful.

Thanks again for all your help!

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Friday, June 08, 2012 7:26 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

Are the values already standardized? You only need to get standardized values if you are going to be working with interaction variables. Dissertation was successfully defended in February with no revisions requested from my committee (first time that has ever happened at Case Western Reserve University). I secured a job last November at Brigham Young University in Utah. I started that job last week.

James

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]
Sent: Friday, June 08, 2012 4:03 PM
To: James Gaskin
Subject: RE: AMOS

Thank you again for all your support. Never mind my last question. I think I did figure it out. Just a small comment, I noticed when I get the standardized values for the items, it does not differ that much if I just take the values (items) as it is. So I don't need to go to descriptive and get the standardized values, correct?

By the way, how is your dissertation going? may I ask, any luck in the job market?

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Friday, June 08, 2012 2:50 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

I see nothing wrong with this model. What do you mean you can't get the answers?

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]
Sent: Friday, June 08, 2012 2:42 PM
To: James Gaskin
Subject: RE: AMOS

Sorry to keep asking you so many questions. I am hoping this is the last one.

My problem now is when I click on the output direct, indirect and total effect and When I ask it to perform a 2000 sample in bootstrapping with a BC confidence level of 95%, I can't get the answers.

I am attaching the file. Thanks again for all your support.
Oh! That is a really simple model! So what you need to do is 1 of the following:

1. Run the simple linear regression in SPSS first, then add the mediator in AMOS to test it there.
2. Or, if these are composite variables made from several observed items that were part of some latent factor, then just retain the latent structure and draw a regression arrow from one latent factor to the other. This should fix the degrees of freedom issue.

I prefer the second option.

James

James,

Thanks for the email. Here is my model in the attached file

I have two constructs. I want to test the direct effect, then I want to introduce one mediator. Can I do that for two constraints?

You need to create a degree of freedom. The problem is that the path:variable ratio is too high. You need fewer paths. Can you remove a covariance arrow? That would be the best way to go.

James,

I am sorry to bother you again, but for some reason I can’t figure out why my model isn’t running. Here what it says.

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You should never constrain the regression weight between latent variables (except when making 2nd order constructs). Not sure why it isn’t running properly. Could be any number of issues. Best of luck!

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Thanks again!

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Thursday, June 07, 2012 3:04 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

This happens when the regression weight is constrained to equal 1. So you need to unconstrain it. To do this, go to the object properties for the regression line (right click the line and select object properties), then in the parameters tab remove the regression weight constraint. You can just leave that box empty. Then run the model again to see the results.

James

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]
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Do you know why this is happening?

Thanks for your help!

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Tuesday, November 29, 2011 3:25 PM
To: Mr. Sufian Qrunfleh
Subject: RE: AMOS

This model can definitely be tested. However, it needs some clarification. Are you theorizing that external IT use moderates the mediated relationship between agile SC and SCF? Or are you theorizing that external IT use moderates the direct effect between agile SC and SCF? Also, is External IT use a continuous variable (where a higher response for the variable indicates a greater amount/strength for that variable: e.g., where a response of 1 = low external IT use and a response of 7 = high external IT use) or a categorical variable (this could be like "yes/no" or "Low/high", or different types of IT use like "rent server space", "outsourced services" etc..)? If categorical, this is easy to test, if continuous, it will be a bit more complex, but still doable. I've attached an article that discusses many different forms of moderated mediation, and an article that demonstrates it.

Here is a link to a video where I discuss moderated mediation: http://www.youtube.com/watch?v=MgluhHxQY Please forgive the obnoxious narration...

Hope this helps.

James

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]
Sent: Tuesday, November 29, 2011 2:38 PM
To: James Gaskin
Subject: Re: AMOS

James,

Thank you very much for your prompt response. I hope that you have a safe trip to China.
My question is regarding testing the moderating (interaction) and mediating at the same time. I saw your video regarding the multi-group moderating and mediating, but I believe what I am looking for is something different. I am attaching the model and I was wondering if this can be tested in AMOS? Any information would be helpful.

Have a wonderful day!
On 11/29/2011 2:05 PM, James Gaskin wrote:
Glad you found it useful. I hope you will also browse my wiki: http://statwiki.kolobkreations.com
Feel free to ask questions. I’ll be leaving for China in the morning and will have only occasional internet access for the next week, but I will try to answer as soon as feasible.

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From: Dr. Sufian Qrunfleh [mailto:qrunflehs2@scranton.edu]
Sent: Tuesday, November 29, 2011 1:56 PM
To: james.eric.gaskin@gmail.com
Subject: AMOS

Hello James,

My name is Sufian Qrunfleh. I teach at the University of Scranton in PA. I was watching some of your videos on youtube and I was really impressed with your material (well done). I am interested to learn more about the moderating mediating relationship using AMOS.

I know that you are a very busy person, but do you mind if asked couple of questions regarding that matter. Looking forward to hearing from you.
Thank you!
--

Sincerely,

Sufian Qrunfleh
Assistant Professor
Kania School of Management
The University of Scranton
Office: (570) 941-7407
E-mail: qrunflehs2@scranton.edu
Thanks again!

For the second option, Do I need to have the z value (standardized value for each factor)?

---

Oh! That is a really simple model! So what you need to do is 1 of the following:

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The model has zero degrees of freedom. The model should fit the data perfectly, and the chi-square statistic should be zero. Consequently, no probability level can be assigned to the chi-square statistic. The model is untestable.

Any thoughts on this? thanks for your help!

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Thursday, June 07, 2012 3:23 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

You should never constrain the regression weight between latent variables (except when making 2nd order constructs). Not sure why it isn’t running properly. Could be any number of issues. Best of luck!

James

---

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]
Sent: Thursday, June 07, 2012 3:19 PM
To: James Gaskin
Subject: RE: AMOS

One more question please, when I introduce the mediator, do I need to constrain regression weight to 1? The reason I am asking because the model says Default Model Ok and there is no Chi square or degrees of freedom showing when I run it with mediator. Thanks again!

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Thursday, June 07, 2012 3:04 PM
To: Dr. Sufian Qrunfleh
Subject: RE: AMOS

This happens when the regression weight is constrained to equal 1. So you need to unconstrain it. To do this, go to the object properties for the regression line (right click the line and select object properties), then in the parameters tab remove the regression weight constraint. You can just leave that box empty. Then run the model again to see the results.

James
Hello James,

I hope this email finds you well. I have one questions regarding the mediating relationship. I have first tried to test the direct effect without having any mediators. When I test it, I look into the regression weights, but I don't find any values for S.E and C.R. and the P values.

I have the following answer

**Regression Weights: (Group number 1 - Default model)**

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<tr>
<th>Estimate S.E. C.R. P Label</th>
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<tbody>
<tr>
<td>ZPer &lt;-- ZAgileSC</td>
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<tr>
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Do you know why this is happening?

Thanks for your help!

James

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Here is a link to a video where I discuss moderated mediation: [http://www.youtube.com/watch?v=yMGkIuhHxQY](http://www.youtube.com/watch?v=yMGkIuhHxQY) Please forgive the obnoxious narration...

Hope this helps.

James

Thank you very much for your prompt response. I hope that you have a safe trip to China. My question is regarding testing the moderating (interaction) and mediating at the same time. I
saw your video regarding the multi-group moderating and mediating, but I believe what I am looking for is something different. I am attaching the model and I was wondering if this can be tested in AMOS? Any information would be helpful.
Have a wonderful day!

Sincerely,

Sufian Qrunfleh

Assistant Professor
Kania School of Management
The University of Scranton
Office: (570) 941-7407
E-mail: qrunflehs2@scranton.edu

On 11/29/2011 2:05 PM, James Gaskin wrote:
Glad you found it useful. I hope you will also browse my wiki: http://statwiki.kolobkreations.com
Feel free to ask questions. I’ll be leaving for China in the morning and will have only occasional internet access for the next week, but I will try to answer as soon as feasible.
James

From: Dr. Sufian Qrunfleh [mailto:qrunflehs2@scranton.edu]
Sent: Tuesday, November 29, 2011 1:56 PM
To: james.eric.gaskin@gmail.com
Subject: AMOS

Hello James,

My name is Sufian Qrunfleh. I teach at the University of Scranton in PA. I was watching some of your videos on youtube and I was really impressed with your material (well done). I am interested to learn more about the moderating mediating relationship using AMOS.

I know that you are a very busy person, but do you mind if asked couple of questions regarding that matter.
Looking forward to hearing from you.
Thank you!

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Assistant Professor
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The University of Scranton
Office: (570) 941-7407
E-mail: qrunflehs2@scranton.edu
Thanks again!

For the second option, Do I need to have the z value (standardized value for each factor)?

Oh! That is a really simple model! So what you need to do is 1 of the following:

1. Run the simple linear regression in SPSS first, then add the mediator in AMOS to test it there.

2. Or, if these are composite variables made from several observed items that were part of some latent factor, then just retain the latent structure and draw a regression arrow from one latent factor to the other. This should fix the degrees of freedom issue.

I prefer the second option.

James

Thanks for the email. Here is my model in the attached file

I have two constructs. I want to test the direct effect, then I want to introduce one mediator. Can I do that for two constraints?

You need to create a degree of freedom. The problem is that the path:variable ratio is too high. You need fewer paths. Can you remove a covariance arrow? That would be the best way to go.
James,

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The model has zero degrees of freedom. The model should fit the data perfectly, and the chi-square statistic should be zero. Consequently, no probability level can be assigned to the chi-square statistic. The model is untestable.

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Do you know why this is happening?
Thanks for your help!

From: James Gaskin [james.eric.gaskin@gmail.com]  
Sent: Tuesday, November 29, 2011 3:25 PM  
To: Mr. Sufian Qrunfleh  
Subject: RE: AMOS

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Hope this helps.

James

From: Dr. Sufian Qrunfleh [mailto:sufian.qrunfleh@scranton.edu]  
Sent: Tuesday, November 29, 2011 2:38 PM  
To: James Gaskin  
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Sufian Qrunfleh

Assistant Professor
Kania School of Management
The University of Scranton
Office: (570) 941-7407
E-mail: qrunflehs2@scranton.edu
Dear James,

Sorry to ask you, please ignore my questions. I found the answer and try to adjust my model to fit better. Thanks.

Regards,

Joy

On Thu, Feb 7, 2013 at 10:54 PM, Thipchutha Kosrapunyaapoom <thipchutha@gmail.com> wrote:

Dear James,

I have run data via SEM in AMOS and looking at variance-covariance matrix in order to identify which one causing high variance in my model. MI doesn't show me any indication to cut off variable since it's in cross-variable.

My question is how can i identify what par_5 means which pair variable? From my perspective, the model will be improved once the variance is reduced. Not sure whether it's related or not.

Attached file is for your reference.

Looking forward hearing for your kind advice. Thanks a lot.

Regards,

Joy
plzzz help on this query

On Fri, Mar 15, 2013 at 10:22 AM, Puja Sareen <puja.sareen@aitgurgaon.org> wrote:
again: can anova be used for comparing only 2 groups and tuckey test also for 2 groups

On Fri, Mar 15, 2013 at 9:44 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Post hoc tukey’s test on an ANOVA can compare multiple groups. ANOVA can also compare multiple groups, but you cannot determine the difference between each pair without the Tukey’s or other type of post-hoc test.

even 2 groups can be compared by anova? Again asking u the question as my guide says anova can be done only if we have more than 2 groups...........

On Thu, Mar 14, 2013 at 8:49 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:
You can use ANOVA to compare multiple groups. To see all pairwise comparisons, do a post-hoc Tukey’s test.

James

Can I use anova to compare only two groups1. indian and 2. mnc
for all the factors and their variables?

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Sr. Lecturer

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Thanks a ton

On Sat, Mar 16, 2013 at 12:17 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

They can both also be used for only two groups as well.

From: Puja Sareen [mailto:puja.sareen@aitgurgaon.org]
Sent: Thursday, March 14, 2013 11:14 PM
To: James Gaskin
Subject: Re: anova

plzzz help on this query

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Yeah, I have watched the video you mentioned, and the method used in the video is specific for Amos.
Is there an equivalent method to determine whether there is a significant difference between two path coefficients calculated by PLS?
Thanks a lot.

Ling

On Thu, Mar 22, 2012 at 11:06 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

> It would be better to use a critical ratio test. See my video on “multi-group moderation in amos made easy”

James

---

Thanks for your explanation.

If I want to compare the difference between two path coefficients based on the same sample, can I use this formula by treating n1 and n2 the same?

On Thu, Mar 22, 2012 at 10:47 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

> According to Keil et al 2000, the ‘n’ in the formula refers to the size of the subsample (so, the size of the group). See pictures below for reference and quote.

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Dear James,

I have a follow-up question for the multi-group analysis by using t-test in Excel. According to your video, you enter the sample size of subgroup (i.e., female and male) in the cells of sample size for each group, which are highlighted as follows. And the standard errors are obtained from the bootstrapping results. If you use the standard error of bootstrapping, however, it seems that the sample size here must be the number of samples generated during bootstrapping, rather than the number of cases which you use here. In other words, sample size here refers to the number of regression weight calculated by bootstrapping, instead of the number of cases in each group.

Of course, I'm not quite sure whether my understanding is correct. Could you please give me some clarifications?

Best Regards,

Ling
Regression Weight | -0.213 | -0.584
Standard Error (S.E.) | 0.1 | 0.104
t-statistic | 2.557 |
p-value (2-tailed) | 0.011

On Fri, Mar 2, 2012 at 8:59 AM, Ling Jiang <jiang.ling010@gmail.com> wrote:

Yeah, I find it. Awesome!

Thanks very much for your sharing. They're really powerful stats tools to assist data analysis :)

Best Regards,

Ling

On Thu, Mar 1, 2012 at 10:53 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Oh, yes! Haha, that particular formula is ridiculously complicated! The excel tool I made is available on my wiki: http://statwiki.kolobkreations.com.

It’s on the homepage. It’s called the Stats Tools Package. In the excel tool there are two tabs that you can use for this. You can use the bottom of the “X2 Threshold” tab (2nd tab) for differences between groups on a single path. Or, you can use the “Unrefined Group Differences” tab (last tab) to test all paths simultaneously (mega time saver if you can figure it out).

Enjoy!

James

From: Ling Jiang [mailto:jiang.ling010@gmail.com]
Sent: Thursday, March 01, 2012 2:46 AM
To: james.eric.gaskin@gmail.com
Subject: Ask help for multi-group analysis by using t-test in Excel

Dear James,

I'm a phd student in IS, and am learning how to use PLS to do SEM analysis. Recently, I find your tutorial videos in YouTube, and they're pretty useful. Meanwhile, I'm also have difficulty in following some steps in the tutorial of "PLS Multigroup Moderation" (http://www.youtube.com/watch?v=ksTmE__qzyg). I can
understand the steps in PLS. When it comes to the Excel, however, I'm confused with how to use Excel to calculate t-value and p-value for the difference analysis between two groups. It seems that you have predefined some formulas for the t-test in Excel. Could you please provide the details for the template of t-test in Excel?

Thanks a lot!

Best Regards,

Ling

--

Ling JIANG
Office: 3442 5828
Postgraduate Student
Department of Information Systems
City University of Hong Kong

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Hi James,

Would you be able to Skype tomorrow around 10am ET?

Pratsani

On 11/7/2011 11:21 PM, James Gaskin wrote:

Looks like you have some rotten data... We'll have to find a way to make it work. You might have to trim some of the variables. Model fit isn't everything. My main concern is that the variables don't correlate very well (see the total variance extracted table). That should be above .5 at a minimum (for social science... not sure for medical science).

James

Thanks again, James. I really appreciate you taking the time to talk with me about this while you're so busy.
You advice is really helpful. I will follow it and see how it works. I will e-mail you from time to time and I might skype with you on Wednesday if our timing is OK.

Please let me give you more details about what I've done so far.
My initial model, which I didn't send it to you at first, does not have covariance between error terms at all and its fit indices were not good. So, I found out that its fit indices are better when I conveyed error terms together.
For Know and SCA, it made the fit indices even worse when I tried to delete either sca2know or know2sca. I also tried to follow your video in detecting the common method bias, too (please see attached files).
I got rid of marital status too, but the fit indices got worse then, so I decided to keep it.

Have a good evening with your family.

Pratsani
On 11/7/2011 4:38 PM, 24571 wrote:
Hi Pratsani,
I've added you to my skype contacts. I have to go meet my family right now, and then
I'm out of town all day tomorrow and then have another meeting when I return in the
evening... so, I can skype with you on Wednesday. In the meantime, I will try to
answer your emails. Sorry about the bad timing. As for the model you sent me, it is
probably having problems because you are covarying error terms from different
factors. This is generally a bad idea. I realize it improves fit, but it also causes some
estimation problems. I would start there. Remove covariance arrows between errors
from different factors (but you can retain the ones that are between errors of the
same factor). For more info on this, see my wiki:
http://statwiki.kolobkreations.com/wiki/Confirmatory_Factor_Analysis#Model_Fit
Additionally, your model is definitely nonrecursive because Know and SCA point at
each other. Also, Marital status is not regressing on anything, so you can remove it
(but I would do that after you fix everything else). This should be enough to keep you
going for now! :) 
James

From: Pratsani Srikan [mailto:psrikan@utk.edu]
Sent: Monday, November 07, 2011 4:14 PM
To: James Gaskin
Subject: Re: Assistance with AMOS

If it would be more convenient for you, I can send you a .JPG screenshot of the model
instead.
Also, my name on Skype is choppedgarlic so you know which one is me.

Pratsani

On 11/7/2011 4:00 PM, James Gaskin wrote:
If you use skype, we can skype about it and I can see your screen as you show me the
model. My skypename is james.gaskin from Euclid, OH
James

From: Pratsani Srikan [mailto:psrikan@utk.edu]
Sent: Monday, November 07, 2011 3:54 PM
To: James Gaskin
Subject: Re: Assistance with AMOS

Thanks for your quick response, James. I really appreciate your advice and help.
My model is quite complex, so it's a little difficult for me to tell where the issue might
be at. If you don't mind, I would like to share my model with you and see what you
think.
Please let me know if you would be willing to take a look at it.

Pratsani

On 11/7/2011 3:17 PM, James Gaskin wrote:
My guess is that you have a nonrecursive model. This means that you can start at one variable, and, by following single-headed arrows, find your way back to that variable. See the picture below for an example. I can start from fPU, and end up back at fPU. This is an unstable model. Is that the problem with your model? If not, then you might have some erroneous constraints, or a really poor fitting model. Here is an example and explanation of negative r-squares: [http://www.graphpad.com/faq/viewfaq.cfm?faq=711](http://www.graphpad.com/faq/viewfaq.cfm?faq=711).
Hope this helps!
James

-----Original Message-----
From: Pratsani Srikan [mailto:psrikan@utk.edu]
Sent: Monday, November 07, 2011 1:52 PM
To: james.eric.gaskin@gmail.com
Subject: Assistance with AMOS

Hi James,
I found your awesome videos on YouTube related to AMOS and SEM, which I have been working with for my dissertation.
I have been stuck for weeks with my model in studying some factors related to salt reduction behavior and urinary sodium excretion.
The current stability index of the model is 11.33 and the Squared Multiple Correlations were found to have negative values.
Do you have any suggestions for me to fix the model?

I am looking forward to hearing from you. Please let me know if you need more information.
Thanks for your time.

Pratsani Srikan
PhD Candidate
College of Nursing
The University of Tennessee at Knoxville
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From: Pratsani Srikan [mailto:psrikan@utk.edu]
Sent: Monday, November 07, 2011 3:54 PM
To: James Gaskin
Subject: Re: Assistance with AMOS

Thanks for your quick response, James. I really appreciate your advice and help. My model is quite complex, so it's a little difficult for me to tell where the issue might be at. If you don't mind, I would like to share my model with you and see what you think.

Please let me know if you would be willing to take a look at it.

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Hope this helps!
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Thanks for your time.

Pratsani Srikan
PhD Candidate
College of Nursing
The University of Tennessee at Knoxville
Thanks James and have a good day.

Pratsani

On 1/24/2012 1:50 PM, James Gaskin wrote:

It is very unlikely that an R-squared will equal 1.0. This would mean that you are explaining 100% of the variance in that variable. This is usually only achieved when the variable is made up of the things that are predicting it.

James

On 2:59 PM, James Gaskin wrote:

Looks like you have some rotten data... We'll have to find a way to make it work. You might have to trim some of the variables. Model fit isn't everything. My main concern is that the variables don't correlate very well (see the total variance extracted table). That should be above .5 at a minimum (for social science... not sure for medical science).

James
To: James Gaskin  
Subject: Re: Assistance with AMOS

Thanks again, James. I really appreciate you taking the time to talk with me about this while you’re so busy.  
You advice is really helpful. I will follow it and see how it works. I will e-mail you from time to time and I might skype with you on Wednesday if our timing is OK.  

Please let me give you more details about what I've done so far.  
My initial model, which I didn't send it to you at first, does not have covariance between error terms at all and its fit indices were not good. So, I found out that its fit indices are better when I conveyed error terms together.  
For Know and SCA, it made the fit indices even worse when I tried to delete either sca2know or know2sca. I also tried to follow your video in detecting the common method bias, too (please see attached files).  
I got rid of marital status too, but the fit indices got worse then, so I decided to keep it.  

Have a good evening with your family.  
Pratsani

On 11/7/2011 4:38 PM, 24571 wrote:  
Hi Pratsani,  
I’ve added you to my skype contacts. I have to go meet my family right now, and then I’m out of town all day tomorrow and then have another meeting when I return in the evening… so, I can skype with you on Wednesday. In the meantime, I will try to answer your emails. Sorry about the bad timing. As for the model you sent me, it is probably having problems because you are covarying error terms from different factors. This is generally a bad idea. I realize it improves fit, but it also causes some estimation problems. I would start there. Remove covariance arrows between errors from different factors (but you can retain the ones that are between errors of the same factor). For more info on this, see my wiki:  
http://statwiki.kolobkreations.com/wiki/Confirmatory_Factor_Analysis#Model_Fit  
Additionally, your model is definitely nonrecursive because Know and SCA point at each other. Also, Marital status is not regressing on anything, so you can remove it (but I would do that after you fix everything else). This should be enough to keep you going for now! :)  
James

From: Pratsani Srikan [mailto:psrikan@utk.edu]  
Sent: Monday, November 07, 2011 4:14 PM  
To: James Gaskin  
Subject: Re: Assistance with AMOS

If it would be more convenient for you, I can send you a .JPG screenshot of the model instead.  
Also, my name on Skype is choppedgarlic so you know which one is me.  
Pratsani
On 11/7/2011 4:00 PM, James Gaskin wrote:
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I’m prepping for a CFA class, and I was reading on the Statwiki.

http://statwiki.kolobkreations.com/wiki/Confirmatory_Factor_Analysis

In the link above you call CR Composite Reliability - but in Hair (p. 687) this is referred to as Construct Reliability. Are these the same or are you referring to something different from Hair?

Also, I cannot find ASV and MSV in Hair. Are they from Fornell & Larcker (1981) possibly?


On Monday, February 25, 2013 at 5:46 PM, Aron Lindberg wrote:

Thanks, hope the surgery went well and that you are healthy. I'll get back to you in a few days - no urgency here.

--

Aron Lindberg

Doctoral Candidate, Information Systems
Weatherhead School of Management, Case Western Reserve University
Sent with Sparrow

On Monday, February 25, 2013 at 5:41 PM, James Gaskin wrote:

Hair doesn’t explicitly discuss MSV and ASV, although it does mention them indirectly. I can’t remember a good reference for them at the moment (I just got out of surgery yesterday and am fairly sedated…). Yes, I think CR and CR are the same, but I don’t have the mental stamina to pursue it at the moment. Just writing this email took a good five minutes… Sorry to be unhelpful this time around. Let me know in a couple days if you need better answers.

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Best,
Aron


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Aron Lindberg

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James,

Good to know you are feeling better!

I understand CR in itself, and why AVE for each construct should be higher than the shared variance between constructs. What I don't understand is the difference between MSV and ASV and how CR relates to AVE?

Best,
Aron

--
Aron Lindberg
Doctoral Candidate, Information Systems
Weatherhead School of Management, Case Western Reserve University
Sent with Sparrow

On Thursday, February 28, 2013 at 2:03 PM, James Gaskin wrote:

Hi Aron,
I’m feeling much better. I’m off my pain meds for the first time today. It hurts, but at least my head is clear. I got the ASV MSV thing from a spreadsheet I used to make the validity checker on my stats tools package. I don’t know where it came from to be honest. I bet Toni Somers would have a better idea. The concepts make sense though, even if they are not from a specific piece of literature. Shared variance should be less than local variance (factor loadings). As for CR and CR: construct reliability can refer to a lot of things.
Composite reliability is a form of construct reliability.
James

From: Aron Lindberg [mailto:aron.lindberg@case.edu]
Sent: Thursday, February 28, 2013 11:20 AM
To: James Gaskin
Subject: Re: ASV, MSV etc.

Hey James,

Hope you are feeling better. If you feel up for it, here are my questions again:

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To: James Gaskin
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Hi James
I am so sorry to hassle a complete stranger, but given you have been so immensely helpful, I thought I'd give it a go.
A reviewer asks me to perform a EFA/CFA and demonstrate discriminant validity of two formative constructs. I did the regular EFA and CFA as I would do for reflective constructs and that is largely ok, but I am at a total loss as to how to perform the CFA for formative constructs.
Do you happen to have any top tips?? I'd be forever indebted 😊

Thanks ever so much!
tina

From: James Gaskin [mailto:james.eric.gaskin@gmail.com]
Sent: 11 December 2012 17:53
To: Kiefer, Tina
Subject: RE: AVE with two latent variables

yes

From: Kiefer, Tina [mailto:Tina.Kiefer@wbs.ac.uk]
Sent: Tuesday, December 11, 2012 10:41 AM
To: James Gaskin
Subject: RE: AVE with two latent variables

Thanks so much for swift response. Do I use it in the exact same way to calculate AVE?
tina

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 11 December 2012 17:37
To: Kiefer, Tina
Subject: RE: AVE with two latent variables

Yes. See attached. Hope this helps. I am currently working on fixing the new stats tool to handle just two latent factors.
James

From: Kiefer, Tina [mailto:Tina.Kiefer@wbs.ac.uk]
Sent: Tuesday, December 11, 2012 9:23 AM
To: James.gaskin@byu.edu
Subject: AVE with two latent variables

Hi there
I found your statswiki and in particular your xls to help calculate discriminant and convergent validity absolutely brilliant. Thanks so much for that.
I got a model with two latent factors, though and in your comments on the youtube video you say you got an old stats tool package and video that works for two variables. Would it be possible to use
that?
Many thanks!
Tina

-----------------------
Dr Tina Kiefer
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Warwick Business School
University of Warwick
Coventry
CV4 7AL
UK

Tel:  +44 (0)24 7652 2308
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http://www.wbs.ac.uk/faculty/members/Tina/Kiefer
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UK

Tel: +44 (0)24 7652 2308
Fax: +44 (0)24 7652 4410

http://www.wbs.ac.uk/faculty/members/Tina/Kiefer
hehe ...

I have already done EXACTLY that, but my supervisor told me to write “how” I have modified the model using the M.I ... and that’s why I need something to base my work on.

Regards  
Mo

You shouldn’t need to write up your “addressing issues in the modification indices where the indices are greater than 4”. That is too much detail, even for a dissertation. I recommend simply citing the model fit thresholds (CFI, cmin/df, RMSEA, etc.) that you should meet, and then saying that you fit the model sufficiently to achieve good fit. Whether there remain several modification indices above 4 or none, that should not be any concern of the reader. The reader just needs to know that you achieved good fit.

Hope this helps,
James

I couldn’t agree more with your saying ...... but I wonder if you can cite your statement with any good reference, that’s because I have to write in my dissertation how I have modified my model. And explaining it without proper references would put me in a bad situation. I have been searching for some references that would suggest or use values other than 4, or any reference that explains the situations in which we are allowed to break the rule of 4 ... but sadly without luck ...

I would really appreciate it if you can be kind enough and help me with this ...

Best regards
Mo

If you are looking for a strict statistical cutoff, you are correct with those numbers. However, in
excessively complex models (involving more than about 20 variables) it is fairly difficult to ever remove all modification indices greater than 4.0, and you don’t really need to in order to achieve good fit. My experience is that if you can address modification indices above 10 then you will achieve the necessary CFI and cmin/df. So I usually set my threshold at 10. Hope this helps. :)

Statistics is a lot more subjective than statisticians like to admit.

James

From: mhdamro@googlemail.com
Sent: Monday, July 30, 2012 3:53 AM
To: James Gaskin
Subject: CFA model modification using M.I

Dear James ....

I have been following your much thankful contribution via the statwiki portal and your youtube videos were of great help for me...

I just wanted to note something regarding modifying the model using modification indices...

in your video  http://www.youtube.com/watch?v=JkZGWUUidl-g (and statwiki) it seems that you don’t provide a cutoff value for the M.I .... I think that anything equal or larger “3.84”should be dropped for the M.I and the cut-off value for the residual covariations used is (|2.58| or greater) .... it seems that almost all of your M.I in the video are above this point ...

I wonder if you can elaborate on that .... thanx

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From: mhdamro@googlemail.com
To: James Gaskin
Subject: Re: CFA model modification using M.I
Date: Monday, July 30, 2012 10:33:10 AM

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Mo
hehe ...

I have already done EXACTLY that, but my supervisor told me to write “how” I have modified the model using the M.I ... and that’s why I need something to base my work on.

Regards
Mo

You shouldn’t need to write up your “addressing issues in the modification indices where the indices are greater than 4”. That is too much detail, even for a dissertation. I recommend simply citing the model fit thresholds (CFI, cmin/df, RMSEA, etc.) that you should meet, and then saying that you fit the model sufficiently to achieve good fit. Whether there remain several modification indices above 4 or none, that should not be any concern of the reader. The reader just needs to know that you achieved good fit.

Hope this helps,
James

I couldn’t agree more with your saying ...... but I wonder if you can cite your statement with any good reference, that’s because I have to write in my dissertation how I have modified my model. And explaining it without proper references would put me in a bad situation. I have been searching for some references that would suggest or use values other than 4, or any reference that explains the situations in which we are allowed to break the rule of 4 ... but sadly without luck ...

I would really appreciate it if you can be kind enough and help me with this ...

Best regards
Mo

If you are looking for a strict statistical cutoff, you are correct with those numbers. However, in
excessively complex models (involving more than about 20 variables) it is fairly difficult to ever remove all modification indices greater than 4.0, and you don’t really need to in order to achieve good fit. My experience is that if you can address modification indices above 10 then you will achieve the necessary CFI and cmin/df. So I usually set my threshold at 10. Hope this helps. :) Statistics is a lot more subjective than statisticians like to admit.

James

From: mhdamro@googlemail.com
Sent: Monday, July 30, 2012 3:53 AM
To: James Gaskin
Subject: CFA model modification using M.I

Dear James ....

I have been following your much thankful contribution via the statwiki portal and your youtube videos were of great help for me...

I just wanted to note something regarding modifying the model using modification indices...

in your video http://www.youtube.com/watch?v=JkZGWUuJdLg (and statwiki) it seems that you don’t provide a cutoff value for the M.I .... I think that anything equal or larger “3.84”should be dropped for the M.I and the cut-off value for the residual covariations used is (|2.58| or greater) .... it seems that almost all of your M.I in the video are above this point ...

I wonder if you can elaborate on that .... thanx

Regards

Mo
Dear James

I hope my message finds you well and happy.

As I saw how good you are with Stat, Allow me to ask you a question.

I did run CFA for my model ...but I have two problems...First: I have one the relational values of two constructs reported over 1. how can I solve such problem??

secondly: my goodness of fit is not as you recommend with other researchers for example my GFi IS .76 ...CFI is .816 ...knowing that I did delete all factor loading below .5 and did all the error modification and deleted all indicators that caused problems in the residual table.

I truly need your help knowing I am not so good in stat.

Much thanks

Allen
Dear James

Thanks for replying back....I did not perform EFA for two reasons ..one : I am using 3 different variables (porter strategy, CMP marketing practice, and Frame of reference) so these are three different models so there would be no meaning (i think) to do EFA for them...number two is that I am using an existing questionniare that has been tested in many previous studies.

Any advice please...do you think I should run EFA still? if NO what should I do?

Yours

Allen

Did you obtain a clean EFA? First I recommend arriving at a clean solution for the EFA, and then building the CFA based on that model.

James

Dear James

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Much thanks
Allen

---

From: James Gaskin <james.eric.gaskin@gmail.com>
To: ‘Allen Farha’ <palestiniantiger@yahoo.com>
Sent: Sunday, July 22, 2012 2:32 AM
Subject: RE: CFA Youtype

It is on my wiki on the homepage. I have also attached it.
James

---

From: Allen Farha [mailto:palestiniantiger@yahoo.com]
Sent: Saturday, July 21, 2012 10:54 AM
To: james.eric.gaskin@gmail.com
Subject: CFA Youtype

Thanks for lovely beneficial video on you type...I tried to find that excel sheet but could not find it...may I ask you to send it to me by mail.

Much thanks

Allen
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Much thanks

Allen
Thanks James, does that mean even on second order factors as I have a few variables that are second order factors and others are first order factors. Or should I ensure that all latent variables are first order factors when I conduct the CMB. Your time and consideration is very much appreciated.

Kind regards,
Iftakar

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 12 September 2012 15:57
To: Haji, Iftakar
Subject: RE: common method bias

You should do a CMB analysis on ALL the constructs in your measurement model simultaneously (whether they are related or not). You will get the most accurate results though when they are not related. I don’t know if there is a specific threshold out there for the strength of the CMB effect, but I would propose two measures:
1. Does the regression weight fall out of significance when the CLF is added. If so, then CMB is a problem for that specific indicator.
2. Does the regression weight drop by more than 0.200? If so, then a lot of the variance in the indicator is explained by the common method

Hope this helps.
James

-----Original Message-----
From: Haji, Iftakar [mailto:haji@aston.ac.uk]
Sent: Wednesday, September 12, 2012 5:50 AM
To: James Gaskin
Subject: common method bias

Hi James,

Hope this email finds you well, I have a quick query and its regarding the common method bias. Should one conduct a common method bias on related latent constructs or on the unrelated latent constructs? Also what would be considered as a high regression value for a common method bias in AMOS? Your time and consideration is very much appreciated.

Kind regards,
Iftakar
Hi James,

Just a couple more questions about keeping the CLF in or out:

1. Do I keep the CLF in place to do my invariance testing? I assume I do since I will be using the CLF to build composites and/or to build my SEM. (28 of 52 items have a delta > .20 so I do have Common Method Bias spread throughout)
2. If I have variance, is there a remedy or can I just not create composites since it will make them muddy? I actually won't be surprised if I have variance between some of the groups I'm testing for moderation.

Thanks again!

Heather

---

Had a moment, so here it is, in working form. Changes I made…:

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6. Moved the regression weight constraint of 1 from ActC28 to UndC27, as well as the one from RelD29 to ALD24.

I think that’s it. Lastly, how did I know to do all this? Hmm… I knew that error covariances and 2nd order factors are consistently problematic. Then I looked at estimates for issues (like all negative loadings) and I looked at standard errors for exorbitant values. These pointed me in the right direction. I hope this helps!

Merry Christmas!

James

---

Hi James,

I fully understand that it may be a few days before you have a chance to look at this. I appreciate your offer to look at it at all. I've been going back over my various model
options to make sure to send you the right one. I've tried a number of iterations. This is the one I still like best - it eliminates the fewest items and has good model fit prior to using the CLF. One thing to note that I thought was interesting (you might not) is that I tried the attached model the old way with constraining all CLF paths to be equal. It resulted in one negative error variance. When the paths are not constrained to be equal, I get a covariance matrix with a negative in the diagonal and I get a different negative error variance.

Anyway, thanks again for taking a look at this when you get a chance.

By the way, ignore IV, DV, M labels in the latent factors. That was my original thought, but the longer I contemplate it, the more I'm thinking of changing that around a bit.

Best regards,
Heather

513-520-9478 (M)

-----Original Message-----
From: James Gaskin <james.eric.gaskin@gmail.com>
To: 'Heather Grooms' <groomshr70@aol.com>
Sent: Fri, Dec 21, 2012 11:55 pm
Subject: RE: Common Method Bias Effects Question

I don't know if I'll have time before Christmas, but if you send me the model (the one from before you removed anything, but that already includes the CLF), then I can try to troubleshoot it. It is hard to know without the model in front of me. Oh, also send the data that you have linked to the model.
Thanks!
James

-----Original Message-----
From: Heather Grooms [mailto:heather.grooms5@gmail.com] On Behalf Of Heather Grooms
Sent: Friday, December 21, 2012 1:55 PM
To: James Gaskin
Subject: Common Method Bias Effects Question

Hi James,

Sorry to bother you so close to Christmas, but it appears my advisors are away for the holidays and I'm struggling with my measurement model. It is related to the updated method of testing Common Method Bias and using the Common Latent Factor to take up some of the variance.

Prior to testing for CMB, I had good model fit. I did have a discriminant validity issue, but it seemed fairly small and it was between 2 factors I was thinking of testing an interaction term. After adding the CLF, I found CMB issues on a number of items and also ended up with a not positive definite model. Also, my validity and reliability began to fall apart.
I removed the item that was creating a negative on the covariance diagonal reported in the notes (this item also had a covariance on the diagonal in both Implied and Sample Covariances >2). That eliminated that not positive definite issue, but then I started getting other ones related to negative error variances. My validity and reliability continue to be an issue.

I'm not sure how much more I should really remove from my model based on the incorporation of the CLF. Can you give me any guidance?

Thanks for any help you can provide. I've attached an Excel file with the CMB results and the pre / post validity and reliability table.

Best regards,
Heather

<1st order only.amw>
Hi James,

There is a special place in Heaven for you! Thank you for this help. I added a couple comments / responses in red below. Thanks again and have a very Merry Christmas!

Heather

On Dec 24, 2012, at 1:56 PM, James Gaskin wrote:

Had a moment, so here it is, in working form. Changes I made...:

1. Got rid of 2nd order factor TLI (2nd order factors often struggle in the CMB analysis). I started to play with a model without the 2nd order factor after I sent you the note and found it to work better, but not perfectly...probably in part because of the fixes you added below.

2. Broke WB into two factors (I did an EFA to figure this out). These were my original DVs (2 factors) but in my EFA, they consistently wanted to load together so I went ahead and treated them as a single 'well-being' factor. I'm glad they work separately now.

3. Removed all covariances between errors (this often throws off CMB analyses) New lesson learned and notation in the file I use to guide my analysis process. I didn't know this about error covariances...probably missed that statement at some point.

4. Dropped SolD22. It was causing problems that I could not fix by simply constraining the error variance. I had some trouble with it too. I guess I tried to hard to hang onto as many items as possible.

5. Removed erroneous constraints on a couple of the lines coming out of the COMMON factor (one was named “a” and another was constrained to 1). Complete miss. Thanks.

6. Moved the regression weight constraint of 1 from ActC28 to UndC27, as well as the one from RelD29 to ALD24. Never thought of that as an option. Another trick to keep in my notes.

I think that’s it. Lastly, how did I know to do all this? Hmm... I knew that error covariances and 2nd order factors are consistently problematic. Then I looked at estimates for issues (like all negative loadings) and I looked at standard errors for exorbitant values. These pointed me in the right direction. I hope this helps! Didn't know to look at Standard Errors for big values. I kept looking in Modification Indices. Another good lesson.

Merry Christmas!

James
Hi James,

I fully understand that it may be a few days before you have a chance to look at this. I appreciate your offer to look at it at all. I've been going back over my various model options to make sure to send you the right one. I've tried a number of iterations. This is the one I still like best - it eliminates the fewest items and has good model fit prior to using the CLF. One thing to note that I thought was interesting (you might not) is that I tried the attached model the old way with constraining all CLF paths to be equal. It resulted in one negative error variance. When the paths are not constrained to be equal, I get a covariance matrix with a negative in the diagonal and I get a different negative error variance.

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Heather

513-520-9478 (M)
Common Latent Factor to take up some of the variance.

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Thanks for any help you can provide. I've attached an Excel file with the CMB results and the pre / post validity and reliability table.

Best regards,
Heather

<1st order only.amw>
Got it. Thanks. That saves me a lot of guesswork and comparison time. Thanks for the article. This will be helpful as well.

Heather

On Dec 24, 2012, at 4:04 PM, James Gaskin wrote:

Test for invariance without the CLF. I know this is somewhat counterintuitive, but if there is method variance, then it should have affected every respondent roughly similarly. This will also simplify your testing of things. As for issues of invariance, you can use the following as a guide:

On page 325 of the attached article, there is the following quote, which can be summarized as – as long as you have invariance on a single path for each construct, then you should be fine:

"... these authors have suggested that full metric invariance is not necessary for further tests of invariance and substantive analyses to be meaningful, provided that at least one item (other than the one fixed at unity to define the scale of each latent construct) is metrically invariant."

Hi James,

Just a couple more questions about keeping the CLF in or out:

1. Do I keep the CLF in place to do my invariance testing? I assume I do since I will be using the CLF to build composites and/or to build my SEM. (28 of 52 items have a delta >0.20 so I do have Common Method Bias spread throughout)

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Merry Christmas!

James

From: Heather Grooms [mailto:groomshr70@aol.com]
Sent: Saturday, December 22, 2012 1:06 PM
To: james.eric.gaskin@gmail.com
Subject: Re: Common Method Bias Effects Question

Hi James,

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<1st order only.amw>

<MacKenzieetal2011.pdf>
Hi James,

I hope you had a great Christmas! You're help has been invaluable. I had to do path by path analysis for invariance, but for the groups I am interested in, I was able to identify the specific paths that were variant. No construct had variance across all items. In fact, in most group tests, I only had 2-3 paths that were variant and those were mostly on different constructs.

Now, though, I have a new question. I would like to go back to having a 2nd order factor for 4 1st order factors (this is for Tony Lingham's scale), but you mentioned that the CLF doesn't work well with 2nd order factors. In fact, when I put the 2nd order factor in and run the model, I get a not positive definite response.

- Does this mean I can't build composites with the CLF included while I have a 2nd order factor?
- Do I calculate composites with the 1st order factors, then add a 2nd order factor...then calculate again (that doesn't sound right)?
- Should I instead calculate the composites without the CLF, but go back to covarying errors since I have better model fit that way? I guess that partly defeats the purpose of the CLF...other than finding and reporting a limitation.

Sorry to bug you with this, I'm just not sure what the right way is to go into my SEM with this new way of testing and using a CLF. I'm talking with Tony tomorrow, but I don't think he's familiar with this particular practice. I'm still working on connecting with Gary.

Thanks.

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incorporation of the CLF. Can you give me any guidance?

Thanks for any help you can provide. I've attached an Excel file
with the
CMB results and the pre / post validity and reliability table.

Best regards,
Heather

<1st order only.amw>

<MacKenzieetal2011.pdf>
OK, that makes sense. Thanks. I'll give it a try.

Heather

On Dec 26, 2012, at 9:18 PM, James Gaskin wrote:

I would create the composites using the 1st order factors, and then when doing the path model, create a latent construct that has the 1st order composites as the indicators. This will essentially make a 2nd order factor, but still allow you to account for method bias.

Hope this helps.

James

Hi James,

I hope you had a great Christmas! You're help has been invaluable. I had to do path by path analysis for invariance, but for the groups I am interested in, I was able to identify the specific paths that were variant. No construct had variance across all items. In fact, in most group tests, I only had 2-3 paths that were variant and those were mostly on different constructs.

Now, though, I have a new question. I would like to go back to having a 2nd order factor for 4 1st order factors (this is for Tony Lingham's scale), but you mentioned that the CLF doesn't work well with 2nd order factors. In fact, when I put the 2nd order factor in and run the model, I get a not positive definite response.

- Does this mean I can't build composites with the CLF included while I have a 2nd order factor?
- Do I calculate composites with the 1st order factors, then add a 2nd order factor...then calculate again (that doesn't sound right)?
- Should I instead calculate the composites without the CLF, but go back to covarying errors since I have better model fit that way? I guess that partly defeats the purpose of the CLF...other than finding and reporting a limitation.

Sorry to bug you with this, I'm just not sure what the right way is to go into my SEM with this new way of testing and using a CLF. I'm talking with Tony
tomorrow, but I don't think he's familiar with this particular practice. I'm still working on connecting with Gary.

Thanks.

Heather

On Dec 24, 2012, at 4:04 PM, James Gaskin wrote:

Test for invariance without the CLF. I know this is somewhat counterintuitive, but if there is method variance, then it should have affected every respondent roughly similarly. This will also simplify your testing of things. As for issues of invariance, you can use the following as a guide:

On page 325 of the attached article, there is the following quote, which can be summarized as – as long as you have invariance on a single path for each construct, then you should be fine:

"... these authors have suggested that full metric invariance is not necessary for further tests of invariance and substantive analyses to be meaningful, provided that at least one item (other than the one fixed at unity to define the scale of each latent construct) is metrically invariant."

---

From: Heather Grooms [mailto:heather.grooms5@gmail.com] On Behalf Of Heather Grooms
Sent: Monday, December 24, 2012 1:22 PM
To: James Gaskin
Subject: Re: Common Method Bias Effects Question

Hi James,

Just a couple more questions about keeping the CLF in or out:

1. Do I keep the CLF in place to do my invariance testing? I assume I do since I will be using the CLF to build composites and/or to build my SEM. (28 of 52 items have a delta >.20 so I do have Common Method Bias spread throughout)
2. If I have variance, is there a remedy or can I just not create composites since it will make them muddy? I actually won't be surprised if I have variance between some of the groups I'm testing for moderation.

Thanks again!

Heather

On Dec 24, 2012, at 1:56 PM, James Gaskin wrote:
Had a moment, so here it is, in working form. Changes I made...:

1. Got rid of 2nd order factor TLI (2nd order factors often struggle in the CMB analysis).
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3. Removed all covariances between errors (this often throws off CMB analyses)
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6. Moved the regression weight constraint of 1 from ActC28 to UndC27, as well as the one from RelD29 to ALD24.

I think that’s it. Lastly, how did I know to do all this? Hmm... I knew that error covariances and 2nd order factors are consistently problematic. Then I looked at estimates for issues (like all negative loadings) and I looked at standard errors for exorbitant values. These pointed me in the right direction. I hope this helps!
Merry Christmas!
James

---

From: Heather Grooms [mailto:groomshr70@aol.com]
Sent: Saturday, December 22, 2012 1:06 PM
To: james.eric.gaskin@gmail.com
Subject: Re: Common Method Bias Effects Question

Hi James,

I fully understand that it may be a few days before you have a chance to look at this. I appreciate your offer to look at it at all. I've been going back over my various model options to make sure to send you the right one. I've tried a number of iterations. This is the one I still like best - it eliminates the fewest items and has good model fit prior to using the CLF. One thing to note that I thought was interesting (you might not) is that I tried the attached model the old way with constraining all CLF paths to be equal. It resulted in one negative error variance. When the paths are not constrained to be equal, I get a covariance matrix with a negative in the diagonal and I get a different negative error variance.

Anyway, thanks again for taking a look at this when you get a chance.

By the way, ignore IV, DV, M labels in the latent factors. That was my original thought, but the longer I contemplate it, the more I'm thinking of changing that around a bit.

Best regards,
Heather

513-520-9478 (M)

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Best regards,
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<1st order only.amw>

<MacKenzieetal2011.pdf>
Hi James,

I'm ready to pull my hair out with this. I tried building composites from the 1st order factors, then used those composites to build 2nd order factors. I can't get good model fit in the SEM with composites. I went back to doing a SEM from the CFA with 2nd order factors and CLF, but can never fully eliminate Heywood cases (I've tried a zillion things like going back to covaried errors, constraining negative errors at .001, I even 0'd out a couple of CLF paths that did not demonstrate CMB), but I continually end up with at least one Heywood. Oh and one other interesting thing...when I 0'd out the 3 CLF paths that did not have CMB on 1 construct, a couple of paths that were previously strongly negative (and significant) became strongly positive (and significant) to that construct.

Is retaining the CLF a must? I'm pretty tempted to see what happens with my model by removing it after 4 days of fiddling with this. A couple of times I thought I had it only to find a small error in a path constraint or by trying models that were fully saturated vs. not.

Any thoughts on this? Thanks.

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Merry Christmas!

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Best regards,
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513-520-9478 (M)

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To: 'Heather Grooms' <groomshr70@aol.com>
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Thanks for any help you can provide. I've attached an Excel file with the CMB results and the pre/post validity and reliability table.

Best regards,
Heather
Got another question, if you don't mind - In AMOS, when you perform the CFA for 2 variables, the first item for each variable is always constrained at 1. This means there is no p-value for that item in the results. Is there anyway to get this p-value?

Thanks James.

Chris

Christopher Chan, PhD *(Murdoch University)*
Associate Professor of Human Resource Management
(Honorary Research Fellow at the Faculty of Business, Australian Catholic University)
School of Human Resource Management
Faculty of Liberal Arts & Professional Studies
York University
4700 Keele Street
Toronto, Ontario M3J 1P3
CANADA

Tel: +1 (416) 736 2100 ext. 30593
Fax: + 1 (416) 736 5188
http://bloodstone.atkinson.yorku.ca/projects/researchak/people.nsf/researcherprofile?
readform&shortname=cristoph

-----"James Gaskin" <james.eric.gaskin@gmail.com> a écrit : -----
A : "Christopher Chan" <cristoph@yorku.ca>
De : "James Gaskin" <james.eric.gaskin@gmail.com>
Date : 13/02/2013 16:32
Objet : RE: conjoint analysis

Hi Chris,

Sorry to say that I don’t work with conjoint analysis or much with SPSS syntax. Best of luck!

James

Hello James,

I've been following your youtube videos for over 2 months now with great interest and I've learned a lot from those videos. So thank you!
I've been trying to play around with conjoint analysis and am wondering if you could shed some light. SPSS can only handle conjoint using the script so I did that, created some dummy variables to see if the analysis would run. My nightmares from my RA days have come back to haunt me - problem with the scripts. I can send you the files if this is within your area. If not, that's fine too.

Chris

Christopher Chan, PhD (*Murdoch University*)
Associate Professor of Human Resource Management
(Honorary Research Fellow at the Faculty of Business, Australian Catholic University)
School of Human Resource Management
Faculty of Liberal Arts & Professional Studies
York University
4700 Keele Street
Toronto, Ontario M3J 1P3
CANADA

Tel: +1 (416) 736 2100 ext. 30593
Fax: + 1 (416) 736 5188
Thanks James. The file is attached.
The other alternative would be to create the composite variables directly in SPSS, no?

Take care,

Mili
James,

Quick question, when trying to create composites in Amos using your video, I get the following error: "A sample of parameters value was inadmissible" and it does not create the new file. Do you know what could be going on?

Thanks,

Mili
Thanks James. The file is attached.
The other alternative would be to create the composite variables directly in SPSS, no?

Take care,

Mili

---

From: James Gaskin <james.eric.gaskin@gmail.com>
To: Milagros Pereyra <milagros@pitt.edu>
Subject: Re: Creating composites

My Internet is down due to the storm, so I cannot troubleshoot it tonight (my phone does not have Amos yet...), but if you send it, I will take a look at it when the Internet returns.

Sent from my iPhone

On Apr 30, 2012, at 10:02 PM, "Pereyra-Rojas, Milagros" <milagros@pitt.edu> wrote:

When I run it, it does not give me standardized values but when I look at the unstandardized values I see an error with a negative value. I constrained the path of all of the indicator for the latent factor in question but I still don't get anything. Any other idea?

Thanks,

Mili

---

From: James Gaskin <james.eric.gaskin@gmail.com>
To: Milagros Pereyra <milagros@pitt.edu>
Subject: RE: Creating composites

I am not positive, but some common issues are the names of the latent factors. They cannot have spaces in them. You might also have a Heywood case... This is where one of your standardized loadings is greater than 1 (which is usually because one of your error values is negative). If this is the case, then you may need to constrain that path and the path of all the other indicators for that latent factor to be equal (do this by giving each of them a regression weight of “a” (without quotes)).

Hope this helps.
James
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Quick question, when trying to create composites in Amos using your video, I get the following error: "A sample of parameters value was inadmissible" and it does not create the new file. Do you know what could be going on?

Thanks,

Mili
Hi James,

Thanks for looking into this for me. The variables in my model have more than 2 indicators. In fact, I ran a two-stage factor analysis (7 to 20 indicators/latent per factor) utilizing the single-item approach (i.e., I created composite 1/2 per factor) using the single-factor approach (Gundlach, 2000; in my model, I divided the items with the highest loadings for each construct into separate factors). I am concerned about the number of latent variables for testing common-method bias (CMV), especially if there were less than three indicators. Do you think that running the analyses with more than two indicators will help?

Tunde.

On Mon, Nov 21, 2011 at 1:38 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

I couldn't find anything wrong. Although, it is generally bad to have latent factors comprised of less than three indicators. To order to relax the common-factor assumption, I simply removed the latest factor(s) (2 or 3) or about CMV common sources. This is probably fine. If you want to drop it some more, add some marker variables (variables that you collected data on, but that are theoretically unrelated to the variables in the CFA).

James
Hi James,

Thanks for looking into this for me. The validation in my model have more than 2 indicators... in fact, there were two many indicators (7 to 9 indicators/term per factor) obtain by single item... as such I created composite (3 per factor) using the single-factor approach (Gandy, Bond, & Tesluk, 2000). In any event, is the factor loading acceptable practice for linking common method bias, i.e., without the latent factors? Alternatively, do you think that running the analyses with more than 2 indicators will help?

Tunde

On Mon, Nov 21, 2011 at 1:38 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

I couldn't find anything wrong. Although, it is generally bad to have latent factors comprised of less than three indicators. In order to address the common cause, I simply removed the latent factor (I read again). I'm about 50% concerned with the... at such, I'm in my 50[sic] effort is the current.

Thanks again.

On Mon, Nov 21, 2011 at 2:23 PM, Tunde Ogunfowora <oogunfow@gmail.com> wrote:

Thank you for your quick response. I was wondering if sample size could have been a factor. Although the sample is well over 350 participants, the analyses are at the group level - as such, N = 95. Attached is the model, output, and dataset.

Thanks again.
Hi James.

Thank you ever so much for referring me to these sources. However, I still am unsure about the MSV and ASV in terms of how they are calculated. I looked at (Hair et al. 2010: 688) but unfortunately I did not find information that informed me how these values are derived on the Excel spreadsheet. Below is a passage that I was able to extract:

"Discriminant validity was assessed by calculating the average variance extracted values for any two constructs with the square of the correlation estimates between the two constructs. The variance extracted estimates should be greater than the squared correlation estimate. The logic is based on the idea that a latent construct should explain more of the variance in its item measures than it shares with another construct." (Hair et al. 2010: 710)

But no information is given on the actual construct. Could you please advice me on the calculations conducted for the ASV and MSV?

Kind regards,

Amara

From: simplework, james.gaskin@gmail.com
To: simphias@hotmail.co.uk
Subject: RE: Discriminant validity
Date: Sat, 27 Oct 2012 11:24:58 -0600

I've just used the accepted formulas for each.  
AVEN (see [http://www.hec.edu/var/free/storage/original/application/888adcb77e8c6378551e689551ec0a1.pdf](http://www.hec.edu/var/free/storage/original/application/888adcb77e8c6378551e689551ec0a1.pdf))

\[
AVE_j = \frac{1}{p_j} \sum_{h=1}^{p_j} Cor^2 (\hat{x}_{jh}, \hat{x}_j)
\]

MSV (see Hair et al. 2010 pg. 688 at the top in the 7th edition)
This is the squared maximum correlation with any given factor.

ASV (see Hair et al. 2010 pg. 688 at the top in the 7th edition)
This is the squared average correlation with any given factor.


Hope this helps.

James

From: simple work, james.gaskin
Sent: Saturday, October 27, 2012 9:55 AM
To: james gaskin; james gaskin
Subject: Discriminant validity
Importance: High

Hi James,

Hope your OK... I had a very quick query if I may, you have an excellent Excel spreadsheet on how to calculate discriminant validity... however, I was wondering if there was a reference to use that explains the formula that you have adopted to calculate the AVE, MSV, CR and ASV.

Kind regards,

Amara
Hi James,

Thanks for your reply :) however, I noticed when you did this in your video; you did your checks before you drew your paths? I was just wondering as a general rule of practice, is this done before the paths are drawn (as in when you doing your covariance's) or after the paths are drawn. Your assistance as always is very much appreciated.

Kind regards,
Iftakar

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To: simplhas@hotmail.co.uk
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I’ve just used the accepted formulas for each.
AVE (see http://www.hec.edu/var/fre/storage/original/application/888adcb77e8c8378551e689551ecc0a1.pdf)

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First of all Thanks for your answer Dr. Gaskin.

One last doubt, if a covary any factor of the model i cannot imput the variables????

Thanks again

Sincere regards!
and congratulations again for your work!

Pedro G. Basso Machado
Psicólogo - CRP 08/14026
Doutorando em Psicologia Clínica e da Saúde - Universidad Autónoma de Madrid
Curriculum Lattes

To impute all the factors simultaneously, you will need to make one large measurement model that includes all of them. If COP and CON are 2\textsuperscript{nd} order factors, then you will want to covary them with the factors from Figure 1. If CON and COP are 1\textsuperscript{st} order factors in a structural model, then simply remove the regression lines in Figure 2, and then covary all of the factors.

I hope this helps.

James
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Doutorando em Psicologia Clínica e da Saúde - Universidad Autónoma de Madrid
Curriculum Lattes
Hi James,

I watched the “Multigroup moderation in AMOS made easy” again and it was very helpful. You mention another video that describes how to set up the groups but I couldn’t seem to find that one. Is it on the wiki?

And, I have screened most of my data but…….how do I delete cases with system missing values from the data set? This should be the easiest thing but my syntax (in SPSS 21) doesn’t seem to work.

Thanks again for the great work that you are doing. I have a doctoral student from the University of Malaya (in Malaysia) and they have cited your work on CFA and SEM in their dissertation!

Nick

Nicholas J. Beutell, Ph.D.
Hagan School of Business
Iona College
New Rochelle, NY 10801
(914) 633-2663 Voice
(914) 633-2012 FAX
<http://www.iona.edu/hagan>
<http://www.beutell.com>
Dr. B on mp3 <http://itunes.apple.com/itunes-u/principles-of-management/id383152521#ls=1>

---Original Message-----
From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Wednesday, March 13, 2013 7:28 PM
To: Beutell, Nick
Subject: RE: EFA and CFA

1. Single item measures can be used in the structural model, but should not be included in the CFA.
2. You can look at path differences. Use the "Multigroup moderation in AMOS made easy" video on my youtube channel. Even though I’m showing how to do it with a structural model, you can do the same with a measurement model.

-----Original Message-----
From: Beutell, Nick [mailto:NBeutell@iona.edu]
Sent: Wednesday, March 13, 2013 5:17 PM
To: James Gaskin
Subject: RE: EFA and CFA

Hi James,

If you have a minute, I have a couple questions about SEM and the invariance tests for group differences:

-A reviewer suggested that I use hours of work and the presence of children under 6 years in the household. I have these items with no missing data. Can such single items be used in SEM, and, if so, are they included in the CFA as well?

-I seem to recall that you used standardized scores for the invariance tests. I am sure there is a good reason. I have four groups: gender
(male, female) and Latino vs. non-Latino Whites. If I compute the
invariance tests can I pinpoint specific 'path' differences or only conclude
that the overall models are different for these groups?

Thanks and best wishes,

Nick

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From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Saturday, February 23, 2013 7:46 AM
To: Beutell, Nick
Subject: RE: EFA and CFA

You do not have to do it during the EFA; just during the CFA (and subsequent
SEM). The check during the CFA is called an invariance test. There are some
flexible rules regarding the strictness of the test.
Best of luck!
James

-----Original Message-----
From: Beutell, Nick [mailto:NBeutell@iona.edu]
Sent: Friday, February 22, 2013 11:28 AM
To: james.eric.gaskin@gmail.com
Subject: EFA and CFA

Thanks for the great youtube videos. I have a question regarding gender
differences in exploratory factor analysis. If I am hypothesizing
differences between men and women, does this affect the exploratory factor
analysis? I saw that you checked for gender differences in the CFA but I
wasn't sure how this related to the EFA. I'd appreciate any thoughts on
this. Best wishes,

Nick

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Thank you very much, Prof. Yes, it really help.

On Thu, Dec 27, 2012 at 2:23 AM, James Gaskin wrote:

You could if you were using established measures (items tested by other scholars in previous literature). Typically we do an EFA first in order to explore the factor structure of new items, and we will often include existing measures in order to explore the item-item correlations between new and existing measures.

Hope this helps.

James

Dear Prof. James,

To analyze data, can we just run CFA without running EFA first?

What is / are the implication/s?

Thank you very much for your answer.

SAH
Hi James,

If you have a minute, I have a couple questions about SEM and the invariance tests for group differences:

- A reviewer suggested that I use hours of work and the presence of children under 6 years in the household. I have these items with no missing data. Can such single items be used in SEM, and, if so, are they included in the CFA as well?

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Best of luck!
James
but then I have a lot of variables, to form hypothesis and to reduce some variables should I do a combined EFA to bring out factors and their variables and then compare each factor with anova?

On Sat, Mar 16, 2013 at 12:18 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

If you’re only comparing perceptions (not causal relationships), then you don’t need to do an EFA, just an ANOVA.

Sir

I have data from both Inian and MNC group. Since the study is to compare perceptions of these groups, should I do factor analysis on entire combined data to come up with common factors for both groups and then do anova or ttest to see the levels of difference for the common factors? Is this approach ok?

Because when I am doing a separate EFA for both groups, I am getting different factors and can’t have similar hypothesis...

--

Regards
Puja Sareen
Sr. Lecturer
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okay.

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is there any post hoc test after independent t test?

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Deleting rows (12-40) indeed fix the problem but I still have 12 different groups to test.

Just need to know why these two rows (12-40) where possible
Sorry for asking too many questions

Thank you in advance

Just remove the indicators from the first two tables in the excel file you sent me (rows 12-40). That should fix it.

Hi James,

Thank you so much for your videos, its helping me a lot in my PhD.

I am getting this error, and don’t know how to sort it out.

I read your reply on Youtube that you did not fix it yet, so if you have any recommendation please let me know

Attached is a sample of my data

Your help is much appreciated

Ali Tarhini
PhD Candidate
Center of Human Computer Interaction (HCI)
School of Information Systems and Computing
121 St. Johns Building
Brunel University
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From: James Gaskin [mailto:james.eric.gaskin@gmail.com]
Sent: 22 July 2012 21:45
To: Ali Tarhini
Subject: RE: Error 1004"- Application defined or object defined erro

Just remove the indicators from the first two tables in the excel file you sent me (rows 12-40). That should fix it.
James

---

From: Ali Tarhini [mailto:Ali.Tarhini@brunel.ac.uk]
Sent: Sunday, July 22, 2012 9:20 AM
To: james.eric.gaskin@gmail.com
Subject: Error 1004"- Application defined or object defined erro

Hi James,

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I am getting this error, and don’t know how to sort it out.

I read your reply on Youtube that you did not fix it yet, so if you have any recommendation please let me know

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Ali Tarhini
PhD Candidate
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I speak of the bootstrap method in amos (steps) you explained to analyze moderated mediation.
Thanks

2013/2/4 James Gaskin <james.eric.gaskin@gmail.com>

Scholars like Preacher, MacKenzie, and Kenny all talk about mediation and moderation and I think it is Preacher that has articles on mediated moderation and moderated mediation.

Search for this (without quotes) on google scholar, and take the first result: “author:preacher moderated mediation”

Hope this helps.

James

From: Sari Mnsor [mailto:sari.mnsor@gmail.com]
Sent: Monday, February 04, 2013 5:30 AM
To: James Gaskin
Subject: Re: excel tool

excuse me for the delay.

thank you for your offer of help. The problem is the excel version because I tried another version and it worked. a very good tool,
I looked at your slideshow on the effect mediator and mediator moderated, it is also very good, but I still do not know what are your sources for this methods. In advance thank you

Annuler les modifications

Alpha

2013/1/30 James Gaskin <james.eric.gaskin@gmail.com>

If you send me the tables you are using as input, I will troubleshoot the problem.

James
Subject: excel tool

hello sir James,

thank you for your video and your answers to my questions. excel tool does not work properly, (error 91) ou problem of visuel basic. I followed the instructions but it does not work.

have you an resolution for this problem?

Thank you in advance
Hi Mr James,

I have a problem about the test of multicatégorielles variables in AMOS. They are exogenous variables and I want to test the mediation (latent variable) between these variables and an endogenous variable (latent variable). As AMOS do this? Thank you in advance.

2013/2/4 James Gaskin <james.eric.gaskin@gmail.com>

> Oh okay. Preacher is still your man. Search google scholar for “preacher mediation bootstrap”. The first three results are all reputable and useful.

James

From: Sari Mnsor [mailto:sari.mnsor@gmail.com]
Sent: Monday, February 04, 2013 10:43 AM
To: James Gaskin
Subject: Re: excel tool

I speak of the bootstrap method in AMOS (steps) you explained to analyze moderated mediation.

Thanks

2013/2/4 James Gaskin <james.eric.gaskin@gmail.com>

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Search for this (without quotes) on google scholar, and take the first result: “author:preacher moderated mediation”

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2013/1/30 James Gaskin <james.eric.gaskin@gmail.com>

If you send me the tables you are using as input, I will troubleshoot the problem.

James
From: rahul pratap singh kaurav
To: James Gaskin
Subject: Re: Files related to AMOS
Date: Saturday, March 02, 2013 12:48:45 PM
Attachments: image001.png

thank you very much sir. You made my day...

Best Regards,
Rahul Pratap Singh Kaurav
C/o, Mr. Dheer Singh Tomar,
86, Nehru colony, Thatipur,
Gwalior, (Madhya Pradesh),
PIN - 474011
Mobile: +91-9826569573
URL: www.rsinghkaurav.webs.com
Skype: RPSKaurav

From: James Gaskin <james.eric.gaskin@gmail.com>
To: 'rahul pratap singh kaurav' <rsinghkaurav@yahoo.co.in>
Sent: Saturday, 2 March 2013 11:32 PM
Subject: RE: Files related to AMOS

The correlation matrix indicates the two-way relationships between each of the indicators. This will help you develop a path model between the indicators (instead of having just four latent constructs).
I looked again at the CFA you sent and tried several things. Nothing worked, so, I figured there was actually something odd going on. Sure enough, I found a floating and invisible variable “F1” above your model:

If you remove F1 then it runs just fine. The model fit is terrible though, and it is mostly because of TDEVL being too highly correlated with everything else.

James

From: rahul pratap singh kaurav [mailto:rsinghkaurav@yahoo.co.in]
Sent: Friday, March 01, 2013 7:47 PM
To: James Gaskin
Subject: Re: Files related to AMOS

Thank you very much sir. You spared some time for me.
Just one more help, is there any way to do this. KMO value is less, but is acceptable. What this correlation table indicates?

I have sent you a word file also, where two models were there. How those model can be generated?

Again thank you very much.

Best Regards,
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From: James Gaskin <james.eric.gaskin@gmail.com>
To: 'rahul pratap singh kaurav' <rsinghkaurav@yahoo.co.in>
Sent: Friday, 1 March 2013 11:43 PM
Subject: RE: Files related to AMOS

I think the primary issue is that the variables are not well-suited for factor analysis. I ran an EFA on them and came up with the pattern matrix below. It shows that the items load as expected, but not very strongly. QULSE also loads too strongly with MktingComm variables. The KMO for the set of variables is also too low (0.594), indicating that these variables are not very strongly correlated.

<table>
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<tr>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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</thead>
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<td>MLAPP</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CUSOR</td>
<td>0.580</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JOBSA</td>
<td>0.510</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TDEVL</td>
<td>0.362</td>
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</tr>
<tr>
<td>LEADR</td>
<td>0.798</td>
<td></td>
<td></td>
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<tr>
<td>STRAR</td>
<td>0.637</td>
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<td>COORD</td>
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<tr>
<td>INTCO</td>
<td>0.308</td>
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<td></td>
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</tr>
<tr>
<td>VISIO</td>
<td>0.295</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMPOW</td>
<td>0.592</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STKMO</td>
<td>0.445</td>
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<tr>
<td>QULSE</td>
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<td></td>
<td>0.391</td>
</tr>
</tbody>
</table>

Extraction Method: Maximum Likelihood.
Rotation Method: Promax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

I also tried it in PLS to see if a formative model would work better, but it doesn’t. As you can see in the picture below, the t-statistics for the loadings are not good. The only ones that are significant are TDEVL and LEADR

So, this model is not going to work. What I would recommend is trying a lower order model by examining the relationships between the
### Correlations

<table>
<thead>
<tr>
<th></th>
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<th>CUSOR</th>
<th>EMPOW</th>
<th>INTOC</th>
<th>JOBSA</th>
<th>LEADR</th>
<th>MLAPP</th>
<th>QULSE</th>
<th>STKMO</th>
<th>STRAR</th>
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<td>.045</td>
<td>.095</td>
<td>-.127*</td>
<td>.159**</td>
<td>.083</td>
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<td>.125</td>
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<td>.084</td>
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<td>.059</td>
<td>.522**</td>
<td>-.034</td>
<td>.105</td>
<td>.112*</td>
<td>.323**</td>
<td>.122*</td>
</tr>
<tr>
<td>EMPOW</td>
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<td>-.018</td>
<td>1</td>
<td>.110</td>
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<td>.199**</td>
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<tr>
<td>JOBSA</td>
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<tr>
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<tr>
<td>STKMO</td>
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<td>TDEVL</td>
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<td>1</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Hope this helps.

James

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From: rahul pratap singh kaurav [mailto:rsinghkaurav@yahoo.co.in]
Sent: Friday, March 01, 2013 9:48 AM
To: james.gaskin@byu.edu
Subject: Files related to AMOS

Dear Sir,

Thank you very much for accepting my request.

I am sending you 5 files which has been generated by AMOS. 1 file is of SPSS which is having data of related model.

1 file is of MS Word. Word file is having 2 models let me know how they can be generated with the help of AMOS. I have tried to create them a lot of time, but always it is giving me bundle of errors.

I will be very kind-full to you.

Thanking You,

Best Regards,
Rahul Pratap Singh Kaurav

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Sent: Friday, 1 March 2013 11:43 PM
Subject: RE: Files related to AMOS

I think the primary issue is that the variables are not well-suited for factor analysis. I ran an EFA on them and came up with the pattern matrix below. It shows that the items load as expected, but not very strongly. QULSE also loads too strongly with MktingComm variables. The KMO for the set of variables is also too low (0.594), indicating that these variables are not very strongly correlated.

<table>
<thead>
<tr>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLAPP</td>
<td>.848</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CUSOR</td>
<td>.580</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JOBSA</td>
<td>.510</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TDEVL</td>
<td>.362</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEADR</td>
<td></td>
<td>.798</td>
<td></td>
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</tr>
<tr>
<td>STRAR</td>
<td></td>
<td>.637</td>
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<tr>
<td>COORD</td>
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<td>.678</td>
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</tr>
<tr>
<td>INTCO</td>
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<tr>
<td>VISIO</td>
<td></td>
<td></td>
<td>.295</td>
<td></td>
</tr>
<tr>
<td>EMPOW</td>
<td></td>
<td></td>
<td></td>
<td>.592</td>
</tr>
<tr>
<td>STKMO</td>
<td></td>
<td></td>
<td></td>
<td>.445</td>
</tr>
<tr>
<td>QULSE</td>
<td></td>
<td></td>
<td></td>
<td>.294</td>
</tr>
</tbody>
</table>

Extraction Method: Maximum Likelihood.
Rotation Method: Promax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

I also tried it in PLS to see if a formative model would work better, but it doesn’t. As you can see in the picture below, the t-statistics for the loadings are not good. The only ones that are significant are TDEVL and LEADR.
So, this model is not going to work. What I would recommend is trying a lower order model by examining the relationships between the indicators:

<table>
<thead>
<tr>
<th>Correlates</th>
<th>COORD</th>
<th>CUSR</th>
<th>EMPOW</th>
<th>INTCO</th>
<th>JOBSA</th>
<th>LEADR</th>
<th>MLAPP</th>
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<th>STRAR</th>
<th>TDEVL</th>
<th>VISIO</th>
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<tbody>
<tr>
<td>COORD</td>
<td>1</td>
<td>.172**</td>
<td>.164**</td>
<td>.133**</td>
<td>-.131**</td>
<td>.045</td>
<td>.095</td>
<td>-.127*</td>
<td>.159**</td>
<td>.083</td>
<td>-.080</td>
<td>.125*</td>
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<tr>
<td>CUSR</td>
<td>.172**</td>
<td>1</td>
<td>-.018</td>
<td>.084</td>
<td>.242**</td>
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<td>.522**</td>
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</tr>
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<td>.084</td>
<td>.110</td>
<td>1</td>
<td>.037</td>
<td>-.152**</td>
<td>.224**</td>
<td>-.133**</td>
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<td>.167**</td>
<td>.029</td>
<td>.198**</td>
<td>.008</td>
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<td>LEADR</td>
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<td>.007</td>
<td>-.152**</td>
<td>-.007</td>
<td>1</td>
<td>.094</td>
<td>.139**</td>
<td>.049</td>
<td>.513**</td>
<td>.266**</td>
<td>-.187**</td>
</tr>
<tr>
<td>MLAPP</td>
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<td>.050</td>
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<td>.192**</td>
<td>-.186**</td>
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<tr>
<td>STKMO</td>
<td>.158**</td>
<td>.100</td>
<td>.189</td>
<td>.077</td>
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<td>.243**</td>
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<tr>
<td>TDEVL</td>
<td>-.080</td>
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<td>1</td>
</tr>
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</table>

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Hope this helps.

James

---

From: rahul pratap singh kaurav [mailto:rsinghkaurav@yahoo.co.in]
Sent: Friday, March 01, 2013 9:48 AM
To: james.gaskin@byu.edu
Subject: Files related to AMOS

Dear Sir,

Thank you very much for accepting my request.

I am sending you 5 files which has been generated by AMOS. 1 file is of SPSS which is having data of related model.

1 file is of MS Word. Word file is having 2 models let me know how they can be generated with the help of AMOS. I have tried to create them a lot of time, but always it is giving me bundle of errors.

I will be very kind-full to you.

Thanking You,

Best Regards,

Rahul Pratap Singh Kaurav

C/o, Mr. Dheer Singh Tomar,
86, Nehru colony, Thatipur,
Gwalior, (Madhya Pradesh),
PIN - 474011

Mobile: +91-9826569573
URL: www.rsinghkaurav.webs.com
Skype: RPSKaurav
I thought I had tried everything possible, but I guess I hadn’t. That worked! Thanks.

Do you know how to change the number of decimal places in the output?

Not sure why you can’t move the error terms.

Make sure everything is unselected

Click on the endogenous variable with the error term placer

If you click too fast then it will just bring up the object properties, so click slowly.

If this doesn’t work, then just use the red truck to place them manually.

James

Congratulations on your defense, and on your new position! That’s fantastic that you’ll be able to come back to BYU. I assume you are excited about it. I was a Gonzaga undergrad and am very happy that everything aligned for me to come back here as well.

I see that in your output you have 3 decimal places, and I only have 2. That must be the difference. Where do I change that?

Also, since I know you’re all about “making it pretty,” I have another model in which I wish to move the error terms over from being above the observed DV’s to the far right end of each variable. When I try to move one, they all move. And they won’t move past the midpoint of the DV variable box. I was able to move the error terms (individually, not as a group) on the model shown below, but I can’t do it on this one. Any helpful hints on what’s happening?

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<th>RFI rho1</th>
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<th>TLI rho2</th>
<th>CFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default model</td>
<td>.996</td>
<td>.978</td>
<td>.998</td>
<td>.990</td>
<td>.998</td>
</tr>
<tr>
<td>Saturated model</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independence model</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

CMIN

<table>
<thead>
<tr>
<th>Model</th>
<th>NPAR</th>
<th>CMIN</th>
<th>DF</th>
<th>P</th>
<th>CMIN/DF</th>
</tr>
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<tbody>
<tr>
<td>Default model</td>
<td>18</td>
<td>5.278</td>
<td>3</td>
<td>.153</td>
<td>1.759</td>
</tr>
<tr>
<td>Saturated model</td>
<td>21</td>
<td>.000</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independence model</td>
<td>6</td>
<td>1175.463</td>
<td>15</td>
<td>.000</td>
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</tr>
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</table>

Parsimony-Adjusted Measures

<table>
<thead>
<tr>
<th>Model</th>
<th>PRATIO</th>
<th>PNFI</th>
<th>PCFI</th>
</tr>
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<tbody>
<tr>
<td>Default model</td>
<td>.200</td>
<td>.199</td>
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</tr>
<tr>
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<td>.000</td>
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<tr>
<td>Independence model</td>
<td>1.000</td>
<td>.000</td>
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</tr>
</tbody>
</table>

RMSEA

<table>
<thead>
<tr>
<th>Model</th>
<th>RMSEA</th>
<th>LO 90</th>
<th>HI 90</th>
<th>PCLOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default model</td>
<td>.074</td>
<td>.000</td>
<td>.177</td>
<td>.271</td>
</tr>
<tr>
<td>Independence model</td>
<td>.751</td>
<td>.715</td>
<td>.788</td>
<td>.000</td>
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From: Loroz, Peggy Sue  [mailto:loroz@jepson.gonzaga.edu]
Sent: Tuesday, February 14, 2012 1:28 PM
To: 'James Gaskin'
Subject: RE: Fit indices = 1

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Hope I haven’t creeped you out. Thanks again for your help, and have an awesome Valentine’s Day!

Peggy Sue

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Not knowing your constructs, I can only play with it to see what works statistically. The model pasted below makes sense to me.

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From: Loroz, Peggy Sue  [mailto:loroz@jepson.gonzaga.edu]
Sent: Monday, February 13, 2012 11:45 PM
To: James Gaskin
Subject: Fit indices = 1

Hi James—

I managed to get past the problem I was having before. Now I am working with a model where all of my fit indices are = 1, the chi-square = .2 with a p value of .90 and the RMSEA is .00. I saw the note in your interaction moderation video (at 6:30 ish) about the CFI being a problem if it = 1 (e.g., your df > than chi-square, which mine is), but I’m not sure what to do about it. As near as I can tell, removing paths seems to destroy the fit of my model, and changing a covariance to a causal path on the DV side results in the same problem but with one regression coefficient becoming m.s. I’ve attached my model and my dataset, in case you are willing to take a look at what I’ve got. I feel badly about burdening you with my questions. Can I send you a giftcard or something?! 

Thanks again,

PSL
Not able to see your model and data, I can only guess as to the reasons. These are called Heywood cases. I would not constrain every indicator if there are more than two. Another way to fix these is by covarying the error terms of the offending indicator with another indicator from the same factor. To figure out which indicator error would be best to covary with the offending indicator error, look at the modification indices for the highest MI value. If you are unfamiliar with modification indices, refer to my video about model fit during the CFA.

Hope this helps.

James

---

Thanks for getting back to me. I am so grateful.

I have four factors and they each have 4-6 indicators. Would you still recommend this approach? And if so, would I do it for every indicator on all 4 factors? I’m stumped as to why/how a loading could be above 1 (or how I would know if it were). Should I just do each of the four factors separately? (Would the imputed values be affected by whether or not they were done simultaneously with other factors that covary along with them--i.e., are they different than if I did each factor separately?)

Again, I really appreciate your help.

---

My guess is that it is for a factor that has only two indicators. And, one of the loadings for one of the indicators is probably above 1. To fix this, constrain the regression weights for both to be “a”, and then constrain the variance on the factor to equal 1. 

Right click (or double-click) each path. Select Object properties.

Go to the Parameters tab and set the regression weight = a
Double click the latent variable (or right click and choose object properties).

Go to the Parameters tab, and set the variance = 1

From: Loroz, Peggy Sue  [mailto:loroz@jepson.gonzaga.edu]
Sent: Saturday, February 11, 2012 12:39 AM
To: James Gaskin
Subject: RE: Interaction Moderation (SEM) video question

I posted this on youtube, but then thought this might be easier:

I am using the video on how to impute composite variables. I was able to successfully do this with a CFA on my IV's, but I tried to do a separate CFA on my DV's and it wouldn't impute. It says 1 sample parameter was inadmissible. Any idea what's going
The reasoning is to remove potential for multicollinearity. Most articles on the subject call standardizing “mean-centering”. If you don’t standardize, you will have strong multicollinearity. Hope this helps. Check out my wiki: http://statwiki.kolobkreations.com

James

Hi James—

I am trying to get up to speed very quickly on SEM, so I am very much appreciating your videos. Thanks so much for the public service you are providing by posting them online!

Here’s a really basic question: why do you standardize the variables before creating an interaction term? I realize that this may be a very basic stats question, but I am most familiar with ANOVA rather than regression or SEM, and I am unfamiliar with the effects of standardizing vs. not.

Thanks for your help,

Peggy Sue
I thought I had tried everything possible, but I guess I hadn’t. That worked! Thanks.

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Hope this helps.
James

From: Loroz, Peggy Sue [mailto:loroz@jepson.gonzaga.edu]
Sent: Monday, February 13, 2012 1:21 AM
To: James Gaskin
Subject: RE: Interaction Moderation (SEM) video question

Thanks for getting back to me. I am so grateful.
I have four factors and they each have 4-6 indicators. Would you still recommend this approach? And if so, would I do it for every indicator on all 4 factors? I’m stumped as to why/how a loading could be above 1 (or how I would know it if it were). Should I just do each of the four factors separately? (Would the imputed values be affected by whether or not they were done simultaneously with other factors that covary along with them--i.e., are they different than if I did each factor separately?)
Again, I really appreciate your help.

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Saturday, February 11, 2012 6:42 AM
To: Loroz, Peggy Sue
Subject: RE: Interaction Moderation (SEM) video question

My guess is that it is for a factor that has only two indicators. And, one of the loadings for one of the indicators is probably above 1. To fix this, constrain the regression weights for both to be “a”, and then constrain the variance on the factor to equal 1.
Right click (or double-click) each path. Select Object properties.

Go to the Parameters tab and set the regression weight = a
Double click the latent variable (or right click and choose object properties).

Go to the Parameters tab, and set the variance = 1

---

**From:** Loroz, Peggy Sue  [mailto:loroz@jepson.gonzaga.edu]
**Sent:** Saturday, February 11, 2012 12:39 AM
**To:** James Gaskin
**Subject:** RE: Interaction Moderation (SEM) video question

I posted this on youtube, but then thought this might be easier:

I am using the video on how to impute composite variables. I was able to successfully do this with a CFA on my IV’s, but I tried to do a separate CFA on my DV’s and it wouldn’t impute. It says 1 sample parameter was inadmissable. Any idea what’s going
wrong? I don't have any missing data.

From: James Gaskin [mailto:james.eric.gaskin@gmail.com]
Sent: Friday, February 10, 2012 8:56 PM
To: Loroz, Peggy Sue
Subject: RE: Interaction Moderation (SEM) video question

The reasoning is to remove potential for multicollinearity. Most articles on the subject call standardizing “mean-centering”. If you don’t standardize, you will have strong multicollinearity.
Hope this helps. Check out my wiki: http://statwiki.kolobkreations.com
James

From: Loroz, Peggy Sue [mailto:loroz@jepson.gonzaga.edu]
Sent: Friday, February 10, 2012 11:16 PM
To: 'james.eric.gaskin@gmail.com'
Subject: Interaction Moderation (SEM) video question

Hi James—

I am trying to get up to speed very quickly on SEM, so I am very much appreciating your videos. Thanks so much for the public service you are providing by posting them online!

Here’s a really basic question: why do you standardize the variables before creating an interaction term? I realize that this may be a very basic stats question, but I am most familiar with ANOVA rather than regression or SEM, and I am unfamiliar with the effects of standardizing vs. not.

Thanks for your help,

Peggy Sue
Thanks James for your advice. I could wait for a week as first I need to learn how to use PLS. I had a search on google and found different types of PLS. could you please send me the link for software. Did you try my model with PLS? if so do you mind if you also try the attached model? I turned it to MIMIC model for better identification. Thanks again for your endless support. You’re my Stat Angel :) 

Regards,
Leila

-----Original Message-----
From: James Gaskin [mailto:james.eric.gaskin@gmail.com]
Sent: Wednesday, January 25, 2012 11:21 AM
To: Leila Karimi
Subject: RE: Formative Model

Hi Leila,

I have worked with many scholars over the years who have wanted to use AMOS for testing formative models. While it is *theoretically* possible, I have never seen someone do it successfully. I usually refer the student to a partial least squares approach. I recommend using PLS-graph, or SmartPLS. I have extensive support and tutorials for using PLS-graph on my wiki and on YouTube. The only trouble is getting a copy of the program. Wynne Chin is currently working on releasing a new version. That should happen this week.

If you need it sooner, then I recommend SmartPLS, for which there is quite a bit of support on youtube (although, not from my channel).

Good luck! Sorry to have not been more help.
James

p.s. I did play around with your model quite a bit, hoping to find success. I always do this, and I'm always disappointed when it comes to the formative models.

-----Original Message-----
From: Leila Karimi [mailto:L.Karimi@latrobe.edu.au]
Sent: Wednesday, January 25, 2012 12:17 PM
To: James Gaskin
Subject: RE: Formative Model

Hi James,

Sorry I sent you the wrong files. Please find attached files. I believe that Org and Individual capacities build the work ability not the other way around (reflective). The same for the sub-constructs of Org and Individual constructs. Please let me know if you need more details. Many thanks.

Regards,
Leila

-----Original Message-----
From: James Gaskin [mailto:james.eric.gaskin@gmail.com]
Sent: Wednesday, 25 January 2012 7:25 AM
To: Leila Karimi
Subject: RE: Formative Model

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Dear James,
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I asked many people for advice but nobody is familiar with formative models.
Thanks and looking forward to hearing from you.

Regards,
Leila
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To: James Gaskin
Subject: Formative Model

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I asked many people for advice but nobody is familiar with formative models.
Thanks and looking forward to hearing from you.

Regards,
Leila
Dear James,

Many thanks for the explanation. I had one more question: as I discussed it with you before, my argument is that WAI (work ability index) is a formative model as Org. capacity and Individual capacity are two different constructs that form WAI. Through the literature they evaluated WAI as reflective and always reported that Org capacity also is a stronger construct which I think is nothing but type II error. As this is a very well-known scale, I have to back up myself with good evidence coz I'm expecting to deal with huge criticism. so I repeated the same analysis using reflective constructs (attached files) and this time Org capacity shows very strong effect on WAI. I've attached the data to this email. now I wonder how to argue comparing the formative and reflective models while the reflective one shows a better fit?!!! can I argue that inflated outcome is a type II error (this has been confirmed in the formative models literature that misspecification of formative models as reflective produce an inflated result). would that be a fair and strong enough argument? Do you have any other suggestion on this? Many thanks James for any thoughts on this. Greatly appreciate it.

Regards,
Leila

--- On Fri, 23/11/12, James Gaskin <james.eric.gaskin@gmail.com> wrote:

From: James Gaskin <james.eric.gaskin@gmail.com>
Subject: RE: formative model
To: "'Leila Karimi'" <l.karimi@ymail.com>
Received: Friday, 23 November, 2012, 5:01 PM

Yes, the path is weak, but it is also significant. Bootstrapping reduces error. Lower error means higher t-statistics. This is also why you will get stronger t-statistics if you increase the bootstrap sampling.
I've done the analysis as outlined in your clip on second order formatives and found out that one of the path to WAI is not significant. When I ran the bootstrapping however it turned significant. Now I wonder what can I say? can I say the model is a good fit and both paths are significant. I've attached the files here for your info. Many thanks in advance for any clue.

Regards,
Leila

--- On Sat, 17/11/12, James Gaskin <james.eric.gaskin@gmail.com> wrote:

From: James Gaskin <james.eric.gaskin@gmail.com>
Subject: RE: Thanks YOU
To: "Leila Karimi" <l.karimi@ymail.com>
Received: Saturday, 17 November, 2012, 3:10 PM

The others are also special and very smart in other ways. I just turned 31.

--- On Fri, 16/11/12, James Gaskin <james.eric.gaskin@gmail.com> wrote:

From: James Gaskin <james.eric.gaskin@gmail.com>
Subject: RE: Thanks YOU
To: "Leila Karimi" <l.karimi@ymail.com>
Received: Friday, 16 November, 2012, 11:46 PM

No worries. Glad to help. My daughters are 3, 5, and 7 now. The oldest was on TV a lot when she was young. Google “Lilly on Oprah” or “Lilly Map” to see videos. No need to send them gifts, though that is very thoughtful. I appreciate the offer.

Thanks,
Dear James,

Many thanks for your help, really appreciate it. From your blog I realised that you've got three beautiful children. Can I have your address to send them some Australian souvenir for their Xmas? (something from an Aussie Santa perhaps ;)). Thanks again.

Regards,

Leila

--- On Fri, 16/11/12, James Gaskin <james.eric.gaskin@gmail.com> wrote:

From: James Gaskin <james.eric.gaskin@gmail.com>
Subject: RE: screeming for help
To: l.karimi@ymail.com
Received: Friday, 16 November, 2012, 11:25 PM

Ok no problem. Thanks.

Leila

Sent from my iPhone

On 17/11/2012, at 2:51 AM, "James Gaskin" <james.eric.gaskin@gmail.com> wrote:

Oops. Looks like I actually have an appointment at that time. I’ll skype you sometime closer to 10am then.

James
Great! I'm at Melbourne and will be available at that time. Hopefully will see you online. Thanks again.

Regards,
Leila

--- On Fri, 16/11/12, James Gaskin <james.eric.gaskin@gmail.com> wrote:

You are 18 hours ahead of me then if you are in Sydney or Adelaide, but only 15 hours if in Perth. So, a comfortable time for both of us may be from 9am-noon my time, which would be 3pm-6pm Sydney time, and noon-3pm Perth time. I’m available at any time during that period tomorrow. Just let me know if sometime during that period is convenient for you.

James

--- On Wed, 14/11/12, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Many thanks for your email. I've added you as well. Will contact you when you're available. Unfortunately there are some time differences as I live in Australia but I'm sure we could bump in each other at some point. Thanks again. You wont believe how much I appreciate your help. You're a true scholar.

Regards,
Leila

--- On Wed, 14/11/12, James Gaskin <james.eric.gaskin@gmail.com> wrote:
My skypename is james.gaskin. I’ve just sent a request to you via skype. I’m available today if you have the time. I live in Utah, so I am on Mountain Time US. Let me know when is good for you.

James

Hi James

Many thanks for your help. Can I have your Skype I’d then. Mine us l.karimi.

Regards

Leila

Sent from my iPhone

On 14/11/2012, at 3:26 AM, "James Gaskin" <james.eric.gaskin@gmail.com> wrote:

Hi Leila,

To open the project, I need the .splsp file. Or we could just skype as I watch your screen so that we can troubleshoot this together.

James

If you remember me from our last conversation, you advised me to use PLS for identifying my formative model. I tried to learn PLS (thanks for your clip
on youtube, as usual very helpful :) ). Unfortunately, I'm having problem in running the model, I would be forever grateful if you could have a quick look at the attached model and let me know if there is any way to fix it.

Many thanks in advance for any clue.

Regards,

Leila
Thanks James for your advice. I could wait for a week as first I need to learn how to use PLS. I had a search on google and found different types of PLS. could you please send me the link for software. Did you try my model with PLS? if so do you mind if you also try the attached model? I turned it to MIMIC model for better identification. Thanks again for your endless support. You're my Stat Angel :)

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I asked many people for advice but nobody is familiar with formative models.
Thanks and looking forward to hearing from you.

Regards,
Leila
Dear Dr. James
hope you are fine and enjoying your weekend.

Actually in my model a sequential mediation is not temporal procedural approach rather it is something like this: A is related to B and B is related to C and C is associated with D. so I have two mediating variables causing each other, one independent and on dependent variable. I hope I am using the right terminology.

anyway, I don’t know how to assess my mediation I googled it and adopted the approach I explained previously to you and am so happy that you think my approach is correct.

so, if you don’t mind, I have two questions now: 1) for examining the likelihood of the correctness of my model how many nested models do I need to compare? and then 2) can I use the bootstrapping for assessing my mediation and then use moderated mediation method you explained in your video for testing my hypotheses?

I really appreciate if you provide me with your expert advice

all the best

On Sun, Oct 28, 2012 at 4:02 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

1. Yes. That sounds like an appropriate approach. By “sequential” I assume you mean that X occurs, and then Y occurs, yes? If so, are you collecting data in multiple time periods? If so, you can still use traditional variance based approaches. I just wrote a paper in which we did this. We measured X, then applied a treatment, and then measured X again. We have not published the paper yet though. There are many studies like this.

2. Yep.
your honest and kind reply.

A very quick question. can I employ this process:

1) I assess the likelihood of my sequential mediating model by comparing a sequence of nested models and then

2) examine the moderated mediation effects and their statistical significance ( by methods you explained in your video)

I really appreciate , if you just give your expert opinion on that.

looking forward to seeing you sometime in down under

have a lovely weekend

regards

On Sat, Oct 27, 2012 at 8:46 AM, James Gaskin wrote:

Oh! I should have known that. I now work at BYU in Utah, and only consult on an adjunct basis back at Weatherhead.

As for your moderated mediation, I have a video on that called: "Moderated Mediation and Controls".

As for sequential mediation, I’m not very sure. I am very good with variance models, but not very familiar with process models. I honestly don’t know. I would just end up googling it, but I figure you can do that too. Best of luck! Sorry to not be more help.

James

From: Arash najmaei [mailto:arash.najmaei@gmail.com]
Sent: Thursday, October 25, 2012 10:12 PM
To: James Gaskin
Subject: Re: greetings from australia and a quick question
Dear James

totally understand, have a lovely weekend , BTW Robert widning is going to be the new dean of Weatherhead School of Management, he was the dean of my school for two years.

cheers

On Fri, Oct 26, 2012 at 2:49 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Hi Arash,

Just got your email. I need to get some sleep now though. I’ll look at this on Monday. I’m teaching all day tomorrow, and then flying back home to Utah. Then a nice weekend with the family. So, Monday… Thanks for your patience. I’m not sure who Robert Widing is...

James

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To: james.eric.gaskin@gmail.com
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Dear James

my name is arash and am a PhD student in management scenic in Australia. i have watched almost all toyr videos and am so grateful to you for all your effrotsn ands fantastic tools , comprehensive and kind replies to questions and wonderful YouTube clips.

actually my model is kind of complicated, i have a sequential mediating model and my mediating variables are in fact moderated-meditations. The reason for this model complexity is that i am working on executives' cognitive functioning and their behavior on the overall firm performance and the cognitive functioning is moderated by the perception of uncertainty.

could you please advise how i can test my model? i know that i need to test mediation effects perhaps using bootstrapping first and then with the help of your
video or interaction effect interpret my moderated meditations but i am not quite sure how i can test my sequential mediation. i really appreciate that if you help me out.

by the way, professor Robert Widing is a good friend of mine:)

all the best

hope to see you sometime soon in Sydney

---
Arash Najmaei
Doctoral Scholar, Sydney, Australia
Research Associate, Global Strategic Management Inc, Michigan, USA

Higher Degree by Research Counsellor, MUPRA, Sydney

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That's great, you deserve to consult on an adjunct basis at all universities. there is a huge demand for you expertise all other the world. Thank you very much for your honest and kind reply.

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+61 414 87 27 87
Dear Dr. James,

Could you please assist me with the Multigroup moderation in AMOS using the group differences excel template? I have tried for several times and yet failed to generate any result for the z-score. Attached are the tables regard, thanks for your assistance. :)

Best regards,

Yue Teng
Dear Dr James,

Thanks for the clear explanation and the attachment of newer version of excel template. And yes!.... finally i managed to generate the result table. Appreciate a lot for your help and guidance.

Best regards,

Yue Teng
Dear Dr. James,

I have some questions regarding mediation test using Bootstrapping. Please refer to the file attached. Thanks.

Best regards,

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I have some questions regarding mediation test using Bootstrapping. Please refer to the file attached. Thanks.

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Dear Dr. James,

Thanks for your informative and timely reply. This is always good to hear from you.

Pls refer again to the file attached. thanks.

Best regards,
Yue Teng
Thx Dr. James for the quick reply and advice! :)
Hi James,

Okai, I think that's going to be a problem with the model.

My model is adapted from Delone and Mclean:

And this is a formative model. For example, information quality consist of 7 measures:
- The scope of information is adequate (neither too much nor too little).
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I'm a little confused.

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James

From: Twan Peters [mailto:twan_p@hotmail.com]
Sent: Wednesday, January 09, 2013 10:09 AM
To: James Gaskin
Subject: RE: Handy Dandy - discriminant validity

Hi James,

Aaaaah, of course haha. Thanks (unfortunately the model wasn’t mine, just an example ;-)).

I have one other small question, it will be last one.

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There is much written about these analysis, maybe too much, because I read a lot of different opinions. What is the best analysis to use in my situation?

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From: james.eric.gaskin@gmail.com
To: twan_p@hotmail.com
Subject: RE: Handy Dandy - discriminant validity
Date: Wed, 9 Jan 2013 09:43:47 -0700

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Thanks in advance,
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You will want to use a formative model in SmartPLS then. I have several videos on SmartPLS and how to do factor analysis among other things. Hope they help.

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For example, information quality:
http://i49.tinypic.com/ida9w7.jpg

Does this mean that e.g. CQ6: The information is free of distortion, bias or error is interchangeable with CQ3: The information is easily understandable by the target group? They correlate high, but the meaning is totally different?

And how could you see from those screenshots that BIS maturity is formative? Because it has a low AVE score?

Best regards,
Twan Peters

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From: james.eric.gaskin@gmail.com
To: twan_p@hotmail.com
Subject: RE: Handy Dandy - discriminant validity
Date: Thu, 10 Jan 2013 08:28:15 -0700
You will want to use a formative model in SmartPLS then. I have several videos on SmartPLS and how to do factor analysis among other things. Hope they help.
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From: Twan Peters [mailto:twan_p@hotmail.com]
Sent: Thursday, January 10, 2013 6:38 AM
To: James Gaskin
Subject: RE: Handy Dandy - discriminant validity

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Hence, they chose the wrong validation and reliability measures, which makes their conclusion doubtful? This means that you could have a nice (very recent) example for your students :)

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Thanks! And keep up the good work!

Best regards,
Twan Peters
Hi James

I have some doubts about my survey questions for my research. It would be great if you could have a quick at these (few) survey questions to argue if these items can cause some trouble in my reliability and validation process.

I hope that you have a few minutes left :)

Thanks in advance,
Twan Peters
Master Information Management student

You are correct.

That's exactly my point. The arrows point to a reflective model, but they used formative measures.

Hence, they chose the wrong validation and reliability measures, which makes their conclusion doubtful? This means that you could have a nice (very recent) example for your students :)

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To: twan_p@hotmail.com
Subject: RE: Handy Dandy - discriminant validity
Date: Mon, 21 Jan 2013 11:02:38 -0700
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http://i46.tinypic.com/5mzma8.jpg
Cronbach & AVE:
http://i48.tinypic.com/2z7ftzt.jpg
AVE:
http://i47.tinypic.com/b4jbyh.jpg

Best regards,
Twan Peters

---

Hi Twan,

I haven't looked at the study, but here are the principles:
If you are using reflective measures, you must assess convergent validity and reliability (via AVE and Cronbach's Alpha).
If you are using formative measures, it is meaningless to assess convergent validity and reliability because the measures are not required to covary.
If you have both formative and reflective constructs in your model, then you can assess convergent validity and reliability of the reflective constructs separate from any analyses of the formative ones.
Hope this helps.
James
From: Twan Peters [mailto:twan_p@hotmail.com]
Sent: Sunday, January 20, 2013 7:04 AM
To: James Gaskin
Subject: RE: Handy Dandy - discriminant validity

Hi James,

I have a question about a recent published study by Popovič et al (2012).

They used a PLS method for their data analysis, however, they also used the Cronbach alpha and AVE to measure the reliability and validity of the model constructs. Because their model looks like a formative model, I assumed that using the Cronbach and AVE is not appropriate. Or they have used the wrong reliability and validation methods, or I missed something :)

Could you have a quick look at their study? I have attached their study in this email.

Thanks in advance,
Twan Peters

From: james.eric.gaskin@gmail.com
To: twan_p@hotmail.com
Subject: RE: Handy Dandy - discriminant validity
Date: Thu, 10 Jan 2013 08:28:15 -0700
You will want to use a formative model in SmartPLS then. I have several videos on SmartPLS and how to do factor analysis among other things. Hope they help.
James

From: Twan Peters [mailto:twan_p@hotmail.com]
Sent: Thursday, January 10, 2013 6:38 AM
To: James Gaskin
Subject: RE: Handy Dandy - discriminant validity

Hi James,

Okai, I think that's going to be a problem with the model.

My model is adapted from Delone and Mclean:

And this is a formative model. For example, information quality consist of 7 measures:
. The scope of information is adequate (neither too much nor too little).
They all say something about information quality and they are all different measures. That also counts for other constructs in this model. Does that mean that I can't use an exploratory factor analysis? And I can't measure the AVE for convergent and discriminant validity? Because the measures don't have to be correlated. It is possible that the system provides up to date information, but the information is hard to understand etc.

I'm a little confused.

Best regards

Twan Peters

---

From: james.eric.gaskin@gmail.com
To: twan_p@hotmail.com
Subject: RE: Handy Dandy - discriminant validity
Date: Wed, 9 Jan 2013 10:15:23 -0700

You should do both the EFA and the CFA. One is to explore, the other to confirm. I recommend Maximum Likelihood actually, but if that doesn't work out, then go with principle axis factoring. Maximum likelihood gives model fit numbers and also matches subsequent structural modeling algorithms in AMOS.

James

---

From: Twan Peters [mailto:twan_p@hotmail.com]
Sent: Wednesday, January 09, 2013 10:09 AM
To: James Gaskin
Subject: RE: Handy Dandy - discriminant validity

Hi James,

Aaaaah, of course haha. Thanks (unfortunately the model wasn't mine, just an example ;-)).

I have one other small question, it will be last one.

I'm writing my master thesis about the success factors of mobile business intelligence. For this research, I have developed a research model that I want to test with a questionnaire.
In order to assess the validity of my measurement I'm struggling to choose the right factor analysis. Despite the differences, exploratory factor analysis and confirmatory factor analysis are both looking good analysis to use.
And when I choose to use the EFA, what is then the best method, principal axis factoring or principal component analysis?

There is much written about these analysis, maybe too much, because I read a lot of different opinions. What is the best analysis to use in my situation?

Best regard,
Twan Peters

From: james.eric.gaskin@gmail.com
To: twan_p@hotmail.com
Subject: RE: Handy Dandy - discriminant validity
Date: Wed, 9 Jan 2013 09:43:47 -0700
Very close. The value on the diagonal is the square root of the AVE. You need to compare it to the inter-construct correlations, not with the AVE. It will always be larger than the AVE (since it is its square root). So, you need to compare the diagonal to the correlations below it and to the left. For Flexibility, this would only be the values below it. I took a look through your table, and you have no validity or reliability issues.
Nice.
James

From: Twan Peters [mailto:twan_p@hotmail.com]
Sent: Wednesday, January 09, 2013 4:36 AM
To: james.eric.gaskin@gmail.com
Subject: Handy Dandy - discriminant validity
Hello James,

I've watched you're youtube video's and and they are fantastic! I've also used your excel tool: handy dandy, to calculate the AVE, and besides it is a great tool I have a question about it.

I'm still learning a lot about construct validity, however I still find it a difficult subject. With your handy dandy tool, you can calculate the AVE of the constructs. With this value it is possible to check your convergent validity of you measurement.

However, to check the discriminant validity you have to check that the variance shared between any two construct is less than the AVE by the constructs.
I think I understand how I can check the discriminant validity with the ValidityMaster tab, however, I'm not 100% sure. I have attached a screenshot in this email, could you please check if this is the right way to check discriminant validity?

Thanks! And keep up the good work!

Best regards,
Twan Peters
Hi James,

Aaaaah, of course haha. Thanks (unfortunately the model wasn’t mine, just an example ;-)).

I have one other small question, it will be last one.

I’m writing my master thesis about the success factors of mobile business intelligence. For this research, I have developed a research model that I want to test with a questionnaire. In order to assess the validity of my measurement I’m struggling to choose the right factor analysis. Despite the differences, exploratory factor analysis and confirmatory factor analysis are both looking good analysis to use.

And when I choose to use the EFA, what is then the best method, principal axis factoring or principal component analysis?

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Nice.
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Thanks! And keep up the good work!

Best regards,

Twan Peters
Thank you James
Best Regards,
Sam

On Thu, Aug 9, 2012 at 12:19 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

No. Mediation is established by looking at the significance of the indirect effect. If there are two mediators, then you need to test them one at a time because the indirect effect takes into account all variables linking the IV to the DV. So if you have a model like the one below, if you want to test the mediating effect IV1-->Med2-->DV then you first need to remove the red arrow so that Med2 is the only mediator between IV1 and DV. Then put that arrow back in and remove another when testing other mediation effects. It is kind of a pain in the rear, but that is how it works. Hope this helps! James
Hello

Thank you! This greatly helps me in focusing on and giving me these answers. In fact the statwiki website is great, much useful than conventional textbooks. Just one quick question to confirm: In models with 2 mediators, can the significance of the paths and overall fitness of the model based on the fit indecies be taken as evidence of mediation? Let's say you construct the final mediated model from the start and all direct and indirect paths and fit indecies indicate fitness of the final model. Is that evidence for mediation?

Regards, and once again my best wishes for you

Sam

On Wed, Aug 8, 2012 at 10:31 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

I’m glad you’ve found these resources helpful. You may also find the wiki useful:
http://statwiki.kolobkreations.com

1. Yes, use standardized regression weights.

2. As for bootstrapping, it provides estimates for the indirect and total effects. Bootstrapping is the preferred method. Here is a video by my good friend Aron on how to do it:
http://www.youtube.com/watch?v=IkBeR2Z4bPA and here are some slides on it I put together:
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Hope this helps.

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Dear Mr. James

First let me thank you for your invaluable statistics videos on Youtube. As a graduate student I really appreciate your efforts and want to thank you and offer my sincere appreciation. I Recently watched your video on a simple guide to mediation and finally understood what mediation is and how to work with AMOS. Your basic amos video helped me to run my model and I am testing my mediation model now using your advice.
I would appreciate, if time permits, you could answer my 2 questions or suggest additional readings for me. I am running my mediation model with 2 mediators and have been following changes in path coefficients to guide me. Should I follow the standardized coefficients? (I have a 900 Dataset with no missing data).

Also, there is an option in amos for performing bootstrap (I think up to many times). What is the function of bootstrapping? is it an alternative to sobel test? and what number should I specify the AMOS bootstrap.

I would appreciate if you could get back to me with my questions.

Once again Thank you sir and best regards,

Sam
Dear James,
I don’t know how much to thank you because of your videos. They have been a godsend and I have been consulting Youtube more than my stats books lately. Today I was reviewing linear regression and it just occurred to me how it is similar to individual components of the structural model in AMOS. So, could it be said that betas and path coefficients represent the same basic idea and can be interpreted similarly? For example, one unit change in DV is accounted for beta change in the IV?

I would greatly appreciate your answer to my question and if you could recommend any specific article that illustrates this issue.

Thanks for taking your time and answering my questions. I am very appreciative.

Best Regards,
Sam

On Sat, Aug 11, 2012 at 9:50 AM, Meysam Pirbaglou wrote:
Thank you James
Best Regards,
Sam

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Hope this helps.

James

From: Meysam Pirbaglou [mailto:meysam.pir@gmail.com]  
Sent: Tuesday, August 07, 2012 5:17 PM  
To: james.eric.gaskin@gmail.com  
Subject: Hello and a very short question!

Dear Mr. James

First let me thank you for your invaluable statistics videos on Youtube. As a graduate student I really appreciate your efforts and want to thank you and offer my sincere appreciation. I recently watched your video on a simple guide to mediation and finally understood what mediation is and how to work with AMOS. Your basic amos video helped me to run my model and I am testing my mediation model now using your advice.

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Once again Thank you sir and best regards,

Sam
Hi James,

I'm stupid..... just realised that I didn't look at the tabs at the bottom.....didn't realize there was more than one spreadsheet on the download...

Sorry,

Cheree

On 18 September 2012 02:22, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Really? I've marked it with a big excel icon:

I've also listed it on the side panel:

```
resources
• Download Excel File
• YouTube Demos
• Stats Help Archive
```

Oh well. You aren’t the first to mention this (in fact, you are probably the tenth)... I’ll have to find a way to insert flashing arrows and a neon sign :)

I’ve attached it just in case.

Best of luck!

James
Dear James,

I am a PhD student struggling with multigroup moderation...saw your you tube video tx...... can't find the parameter spreadsheet on statwiki..... Are you able to send it to me?

Tx

Cheree

--

Cheree Murrihy
PhD Candidate (Psychology)
Institute of Human Development and Counseling
Monash University
Australia

--

Cheree Murrihy
PhD Candidate (Psychology)
Institute of Human Development and Counseling
Monash University
Australia
Hi James,

I am using your stats tool for group differences - Multigroup multiple mediation comparisons...... Do you have any information about how you have calculated the comparison table with z-scores.....so I can write it up in my PhD thesis. My supervisor has asked me for more detail...given I am not quoting a journal....

tx
cheree

On 18 September 2012 07:28, Cheree Murrihy <cdmur1@student.monash.edu> wrote:
Hi James,

I'm stupid..... just realised that I didn't look at the tabs at the bottom.....didn't realize there was more than one spreadsheet on the download...

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![Excel Icon]

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I’ve attached it just in case.

Best of luck!

James

From: Cheree Murrihy [mailto:cdmur1@student.monash.edu]
Sent: Monday, September 17, 2012 6:25 AM
To: james.eric.gaskin@gmail.com
Subject: help

Dear James,

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get that file...it is a different one...odd

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![Excel Icon](image)

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toolbox

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Cheree Murrihy
PhD Candidate (Psychology)
Institute of Human Development and Counseling
Monash University
Australia

--

Cheree Murrihy
PhD Candidate (Psychology)
Institute of Human Development and Counseling
Monash University
Australia
Here you go. Thanks.

On Sat, Jul 7, 2012 at 9:58 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

I will need your data in order for this to work. There is nothing apparently wrong with the construction of the model.

From: Adrian Wolfberg [mailto:awolfberg@gmail.com]
Sent: Saturday, July 07, 2012 3:59 AM
To: James Gaskin
Subject: Help

James, I hope you can load these two AMOS files (v.19). When I ran the "old way" and had iterations set to 500, it stopped at 171 but said "minimization was unsuccessful."

When I run the model without the Common LF, I have no problems. I have had no problems whatsoever except when placing the CLF in the model. The CLF variance is set to 1. All the CLF paths are regressed.

Any thoughts appreciated.

Thanks, Adrian
Here you go. Thanks.

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Any thoughts appreciated.

Thanks, Adrian
i meant that i cant doing the moderator test by using the SEM

===================================================================== 
i would loje to inform you DR that all variables i used in the thesis follow likert scale from (1- 5) point

my results articulate that independent variable explaine just 7% from the organizational learning (dependent variable

and the other independent variable whuch is transactional leadership explaine just 3% 
but both significant at 0.01

another issue my supervisor tell me that if the x (IV) affect (Z) as a moderator variable and if the (M) affect y (DV) and there is no direct relationship between x and y this mean that m mediate the relationship between x and y

and if there is relationship between x and y this mean that M moderate the relationship

I'm not convinced that this is the correct way t test the moderator by using SEM

so i seek to find your email to assist me in this big problem after i try a lot to learn from your vedios
What do you mean that you “can’t able to reach”? Do you mean that you can’t access the videos and the wiki?

---

[From: MAH BN [mailto:mahabnt@hotmail.com]
Sent: Monday, March 18, 2013 11:53 AM
To: James Gaskin
Subject: RE: helping please]

thank you dr. James

i learned from your youtube but im cant able to reach , i try to do the analysis but i cant , unfortunitly and my supervisors emphasied to use structutural equation modeling you to help me i beg , so in my country there is no one can conduct these type of analysis please again , send to you some of the analysis i previously tried to do for my data i correct them as possible as can God bless you and yor family.... help me

---

From: james.eric.gaskin@gmail.com
To: mahabnt@hotmail.com
Subject: RE: helping please
Date: Mon, 18 Mar 2013 11:38:53 -0600

Hi Mahmoud

and wiki (http://www.youtube.com/Gaskination) I hope my videos will be sufficient to help you learn to do the analysis yourself. If (http://statwiki.kolobkreations.com) you are doctoral candidate, then you are very smart and should be able to figure this stuff out, especially with all the resources I have provided online. I figured it out during my doctoral program without any of these resources. I apologize I do not have time to do the analysis for you. I usually charge a lot of money to do this kind of consulting work. If you have occasional questions as you are figuring out the analysis, I am happy to respond to those emails, but I cannot do the analysis for you. Also, if I did the analysis, then you would not be learning anything. Best of luck

James
Dear Dr. James,

I'm Mahmoud from Egypt. I'm a PhD candidate.

Please help me for doing the analysis for my data by structural equation modeling technique.

In my study, I have 4 variables as following:

- **Independent Variable:** Leadership styles (transformational; leadership style and transactional leadership style)
- **Dependent Variable:** Which is organizational learning
- **Moderating Variable:** Which is organizational culture

My hypotheses are:

1. There is a positive relationship between transformational leadership style and organizational learning.
2. There is a relationship between transactional leadership style and organizational learning.
3. Organizational culture moderates the relationship between transformational leadership and organizational learning.
4. Organizational culture moderates the relationship between transactional leadership and organizational learning.

I send to you the data in SPSS file that contains the following:

- X11, X12, X13, X14, X15 are dimensions of transformational leadership style.
- X21, X22, X23, X24 are the dimensions of the transactional leadership style.
- Z1, Z2, Z3, Z4 are the dimensions of organizational culture.
- Y1, Y2, Y3, Y4, Y5, Y6, Y7 are the dimensions of organizational learning.

Each dimension of the above represents the mean of the respondents in this dimension.

Help me for doing the statistical analysis for test the hypothesis... please... please... please... and please use the CFA and the necessary techniques and the fit indices and send to me the results.
please dr james i feel that i fail to prove the research framework ... so please help me

your sincerely
mahmoud
my mobile
00972592789261
could you please send me the videos that clarify how to conduct moderation test using variables measured by likert scale

I'm not sure I understand all the issues (the language seems to be a problem). I have videos also that show how to do a moderation analysis in AMOS. Are these not sufficient. Sorry about the language barrier.

James

I meant that i cant doing the moderator test by using the the SEM

i would loje to inform you DR that all variables i used in the thesis follow likert scale from (1-5) point

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way t test the moderator by using SEM convinced that this is the correct not I'm
after i try a lot to learn from so i seek to find your email to assist me in this big problem
your vedios

From: james.eric.gaskin@gmail.com
To: mahabnt@hotmail.com
Subject: RE: helping please
Date: Mon, 18 Mar 2013 11:57:23 -0600

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thank you dr james

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i cant , unfortunitly
and my supervisors emphasied to use structutral equation modeling

you to help me i beg , so

in my country there is no one can conduct these type of analysis

please again , send to you some of the analysis i previously tried to do for my data i
correct them as possible as can

God bless you and yor family.... help me
Hi Mahmoud

and wiki (http://www.youtube.com/Gaskination) I hope my videos will be sufficient to help you learn to do the analysis yourself. If (http://statwiki.kolobkreations.com) you are doctoral candidate, then you are very smart and should be able to figure this stuff out, especially with all the resources I have provided online. I figured it out during my doctoral program without any of these resources. I apologize I do not have time to do the analysis for you. I usually charge a lot of money to do this kind of consulting work. If you have occasional questions as you are figuring out the analysis, I am happy to respond to those emails, but I cannot do the analysis for you.

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- $x_{21}, x_{22}, x_{23}, x_{24}$ are the dimensions of the transactional leadership style
- $z_{1}, z_{2}, z_{3}, z_{4}$ are the dimensions of the culture organizational
- $y_{1}, y_{2}, y_{3}, y_{4}, y_{5}, y_{6}, y_{7}$ are the dimensions of organizational learning

Each dimension of the above represents the mean of the respondents in this dimension.

Help me for doing the statistical analysis for test the hypothesis ... please ... please .... please and please use the CFA and the necessary techniques and the fit indices and send to me the results.

Please Dr. James, I feel that I fail to prove the research framework ... so please help me.

Your sincerely,
Mahmoud
My mobile
00972592789261
Dear James,

please start and do statistical analysis for my data which have been sent to you.
you can consider this work as a great helping to me.

regarding the language, I'm from an Arabic country, so my English is not good.

thanks.

---

I'm not sure I understand all the issues (the language seems to be a problem). I have videos also that show how to do a moderation analysis in AMOS. Are these not sufficient?

Sorry about the language barrier.

James

---

I meant that I can't doing the moderator test by using the SEM.

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your vedios

From: james.eric.gaskin@gmail.com
To: mahabnt@hotmail.com
Subject: RE: helping please
Date: Mon, 18 Mar 2013 11:57:23 -0600

What do you mean that you “can’t able to reach”? Do you mean that you can’t access the videos? and the wiki

[i][MAH BN [mailto:mahabnt@hotmail.com:iFrom
Monday, March 18, 2013 11:53 AM :Sent
James Gaskin :To
RE: helping please :Subject

thank you dr james

i learned from your youtube but im cant able to reach , i try to do the analysis but i cant , unfortunitly and my supervisors emphasied to use structutral equation modeling

you to help me i beg , so

in my country there is no one can conduct these type of analysis
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Also, if I did the analysis, then you would not be learning anything.

Best of luck
James

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Dear Dr. James

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Please help me for doing the analysis for my data by structural equation modeling technique.

In my study, I have 4 variables as following:

- Independent variable: Leadership styles (transformational, leadership style and transactional leadership style)
- Dependent variable: Which is organizational learning
- Moderating variable: Which is organizational culture

My hypotheses are
there is a positive relationship between transformational leadership style and organizational learning.

There is a relationship between transactional leadership style and organizational learning. Organizational culture moderates the relationship between transformational leadership and organizational learning. Organizational culture moderates the relationship between transactional leadership and organizational learning.

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My hypotheses are:

- There is a positive relationship between transformational leadership style and organizational learning (-1)
- There is a relationship between transactional leadership style and organizational learning (-2)

Organizational culture moderates the relationship between transformational leadership and organizational learning (-3)

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i see your video about multigroup analysis

?but i have question

my moderator is a organizational culture which contain four culture type

involvement culture-1
consistency culture-2
-Adaptability-3
mission culture-4

<table>
<thead>
<tr>
<th>Organizational Culture</th>
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<tr>
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<tr>
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<td>There is a clear and consistent set of values that governs the way we do business</td>
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<tr>
<td>3  2  1</td>
<td>Ethical codes guide our behaviors</td>
</tr>
<tr>
<td>3  2  1</td>
<td>When disagreements occur, we work hard to achieve solutions that benefit both parties</td>
</tr>
<tr>
<td>3  2  1</td>
<td>It is easy to reach consensus, even on difficult issues</td>
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<tr>
<td>3  2  1</td>
<td>We often have trouble reaching agreement on key issues</td>
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<tr>
<td>3  2  1</td>
<td>People from different organizational units still share a common perspective</td>
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</tbody>
</table>

I measured these types of culture by Likert scale 5-points as follow.

Are you sure that I should use multigroup or I should use another techniques or analysis?

Thank you very very much for your helping and replying.

From: james.eric.gaskin@gmail.com
If you have a categorical variable like Culture, then I would use the Multi-group moderation approach. I have a video for this as well.

James

is the youtube video titled "interaction moderation"

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mahmoud

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00972592789261
the respondents are account for 380

i calculate the average for each culture from the point view of every cases
for example

<table>
<thead>
<tr>
<th>cases of Involvement culture</th>
<th>mean of Consistency culture</th>
<th>mean of Adaptable culture</th>
<th>mean of Mission culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent number 1</td>
<td>3.4</td>
<td>3.6</td>
<td>4.5</td>
</tr>
<tr>
<td>Respondent number 2</td>
<td>4</td>
<td>3.8</td>
<td>4.75</td>
</tr>
<tr>
<td>Respondent number 3</td>
<td>4.25</td>
<td>4</td>
<td>2.6</td>
</tr>
<tr>
<td>Respondent number 4</td>
<td>3.4</td>
<td>4</td>
<td>3.2</td>
</tr>
<tr>
<td>And so on until the case number 380</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

is it true and if true what the new steps ??? should i follow

you are great and nice doctor
thanks
What you would have to do is figure out which respondents were which culture by averaging their responses on the likert scales. Then create a new variable that represented their culture. Then use that new variable as the multigroup moderator.

James

---

[From: MAH BN [mailto:mahabnt@hotmail.com]
Sent: Tuesday, March 19, 2013 3:07 PM
To: James Gaskin
Subject: RE: helping please

dear dr james

your video about multigroup analysis i see

?but i have question

organizational culture which contain four culture type my moderator is a
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<tr>
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<tr>
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<tr>
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<tr>
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<tr>
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<td>3</td>
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**Stability**

| 1 | 3 | 2 | 1 | We are very responsive | 55 |
| 1 | 3 | 2 | 1 | We respond well to competitors and other changes | 56 |
| 1 | 3 | 2 | 1 | We continually adopt new and improved ways to do work | 57 |
| 1 | 3 | 2 | 1 | Customer comments and recommendations often lead to changes | 58 |
| 1 | 3 | 2 | 1 | Customer input directly influences our decisions | 59 |
| 1 | 3 | 2 | 1 | The interests of the final customer often get ignored in our decisions | 60 |
| 1 | 3 | 2 | 1 | We view failure as an opportunity for learning and improvement | 61 |
| 1 | 3 | 2 | 1 | We encourage and reward those who take risk | 62 |
| 1 | 3 | 2 | 1 | We make certain that we coordinate our actions and efforts between different units | 63 |

**Vision**

| 1 | 3 | 2 | 1 | There is a long-term purpose and direction | 64 |
| 1 | 3 | 2 | 1 | There is a clear mission that gives meaning and direction to our work | 65 |
| 1 | 3 | 2 | 1 | There is a clear strategy for the future | 66 |
| 1 | 3 | 2 | 1 | There is widespread agreement about goals of this organization | 67 |
| 1 | 3 | 2 | 1 | Leaders of this organization set goals that are ambitious, but realistic | 68 |
| 1 | 3 | 2 | 1 | The leadership has clearly stated the objectives we are trying to meet | 69 |
| 1 | 3 | 2 | 1 | We have a shared vision of what this organization will be like in the future | 70 |
| 1 | 3 | 2 | 1 | Leaders of our organization have a long-term orientation | 71 |
Our vision creates excitement and motivation for our employees

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y1, y2, y3, y4, y5, y6, y7 are the dimensions of organizational learning
each dimension of the above represent the mean of the respondents in this dimension
help me for doing the statistical analysis for test the hypothesis ... please ... please and please use the CFA and the necessary techniques and the fit indices and send to me the results
please dr james i feel that i fail to prove the research framework ... so please help me
your sincerely
mahmoud
my mobile
00972592789261
how can i do this in spss
how can i know what the dominant culture

The idea is that you just want to figure out what culture they are based on their responses. So, figure it out. Did they answer more like mission culture or like involvement culture? This is what you need to figure out

James

the respondents are account for 380

i calculate the average for each culture from the point view of every cases

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<tr>
<th>cases</th>
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is it true and if true what the new steps ??? should i follow

doctor you are great and nice
thanks

From: james.eric.gaskin@gmail.com
To: mahabnt@hotmail.com
Subject: RE: helping please
Date: Tue, 19 Mar 2013 15:22:15 -0600

What you would have to do is figure out which respondents were which culture by averaging their responses on the likert scales. Then create a new variable that represented their culture. Then use that new variable as the multigroup moderator
James

[MAH BN (mailto:mahabnt@hotmail.com) :From
 Tuesday, March 19, 2013 3:07 PM :Sent
 James Gaskin :To
 RE: helping please :Subject

dear dr james

your video about multigroup analysis i see

?but i have question

organizational culture which contain four culture type my moderator is a involvement culture-1 consistency culture-2 -Adaptability-3 mission culture-4
Decisions are usually made at the level where the best information is available 37
Information is widely shared so that everyone can get it 38
Everyone believes that he or she can have a positive impact 39
Working is like being a part of a team 40
We rely on coordination to get work done, rather than hierarchy 41
Teams are the primary building blocks of this organization 42
We constantly improve compared with our competitors 43
We continue to invest in the skills of employees 44
The capability of people is viewed as an important source of competitive advantage 45
Leaders and managers follow the guidelines that they set for the rest of the organization 46
There is a clear and consistent set of values that governs the way we do business 47
Ethical codes guide our behaviors 48
When disagreements occur, we work hard to achieve solutions that benefit both parties 49
It is easy to reach consensus, even on difficult issues 50
We often have trouble reaching agreement on key issues 51
People from different organizational units still share a common perspective 52
It is easy to coordinate projects across functional units in this organization 53
There is good alignment of goals across levels of this organization 54
We are very responsive 55
We respond well to competitors and other changes 56
We continually adopt new and improved ways to do work 57
Customer comments and recommendations often lead to changes 58
Customer input directly influences our decisions 59
The interests of the final customer often get ignored in our decisions 60
We view failure as an opportunity for learning and
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We encourage and reward those who take risk 62
We make certain that we coordinate our actions and efforts between different units 63

There is a long-term purpose and direction 64
There is a clear mission that gives meaning and direction to our work 65
There is a clear strategy for the future 66
There is widespread agreement about goals of this organization 67
Leaders of this organization set goals that are ambitious, but realistic 68
The leadership has clearly stated the objectives we are trying to meet 69
We have a shared vision of what this organization will be like in the future 70
Leaders of our organization have a long-term orientation 71
Our vision creates excitement and motivation for our employees 72

i measured these types of culture by likert scale 5-points as follow

analysis are you sure that i should use multigroup or i should use another techniques or

helping and repling thank you very very much for your

From: james.eric.gaskin@gmail.com
To: mahabnt@hotmail.com
Subject: RE: helping please
Date: Tue, 19 Mar 2013 09:42:31 -0600

If you have a categorical variable like Culture, then I would use the Multi-group moderation approach. I have a video for this as well.

James
is the youtube video titled "interaction moderation"

?? i have some questions

if i have a moderator which is organizational culture and this moderator involve 4 type -1
which are
consistency culture
mission culture
involvement culture
adaptability culture

these variable were measured by using likert scale

it is necessary to multiple each of them by the independent variable

and see the effect of interaction on the dependent variable

From: jame.s.eric.gaskin@gmail.com
To: mahabnt@hotmail.com
Subject: RE: helping please
Date: Mon, 18 Mar 2013 18:43:07 -0600

You can search my youtube channel to find the video. It has the word “moderation” in the title of
the video, so it shouldn’t be that hard to find

to conduct moderation test clarify how could you please send me the videos that
measured by likert scale variables using

From: jame.s.eric.gaskin@gmail.com
I’m not sure I understand all the issues (the language seems to be a problem). I have videos also that show how to do a moderation analysis in AMOS. Are these not sufficient.

Sorry about the language barrier.

James

---

I meant that I can’t doing the moderator test by using the SEM.

I would like to inform you DR that all variables I used in the thesis follow the Likert Scale from (1-5) point.

My results articulate that independent variable explain just 7% from the organizational learning (dependent variable)

And the other independent variable which is transactional leadership explain just 3% but both significant at 0.01.

And another issue my supervisor tell me that if the x (IV) affect (Z) as a moderator variable and there is no direct relationship between x and y this mean that m (if the (M) affect y (DV) mediate the relationship between x and y.

And if there is relationship between x and y this mean that M moderate the relationship

Way t test the moderator by using SEM convinced that this is the correct not I’m after I try a lot to learn from so I seek to find your email to assist me in this big problem your videos
From: james.eric.gaskin@gmail.com
To: mahabnt@hotmail.com
Subject: RE: helping please
Date: Mon, 18 Mar 2013 11:57:23 -0600

What do you mean that you “can’t able to reach”? Do you mean that you can’t access the videos and the wiki?

---

[MAH BN [mailto:mahabnt@hotmail.com
From

Monday, March 18, 2013 11:53 AM
Sent
James Gaskin
To
RE: helping please

thank you dr james

i learned from your youtube but im cant able to reach , i try to do the analysis but i cant , unfortunitly and my supervisors emphasied to use structutral equation modeling

you to help me i beg , so

in my country there is no one can conduct these type of analysis

please again , send to you some of the analysis i previously tried to do for my data i correct them as possible as can

God bless you and yor family.... help me

---

From: james.eric.gaskin@gmail.com
To: mahabnt@hotmail.com
Subject: RE: helping please
Date: Mon, 18 Mar 2013 11:38:53 -0600

Hi Mahmoud and wiki (http://www.youtube.com/Gaskination) I hope my videos will be sufficient to help you learn to do the analysis yourself. If (http://statwiki.kolobkreations.com) you are doctoral candidate, then you are very smart and should be able to figure this stuff out, especially with all the resources I have provided online. I figured it out during my doctoral program without any of these resources. I apologize I do not have time to do the analysis for you. I usually
charge a lot of money to do this kind of consulting work. If you have occasional questions as you are figuring out the analysis, I am happy to respond to those emails, but I cannot do the analysis for you.

Also, if I did the analysis, then you would not be learning anything.

Best of luck

James

[MAH BN (mailto:mahabnt@hotmail.com :From
Monday, March 18, 2013 11:31 AM :Sent
james.eric.gaskin@gmail.com :To
helping please :Subject


dear dr. james

im mahmoud from egypt im phd candidate

please help me for doing the analysis for my data by structural equation modeling technique

in my study i have 4 variables as following

independent variable : leadership styles (transformational ;leadership style and transactional leadership style)

dependent variable which is organizational learning

moderating variable which is organizational culture

my hypotheses are

there is a positive relationship between transformational leadership style and the organizational learning

there is a relationship between transactional leadership style and organizational learning

organizational culture moderates the relationship between transformational leadership and organizational learning

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please dr james i feel that i fail to prove the research framework ... so please help me

your sincerly
mahmoud
my mobile
00972592789261
From: MAH BN
To: James Gaskin
Subject: RE: helping please
Date: Thursday, March 21, 2013 2:27:30 PM

dear dr james

thank you for your helping and advice, i begin to do the analysis by myself using your videos

so i hope you reply of my questions

i conduct the CFA analysis for each construct, i found that the correlation coefficient between each pair of factors between ??exceed 0.85 which means high correlation how can i resolve this problem

the second question ? upon refering to modification index, can i correlate errors btween two items but each item belong to different variable

for example
leadership consist of four sub construct which are
contingent reword -1
management by exception passive-2
management by exception active-3
the Modification index is very high btween e1 and e16
but e1 belong to contingent reword
and e16 to management by exception

??can i correlate them

? the third question

According to Hair et al (2006) a factor loading of (3 to 4) are minimally accepted
are you prefer use the factor loading close oe more than 0.5
but in my data there are alot of factor loading ranging from 3 to 4

thank you
you are one of the best teachers i met in my life
Use your brain. You are the one who designed the study and collected the data, not me. You should be able to figure out how to determine which culture they are. You designed the study to capture this. Did you not consider in advance how you would then determine which culture they were?

James

---

how can i do this in spss
how can i know what the dominant culture

---

The idea is that you just want to figure out what culture they are based on their responses. So, figure it out. Did they answer more like mission culture or like involvement culture? This is what you need to figure out.

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i calculate the average for each culture from the point view of every cases
for example

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<tr>
<td>number 1</td>
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<td>3.8</td>
<td>4.75</td>
<td>2.8</td>
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docotor you are great and nice
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From: james.eric.gaskin@gmail.com
To: mahabnt@hotmail.com
Subject: RE: helping please
Date: Tue, 19 Mar 2013 15:32:15 -0600

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James

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To: james.eric.gaskin@gmail.com
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Date: Tue, 19 Mar 2013 15:32:15 -0600

dear dr james

your video about multigroup analysis i see

?but i have question
organizational culture which contain four culture type

my moderator is a

involvement culture-1

consistency culture-2

-Adaptability-3

mission culture-4

<table>
<thead>
<tr>
<th>Organizational Culture</th>
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<tr>
<td>involvement</td>
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I measured these types of culture by likert scale 5-points as follow.

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helping and replying thank you very very much for your assistance.
If you have a categorical variable like Culture, then I would use the Multi-group moderation approach. I have a video for this as well.

James


If i have a moderator which is organizational culture and this moderator involve 4 type -1 which are
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involvement culture
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it is necessary to multiple each of them by the independent variable

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your vedios

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please again , send to you some of the analysis i previously tried to do for my data i
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God bless you and yor family.... help me
Hi Mahmoud

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Also, if I did the analysis, then you would not be learning anything.

Best of luck

James
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Subject: helping please

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dependent variable which is organizational learning

moderating variable which is organizational culture

my hypotheses are

there is apositive relationship btween transformational leadership style and the -1 organizational learning

there is arelationship btween transactional leadership style and organizational learning -2 organizational culture moderates the relationship btween transformational leadership and -3 organizational learning

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:i send to you the data in spss file that contains the following

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your sincerely
mahmoud
my mobile
00972592789261
i HAVE BEEN LEARNING FROM YOUR VIDEOS ONLY. I have the data with me in SPSS. Can u help me with building a casual model? I have data for both HR professionals' perception on e-HRM systems and end users (employees across the organisation) perception on usefulness and limitations of such systems. I need to compare both these (HR professionals' and end users' perception) across selected Indian and multinational companies. If you could help make a model of factors for HR professionals, it would be a great help. Else tell me the link for making this model. The EFA done by me has not got the factors and variables exactly as I want so I was suggested by someone to directly make a model in AMOS.

On Thu, Mar 14, 2013 at 10:04 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

If you have the data for it, I would do the ANOVAs and then also do a causal model like you suggest. These are not difficult to do. Just watch my videos on how to use AMOS.

Best of luck!

James

One more question:

I will do means, S.D. and anova.

Since my research is to compare Indian vs MNC on perceptions of employees towards e-HRM systems - do u suggest I take professional help and make a model in AMOS describing various factors and the impact e-HRM has on these factors eg: improves administrative efficiency or employee relations or so on. Would that make thesis better?
On Thu, Mar 14, 2013 at 8:51 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

These are meaningless because they only say if they are different and to what extent each item correlates with the other items.

From: Puja Sareen [mailto:puja.sareen@aitgurgaon.org]
Sent: Thursday, March 14, 2013 6:07 AM
To: James Gaskin
Subject: hi

Hi Sir

Since I have already done CFA for each factor and then found z scores through your statistical tool as well, then can u tell me how I use these z scores in my interpretation to show difference in groups. Attaching a file of z scores.

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Regards
Puja Sareen
Sr. Lecturer

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Sr. Lecturer

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Puja Sareen
Sr. Lecturer
I have already made separate constructs in AMOS for each factor. Please see them if these can be used?

These are constructs for advantages of eHRM system:

1. OEHR - Operational efficiency
2. rel_group: Employee relations
3. INF: Informational responsiveness
4. Strategic: Strategic positioning of HR

As for limiting factor, should I make a construct and can it be combined in the same model?

I trust you for my data, you have been out of the way helpful........

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Best of luck!

James
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thanks a ton

just let me know should I combine advantages(4 factors) and limitations(2 factors) in same model or separate models for benefits and limitations.

I very well respect your time.

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I cannot spend more time on this, but you can refer to my youtube channel and my wiki. My wiki explains all the steps of taking data from start to finish using structural equation modeling.

http://statwiki.kolobkreations.com

Best of luck.

James

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ANOTHER QUERY: I MAKEONE MODEL FROM MERGED FILE AND THEN COMPARE IT FOR GROUPS?

On Thu, Mar 14, 2013 at 11:19 PM, James Gaskin wrote:

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combined
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From: Puja Sareen [mailto:puja.sareen@aitgurgaon.org]
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To: James Gaskin
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combined

From: Puja Sareen [mailto:puja.sareen@aitgurgaon.org]
Sent: Thursday, March 14, 2013 11:47 AM

To: James Gaskin
Subject: Re: hi

thanks a ton

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Best of luck.

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From: Puja Sareen [mailto:puja.sareen@aitgurgaon.org]
Sent: Thursday, March 14, 2013 10:59 AM

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ok sir

On Fri, Mar 15, 2013 at 12:13 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

EFA and CFA always comes before structural model.

also: can I proceed to make a model without doing EFA?

On Thu, Mar 14, 2013 at 11:19 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

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Thank you so much, 
Regards. 
Mo

---

From: james.eric.gaskin@gmail.com 
To: msa999@hotmail.co.uk 
Subject: RE: How can convert 7-point likert scales to 5-point likert? 
Date: Thu, 13 Dec 2012 15:22:57 -0700

The threshold for the t-value is dependent upon your desired confidence level. So, if you want a 95% confidence level, you should aim for 1.96, but if you are fine with a lower confidence level, then you can use a lower t-statistic. You could also simply increase the number of cases selected for the bootstrap – this will automatically increase the t-statistic. So, instead of using 100 or 200, use the same number as your sample size.

James

---

From: M M [mailto:msa999@hotmail.co.uk] 
Sent: Thursday, December 13, 2012 3:06 PM 
To: Dr James 
Subject: RE: How can convert 7-point likert scales to 5-point likert? 

Thank you so much, as the usual, your fast reply is highly appreciated.

Actually I am not an expert in statistic, but I though this conversion will improve the effect between constructs, but you said that the regression will arrive at the same.

I used SMART-PLS to analysis my data and the T statistic results show that most of value below 1.96 (see table below). Is there any way to retain/use the value below 1.96 in the model?, for example Henseler et al (2008) claims that t value can be selected when is 1.64 and more, Is that right?

<table>
<thead>
<tr>
<th>Construct</th>
<th>Standard Error</th>
<th>T-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR -&gt; LM</td>
<td>0.088066</td>
<td>0.049372</td>
</tr>
<tr>
<td>CR -&gt; OC</td>
<td>0.134604</td>
<td>0.060733</td>
</tr>
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</table>

I do appreicate your answer

Regards. 
Mo
If you have not yet collected the data, then just reduce the number of points to five. If you have already collected the data, then you may have more of a problem... I’m not sure why you would want to convert it down to 5 from 7 though. Statistically you will arrive at the same regressions. If you want to convert so that you can make meaningful comparisons between the mean and SD, then you will just need to use ratios: x/5 and x/7 for those comparisons. Hope this helps.
James

Dear James

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Hi James,

thanks very much again for replying.

another question James, hope you have convenient time to answer.

My model inclusive of Likert scale (4 variables) and (1 dichotomous).

I put it in the said hybrid model (combination of measured and latent).

The dichotomous one is a mediator for this model. I sum up the total score of the dichotomous and put it as path (rectangle) in the middle as it is the mediator (summated score for dichotomous).

The fit stats was bad and the path coefficient also bad (.09) - between the IV and mediator.

I afraid I did the wrong method in running the model.

What do you think, James?

thanks very much.

SAH

On Thu, Feb 14, 2013 at 11:53 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

I don’t think you need to cite anything to implement a model like that. It’s just a structural equation model.

James
hybrid model is a combination of path and latent variables in one model.

My mediator is dichotomous, so I make it summated score (path or manifested) while others are latent with few indicators. I combine in one model.

I used to see it but don't know how to cite.

thanks James if you have any comment again.

thanks.

On Thu, Feb 14, 2013 at 5:06 AM, James Gaskin wrote: I’m not sure what you mean by “Hybrid Model”. I recommend googling it. Try scholar.google.com.

Best of luck!

James

From: shamila shamila [mailto:shamilaabuhasan@gmail.com]
Sent: Wednesday, February 13, 2013 10:03 AM
To: James Gaskin
Subject: Hybrid Model in SEM

Hi James,

who we can refer to for Hybrid Model in SEM or CFA? so that I can state in my references.

can we rely on the fit statistics of Hybrid Model?
thank you very much James.

thanks so much.

SAH
Hi James, thanks for replying..

hybrid model is a combination of path and latent variables in one model.

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SAH
Thanks for your explanation.
I’ll read the paper you mentioned to better understand the mechanism of bootstrapping.

Best Regards,
Ling

On Thu, Mar 15, 2012 at 9:58 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

This is what I thought too, but Chin says in his papers that even if you use the entire sample, some of the values in the sample will be replaced or estimated. I think it is called “mean-replacement”. You should check out the PLS manual probably. On page 14 he says, “The default Bootstrap options are 100 resamples with each sample consisting of the same number of cases as your original sample set. The bootstrap procedure samples with replacement from your original sample set. It continues to sample until it reaches the number of cases you specify (or the default). This procedure is repeated until it reaches the number of bootstrap resamples you specify (or the default of 100). In general, resamples of 200 tend to provide reasonable standard error estimates.”

I have attached the manual.

James
On Wed, Mar 14, 2012 at 10:42 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Oh, whoops, forgot to explain. Zero defaults to the entire sample size. So, if your sample size is 145, then putting zero there is just like putting 145 there.

Sorry, I’m a little bit confused with your reply.

The number of cases per sample refers to the size of subsample. In my view, it shouldn't be zero.

Why should we put zero for it?

On Wed, Mar 14, 2012 at 9:06 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

I believe Chin recommends putting zero for the cases per sample (this extracts subsamples from the entire sample population). The number of samples is recommended to be over 1000.

James

Dear Jamies,

I have a question about bootstrapping in PLS. When we conduct bootstrapping in PLS, we need to set the number of samples generated and the number of cases per sample. I find that the t-value always varies with different settings for these two parameters. I'm wondering whether there are some rules for setting these two bootstrapping parameters.

E.g., is the number of cases per sample required to be smaller than the number of
total observations? Is there a linear correlation between the number of samples generated and the number of cases per sample?

Thanks a lot.

Best Regards,
Ling

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Ling JIANG
Office: 3442 5828
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Department of Information Systems
City University of Hong Kong

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I have attached the manual.

James

If the size of subsample is the same with the size of entire sample, how to generate different subsamples? Does it mean that some observations in the entire sample will be selected repeatedly into a subsample while some will not be included into the subsample?

I think the size of subsample should be smaller than the size of entire sample so that bootstrapping can generate different subsets as subsamples. But I’m wondering to what extent the size of subsample is appropriate, especially compared with the entire sample size.

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Sent: Wednesday, March 14, 2012 10:22 AM
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The number of cases per sample refers to the size of subsample. In my view, it shouldn't be zero.

Why should we put zero for it?

On Wed, Mar 14, 2012 at 9:06 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

I believe Chin recommends putting zero for the cases per sample (this extracts subsamples from the entire sample population). The number of samples is recommended to be over 1000.

James

From: Ling Jiang [mailto:jiang.ling010@gmail.com]
Sent: Wednesday, March 14, 2012 3:08 AM
To: James Gaskin
Subject: Inquiry about bootstrapping in PLS

Dear Jamies,

I have a question about bootstrapping in PLS. When we conduct bootstrapping in PLS, we need to set the number of samples generated and the number of cases per sample. I find that the t-value always varies with different settings for these two parameters. I'm wondering whether there are some rules for setting these two bootstrapping parameters.

E.g., is the number of cases per sample required to be smaller than the number of
total observations? Is there a linear correlation between the number of samples generated and the number of cases per sample?

Thanks a lot.

Best Regards,

Ling

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Ling JIANG
Office: 3442 5828
Postgraduate Student
Department of Information Systems
City University of Hong Kong

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Dear James,

Thanks for your explanation. I'm just wondering why the mediation effect can be dampened in the context of entire model. Are there some factors leading to such situation?

Best Regards,
Ling

On Fri, Mar 2, 2012 at 10:17 PM, James Gaskin wrote:

Hi Ling,

What I would do is just explain in your paper that B is a significant mediator between A and C when observed in isolation, but these affects are dampened when taken in the context of the entire model. The only other way I can think of doing this is by using by calculating the indirect effect of A on C through B. But I'm not sure how to do that in PLS. I can do it in AMOS though...

Good luck!

James

From: Ling Jiang [mailto:jiang.ling010@gmail.com]
Sent: Friday, March 02, 2012 5:45 AM
To: James Gaskin
Subject: Inquiry about mediation assessment in PLS

Dear James,

Recently, I'm learning some basic knowledge about SEM by using PLS. For the mediation effect illustrated in the diagram, typically there are four conditions must be met for B to be a mediator.

1) A (predictor) is significantly associated with C
2) A (predictor) is significantly associated with B
3) B is significantly associated with C (after controlling for A)
4) The impact of A on C is significantly less after controlling for B

In most of the material explaining mediation effect, these three variables are
always isolated into an independent model to analyze the mediation effect. How about assessing and reporting the mediation effect when they are embedded in a comprehensive structural model? In my case, the mediation effect is significant in the separate three variables mode. However, when it comes to the whole model including all variables of interest, those four conditions cannot be met, thus it seems that the mediation effect fades away. Can I still claim the existence of the mediation effect in the large model?

Could you please give me some suggestions on this issue?

Thanks a lot!

Best Regards,

Ling

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Good luck!

James

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Hi James,

A friend of mine send her work showing her hypothesis testing (please see attachment). I know it is wrong but I don't know what is wrong to inform her. Does it make sense with you this kind of SEM for hypothesis testing?

Kind regards
Hamid
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Kind regards
Hamid
Hi James.

Thank you ever so much for your help with the interpretation of my last graph. I have one last query..would I be right with my interpretation with the attached graph. It’s such that I want to be sure with my interpretations are right and i thank you in advance for your help

The combination of low Processing Involvement and high levels of brand social hypocrisy is associated with moderate levels of social irresponsible. The relationship between brand confusion ambiguity and social irresponsible is stronger and more positive though at low levels of Processing Involvement.

kind regards
Amara

The positive effect of brand confusion similarity on egotistical is negatively moderated by attitude, such that the positive effect is dampened as attitude increases.

Hi James,

Hope you are well. I was wondering if you was able to give me a hand in interpreting an interaction effect graph. Please see attached. This is how i interpret the graph, is it correct in terms of what the arrows show. I apologize in advance for the inconvenience caused; it’s just that I’m really struggling to interpret this graph.

"the lower the consumers attitude the more likely consumers express a brand with the Egotistical factor Negative Brand Personality at low levels of Brand Similarity. so consumers with low attitude are more likely to become confused at low levels of brand similarity and consequently assign a brand with Egotistical factor of negative brand personality".

Your time and consideration is much appreciated.

Kind regards,
Iftakar
Thanks for getting back to me. I am so grateful.

I have four factors and they each have 4-6 indicators. Would you still recommend this approach? And if so, would I do it for every indicator on all 4 factors? I’m stumped as to why/how a loading could be above 1 (or how I would know it if it were). Should I just do each of the four factors separately? (Would the imputed values be affected by whether or not they were done simultaneously with other factors that covary along with them--i.e., are they different than if I did each factor separately?)

Again, I really appreciate your help.

My guess is that it is for a factor that has only two indicators. And, one of the loadings for one of the indicators is probably above 1. To fix this, constrain the regression weights for both to be “a”, and then constrain the variance on the factor to equal 1.

Right click (or double-click) each path. Select Object properties. Go to the Parameters tab and set the regression weight = a

Double click the latent variable (or right click and choose object properties).
Go to the Parameters tab, and set the variance = 1

I posted this on youtube, but then thought this might be easier:

I am using the video on how to impute composite variables. I was able to successfully do this with a CFA on my IV's, but I tried to do a separate CFA on my DV's and it wouldn't impute. It says 1 sample parameter was inadmissable. Any idea what's going wrong? I don't have any missing data.

The reasoning is to remove potential for multicollinearity. Most articles on the subject call
standardizing “mean-centering”. If you don’t standardize, you will have strong multicollinearity. Hope this helps. Check out my wiki: [http://statwiki.kolobkreations.com](http://statwiki.kolobkreations.com)

James

From: Loroz, Peggy Sue [mailto:loroz@jepson.gonzaga.edu]
Sent: Friday, February 10, 2012 11:16 PM
To: ‘james.eric.gaskin@gmail.com’
Subject: Interaction Moderation (SEM) video question

Hi James—

I am trying to get up to speed very quickly on SEM, so I am very much appreciating your videos. Thanks so much for the public service you are providing by posting them online!

Here’s a really basic question: why do you standardize the variables before creating an interaction term? I realize that this may be a very basic stats question, but I am most familiar with ANOVA rather than regression or SEM, and I am unfamiliar with the effects of standardizing vs. not.

Thanks for your help,

Peggy Sue
Thanks for getting back to me. I am so grateful.

I have four factors and they each have 4-6 indicators. Would you still recommend this approach? And if so, would I do it for every indicator on all 4 factors? I'm stumped as to why/how a loading could be above 1 (or how I would know it if it were). Should I just do each of the four factors separately? (Would the imputed values be affected by whether or not they were done simultaneously with other factors that covary along with them—i.e., are they different than if I did each factor separately?)

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Thanks for your help,

Peggy Sue
Dear James,

Perceived Relationship Investment is measured with 5 items.

Where Relationship Quality appears, I have a second order “sub-model”. Relationship Quality is not measured, it is a latent construct and Relationship Satisfaction, Relationship Trust and Relationship Commitment are its dimensions, each of them measured by several items (in the document attached to this email you can see the items I used to measure perceived relationship investment as well as relationship quality dimensions).

So far, I tested the measurement model for the two sets of service quality dimensions (separately for territorial units and electronic services). Then, I investigated the impact of these dimensions on each of the two single item variables which were measured in order to see the Perceived Service Quality (Territorial Units) and Perceived Service Quality (Electronic Services). And after that I encountered the problem. AMOS did not allow me to consider the Perceived Service Quality (Territorial Units) and Perceived Service Quality (Electronic Services) as indicators of Overall Quality (reflexive construct). Actually, I think that AMOS does not allow me to link anything to a variable that is observed (I want to link a dimension to an item which was used to measure Overall Quality). I may be wrong as I have just started to work with AMOS, but I watched every movie I found on youtube or your site, I also had a look in several books, but I couldn’t see such a relationship in any model. I also tried to use the input function in AMOS but it only created scores for the dimensions of service quality.

In the second model I propose I do not include in my model the Relationship Quality variable, but test the link between Perceived Relationship Investment and Relationship Satisfaction, and between this Relationship Quality dimensions and the other two.

If you have the necessary time, you can see the attached file with the variables I used in order to measure the constructs. I hope I explained well where the problem appeared.

Regards,
Lacra
Hi back James,

I am sorry for not attaching the file to the first email. I was so tired that I must have forgotten. The more I look now at my model the more I believe that there is no solution to figure it out. The first part of the model is a result of my qualitative research and since I haven't found anything similar in other researches' papers, I tried to find theoretical support in the definitions formulated for service quality and I think I found it ... but now I do not know if I can test this model.

Thank you for replying me and I really hope that you can come up with a solution.

Regards,
Lacra
are supposed to have a positive and significant impact on Perceived Service Quality (Electronic Services)

- Perceived Service Quality (Territorial Units) and Perceived Service Quality (Electronic Services) are observed variables

- **Overall Quality** is a latent variable composed by Perceived Service Quality (Territorial Units) and Perceived Service Quality (Electronic Services).

In case that this model cannot be tested in AMOS, please tell me if there is any other program that would allow me to analyze these relationships.

Thank you for taking your time to read my email, and if possible, please let me know your opinion and suggestions.

I am looking forward for you answer.

Kind regards,

Lacramioara Radomir
James, I have everything in Romanian. I can translate it or should I only retain in the database the variables of interest and explain you in the email which items belong to which variables? As for the Amos, files, I only saved the ones that seemed to me the best solution for Service quality dimensions, and one file with the impact of the service quality dimensions on the Perceived quality of bank services offered via territorial units.

If you send me the amos file and dataset I can troubleshoot it to see if I can get it to work. It should work.

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After looking this over, I see no reason why it should not be feasible in AMOS. The only issue I perceive is with regards to Perceived Relationship Investment. How is this measured? Everything else looks doable. You will need a ton of data to accomplish it (since the model is so complex), or you will need to test parts of it separately.

Hope this helps.

James

Hi back James,

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Hi Lacramioara,

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Thanks,

James
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**Note: - Variables in the model:**

- PF, OC, A, MV, PAP, FN (latent variables) – service quality dimensions, each composed by several items specific to bank services offered in territorial units – these dimensions are supposed to have a positive and significant impact on Perceived Service Quality (Territorial Units)

- S, UU, P, OC_e, A_e (latent variables) – service quality dimensions, each composed by several items specific to electronic bank services – these dimensions are supposed to have a positive and significant impact on Perceived Service Quality (Electronic Services)

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Thank you for taking your time to read my email, and if possible, please let me know your opinion and suggestions.

I am looking forward for you answer.

Kind regards,

Lacramioara Radomir
Ok, I shall begin to draw it. It may take me some time, but hopefully I shall manage to send it in a few hours.

Thank you,
Trust and Relationship Commitment are its dimensions, each of them measured by several items (in the document attached to this email you can see the items I used to measure perceived relationship investment as well as relationship quality dimensions).

So far, I tested the measurement model for the two sets of service quality dimensions (separately for territorial units and electronic services). Then, I investigated the impact of these dimensions on each of the two single item variables which were measured in order to see the Perceived Service Quality (Territorial Units) and Perceived Service Quality (Electronic Services). And after that I encountered the problem. AMOS did not allow me to consider the Perceived Service Quality (Territorial Units) and Perceived Service Quality (Electronic Services) as indicators of Overall Quality (reflexive construct). Actually, I think that AMOS does not allow me to link anything to a variable that is observed (I want to link a dimension to an item which was used to measure Overall Quality). I may be wrong as I have just started to work with AMOS, but I watched every movie I found on youtube or your site, I also had a look in several books, but I couldn’t see such a relationship in any model. I also tried to use the input function in AMOS but it only created scores for the dimensions of service quality.

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From: James Gaskin <james.eric.gaskin@gmail.com>
To: 'Lacramioara Radomir' <lacramioara_radomir@yahoo.com>
Sent: Monday, December 3, 2012 6:21 PM
Subject: RE: Kind request - PhD student

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James

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From: Lacramioara Radomir <lacramioara_radomir@yahoo.com>
Sent: Sunday, December 02, 2012 4:25 AM
To: James Gaskin
Subject: Re: Kind request - PhD student

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---

From: James Gaskin <james.eric.gaskin@gmail.com>
To: 'Lacramioara Radomir' <lacramioara_radomir@yahoo.com>
Sent: Sunday, December 2, 2012 6:46 AM
Subject: RE: Kind request - PhD student

Hi Lacramioara,
There was no attached model. Send that and I will be able to better advise you.
Thanks,
James

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From: Lacramioara Radomir [mailto:lacramioara_radomir@yahoo.com]
Sent: Saturday, December 01, 2012 5:49 PM
To: james.eric.gaskin@gmail.com
Subject: Kind request - PhD student

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Thank you for taking your time to read my email, and if possible, please let me know your opinion and suggestions.

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Kind regards,

Lacramioara Radomir
Dear James,

I finished drawing the model in AMOS. I also attached to this email the two solutions which I thought to be the best for the service quality dimensions and another word document with some notes which I thought may be useful.

Thank you very much for your help. Here, in our Faculty, only other PhD students are now trying to learn how to use AMOS but their models are rather simple and even if they tried to come up with some suggestions, none of them worked so far. I even thought to begin to read some articles on PLS and to download the SmartPLS program to see if it would work.

Regards,
Lacra
work.

Dear James,

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Thank you for taking your time to read my email, and if possible, please let me know your opinion and suggestions.

I am looking forward for you answer.

Kind regards,

Lacramioara Radomir
Thank you very much for your email. I am working on it too. I wanted to send you an email to let you know what I have done so far but now I created a new database to work on and see to where it gets me to.

And as a matter of fact, I have got to a conclusion which I was afraid to get to after analyzing my qualitative data. If what I have done so far is not wrong the two constructs, Service quality and Customer satisfaction are not distinct (which is in contradiction with most of the literature). However, when I force them to form two distinct constructs in SPSS, I obtain two factors - one merges SQ and CS for territorial units, and one merges SQ and CS for bank electronic services (which I think isn't that bad for me since I measured separately the service quality attributes for territorial units and electronic services respectively). Now, I think that this could have been a problem with my model in AMOS.

Besides, now, I am afraid that the method I used in order to replace the missing values is not that good. Reading more literature on it I saw that other authors favor simply replacing them with the series mean. So I created another database using this method and it seems that in SPSS, at least, the quality attributes form factors which are much or less better than those obtained when using the method which De Vaus find better. Furthermore, authors such as Malhotra (I think you have heard of him) mention that more than 10% missing values are a problem. So, if from the first database (the one which I sent you) I excluded all those variables which had missing values more than 7% (percentage which I choose with no particular reason), in the new database I only excluded those variables that had more than 10% missing values.

As for the weights, I thought just to create new variables in the database and than to use those in AMOS.

There is another problem which I realized. The variables which measure contact frequency has only three possible responses. If I consider this variables in AMOS, the results are not OK. Reading from two books, I found out that if I have such variables I should use the bootstrapping method. However, I also tried this but even after hours I do not get any result when I introduce all my variables. I do not know if this is the problem or if there just isn't any impact on them (which, again, would contradict the literature ...)

The distribution of my data isn't normal either. And I also have outliers, but if I start to remove them, other extreme values appear.

Dear James, thank you very much for your help. I shall wait to see how the data seem to you and hopefully, by the end of next week I shall manage to come to a conclusion too. Then, I shall send you the results which I find to be the best, in order to ask for your opinion too. And if necessary, also the new database if this last one gets me to better results.

Sorry for my long emails, but since I do not have someone to tell my problems here I just feel that your suggestions could help me.

Lacra
Hi Lacramioara,

I’m so sorry I have taken so long to respond. I have been traveling and speaking. I’m currently sitting in the Charlotte North Carolina airport waiting for another flight. I’ll try to look this over before I get on the plane. I just wanted to let you know that I hadn’t forgotten you.

James

Dear James,

I finished drawing the model in AMOS. I also attached to this email the two solutions which I thought to be the best for the service quality dimensions and another word document with some notes which I thought may be useful.

Thank you very much for your help. Here, in our Faculty, only other PhD students are now trying to learn how to use AMOS but their models are rather simple and even if they tried to come up with some suggestions, none of them worked so far. I even thought to begin to read some articles on PLS and to download the SmartPLS program to see if it would work.

Regards,

Lacra

If you can build an amos file that resembles the model you sent, and then link it to the data, and then send the data and model, then it won’t matter that it is in Romanian. I will just be trying to figure out how to make the boxes and arrows work.

James

James, I have everything in Romanian. I can translate it or should I only retain in the database the variables of interest and explain you in the email which items belong to which variables? As for the Amos, files, I only saved the ones that seemed to me the best solution for Service quality dimensions, and one file with the impact of the service quality
dimensions on the Perceived quality of bank services offered via territorial units.

From: James Gaskin <james.eric.gaskin@gmail.com>
To: 'Lacramioara Radomir' <lacramioara_radomir@yahoo.com>
Sent: Monday, December 3, 2012 8:37 PM
Subject: RE: Kind request - PhD student

If you send me the amos file and dataset I can troubleshoot it to see if I can get it to work. It should work.

From: Lacramioara Radomir [mailto:lacramioara_radomir@yahoo.com]
Sent: Monday, December 03, 2012 10:16 AM
To: James Gaskin
Subject: Re: Kind request - PhD student

Dear James,

Perceived Relationship Investment is measured with 5 items.

Where Relationship Quality appears, I have a second order "sub-model". Relationship Quality is not measured, it is a latent construct and Relationship Satisfaction, Relationship Trust and Relationship Commitment are its dimensions, each of them measured by several items (in the document attached to this email you can see the items I used to measure perceived relationship investment as well as relationship quality dimensions).

So far, I tested the measurement model for the two sets of service quality dimensions (separately for territorial units and electronic services). Then, I investigated the impact of these dimensions on each of the two single item variables which were measured in order to see the Perceived Service Quality (Territorial Units) and Perceived Service Quality (Electronic Services). And after that I encountered the problem. AMOS did not allow me to consider the Perceived Service Quality (Territorial Units) and Perceived Service Quality (Electronic Services) as indicators of Overall Quality (reflexive construct). Actually, I think that AMOS does not allow me to link anything to a variable that is observed (I want to link a dimension to an item which was used to measure Overall Quality). I may be wrong as I have just started to work with AMOS, but I watched every movie I found on youtube or your site, I also had a look in several books, but I couldn’t see such a relationship in any model. I also tried to use the input function in AMOS but it only created scores for the dimensions of service quality.

In the second model I propose I do not include in my model the Relationship Quality variable, but test the link between Perceived Relationship Investment and Relationship Satisfaction, and between this Relationship Quality dimensions and the other two.

If you have the necessary time, you can see the attached file with the variables I used in order to measure the constructs. I hope I explained well where the problem appeared.

Regards,
Lacra

From: James Gaskin <james.eric.gaskin@gmail.com>
To: 'Lacramioara Radomir' <lacramioara_radomir@yahoo.com>
Sent: Monday, December 3, 2012 6:21 PM
Subject: RE: Kind request - PhD student
After looking this over, I see no reason why it should not be feasible in AMOS. The only issue I perceive is with regards to Perceived Relationship Investment. How is this measured? Everything else looks doable. You will need a ton of data to accomplish it (since the model is so complex), or you will need to test parts of it separately.
Hope this helps.
James

Hi back James,

I am sorry for not attaching the file to the first email. I was so tired that I must have forgotten.
The more I look now at my model the more I believe that there is no solution to figure it out. The first part of the model is a result of my qualitative research and since I haven't found anything similar in other researches' papers, I tried to find theoretical support in the definitions formulated for service quality and I think I found it ... but now I do not know if I can test this model.

Thank you for replying me and I really hope that you can come up with a solution.

Regards,
Lacra

Hi Lacramioara,

There was no attached model. Send that and I will be able to better advise you.
Thanks,
James

Dear Professor Gaskin,

I apologize for bothering you with some questions about the conceptual model that I have developed for my PhD. I realize that you may not have the necessary time to answer everyone’s questions. However, I just want to make sure that the model could be tested as it appears in the file I attached to this email. More specifically, I would like you to suggest me a way to test the first part of my model (the one marked with red). I do not know if AMOS allows me to consider the Overall Quality as a latent variable with two
items with each of them being influenced by several service quality dimensions.

**Note: - Variables in the model:**

- PF, OC, A, MV, PAP, FN (latent variables) – service quality dimensions, each composed by several items specific to bank services offered in territorial units – these dimensions are supposed to have a positive and significant impact on Perceived Service Quality (Territorial Units)

- S, UU, P, OC_e, A_e (latent variables) – service quality dimensions, each composed by several items specific to electronic bank services – these dimensions are supposed to have a positive and significant impact on Perceived Service Quality (Electronic Services)

- Perceived Service Quality (Territorial Units) and Perceived Service Quality (Electronic Services) are observed variables

- **Overall Quality** is a latent variable composed by Perceived Service Quality (Territorial Units) and Perceived Service Quality (Electronic Services).

In case that this model cannot be tested in AMOS, please tell me if there is any other program that would allow me to analyze these relationships.

Thank you for taking your time to read my email, and if possible, please let me know your opinion and suggestions.

I am looking forward for you answer.

Kind regards,

Lacramioara Radomir
Hi back James,

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Lacra

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In case that this model cannot be tested in AMOS, please tell me if there is any other program that would allow me to analyze these relationships.

Thank you for taking your time to read my email, and if possible, please let me know your opinion and suggestions.

I am looking forward for you answer.

Kind regards,

Lacramioara Radomir
I had thought of that and perhaps will be nudged in that direction. Since I’m not as big a whiz at this SEM stuff as you are I didn’t want to start doing too much EFA. I will say however, with your help I have gotten much better at this stuff. I think it is great that you put your materials out there for everyone to use. indeed it is quite collegial but you should really consider some way to make loot off of this as well.

I puttered around for about 2 weeks on the SEM before I stumbled across your materials. I am trying really hard to do this without my methodologist providing too much help. To date, he has certainly been very helpful in that regard 😊 or is it 😌.

I will let you know how it all shakes out. I am submitting my revised Chapter 3 (that now includes my pilot information) and Chapter 4 in the next day or so. if it flies I owe it a lot to your guidance. Thanks a million.

Warm Regards,

Ronald T. Linares
Executive Vice President and Chief Financial Officer
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The only other option I can think of is to form a second-order construct out of the two (if they are logically related). For example, if you have two latents: Sleep and Exercise, you might be
able to combine them into a 2

order construct called “healthy habits”.

James

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From: Ron Linares [mailto:rtlfco@omnicomm.com]
Sent: Monday, March 19, 2012 9:09 AM
To: James Gaskin
Subject: RE: Macro Issue

I have. I’m a Marketing candidate and my model has taken 8 existing constructs from the marketing literature and is recombining them into a Student Loyalty model. In marketing there are always discriminant validity issues because a lot of what is conceptualized comes back to either retaining customers or making them buy more. I had a ton of indicators and in order to get the model to fit I had to dump one of the latents and also a bunch of the poor fitting indicators. Essentially two of the latents covary quite a bit. The part that is odd is that they aren’t two of the constructs I would have been concerned about prior to the research. I’ve tried going in to reduce the covariance but that just kills the model fit.

The model fit now is stupendous and when I run the structural model all of the hypotheses are actually supported so I guess it’s hard to complain. At this stage I think the best I can do is report the high discriminant validity as an issue. Any thoughts?

Warm Regards,

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---

From: James Gaskin [mailto:james.eric.gaskin@gmail.com]
Sent: Monday, March 19, 2012 9:04 AM
To: Ron Linares
Subject: RE: Macro Issue

As for the discriminant validity, have you tried fitting the model before running the validity test? Try addressing model fit first. For more info, look at my “Model fit during CFA” video. The principles are the same as when doing a structural model.

James

From: Ron Linares [mailto:rtlcfo@omnicomm.com]
Sent: Monday, March 19, 2012 8:54 AM
To: James Gaskin
Subject: RE: Macro Issue

James,

I figured out my issue. I wasn’t pasting in the report header and your macro wasn’t running because the data was starting in the wrong place. It only took 12 million iterations but I got it. Your stuff is pretty cool and your ability to make this stuff understandable is commendable. I really enjoy the YouTube material. Now if I had a magic bullet for the lack of discriminant validity in my model 😊

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Hi Ronald,

I’m glad you’ve found these resources useful. Have you tried the new video called, “Multi-group moderation in AMOS – made easy”? It will show you how to do a validity test much faster and with less potential for error. It even creates a table for you and highlights potential problems and interprets it for you!

Hope this helps.

James

---

Mr. Gaskin,

I’m attempting to use the Stats tool package off of the Stat Wiki page and keep getting a macro error. I am also trying to follow along with your video on You Tube but it is using V2.0 of the tool and has the Covariance Cleaner tab and the version I am using doesn’t have that tab. I’m trying to do Chapter 4 of my dissertation and so far your videos and tools have been incredibly helpful. I would love to use this tool on the validity section as well if possible.

Thanks in advance.

Warm Regards,

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Hope this helps.

James

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From: Ron Linares [mailto:rtlcfo@omnicomm.com]
Sent: Saturday, March 17, 2012 10:36 AM
To: james.eric.gaskin@gmail.com
Subject: Macro Issue

Mr. Gaskin,

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Thanks in advance.

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Hi James,

Please forgive me for bombarding you with so much queries that I have, but I wanted to ask, you know the invariance analysis could still be performed when you item parcel, so each construct is reflected with the average sum of the indicators. Or is invariance analysis only be checked with multiple indicators per construct?

---

"Byrne et al. (1989) and Mackenzie et al. (2011) suggest that full metric invariance (across all items) is not absolutely necessary for further tests of invariance and substantive analyses to be meaningful, provided that at least one item per latent factor (other than the one fixed at unity to define the scale of each latent factor) is metrically invariant. Accordingly, the measurement model presented in diagram XX was found to be sufficiently invariant across gender as determined by a chi-square difference test, assessed following Gaskin (2012) procedure through the spreadsheet files."

Hope this helps.

James

---

Hi James,

I hope you are okay, I was just looking at the YouTube tutorial the one that is about measurement model invariance. Would I be right in saying the following:

"Byrne et al. 1989 and Mackenzie et al. 2011 suggests that a full metric invariance is not full metric invariance is not necessary for further tests of invariance and substantive analyses to be meaningful, provided that at least one item (other than the one fixed at unity to define the scale of each latent construct) is metrically invariant. Therefore, the invariance of the Structural model presented in diagram XX was invariantly assessed through gender and was tested through the chi square statistic. This was tested following Gaskin (2011) procedure through the spreadsheet files."

I'm not sure how to say that I checked for measurement model invariance. Does the passage above capture what you are saying in your tutorial?

Thank you in advance for your time and consideration.

Amara
Thanks a million :) 

I have edited your explanation:

"Byrne et al. (1989) and Mackenzie et al. (2011) suggest that full metric invariance (across all items) is not absolutely necessary for further tests of invariance and substantive analyses to be meaningful, provided that at least one item per latent factor (other than the one fixed at unity to define the scale of each latent factor) is metrically invariant. Accordingly, the measurement model presented in diagram XX was found to be sufficiently invariant across gender as determined by a chi-square difference test, assessed following Gaskin (2012) and Gaskin's stats tools package."

Hope this helps.
James

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im just not sure how to say that i checked for measurement model invairance. does the passsage above capture what yo are saying in you tutorial?

Thank you in advance for your time and consideration

Amara
Hey James, this is helpful. I assumed that the latent construct and the sum of its parts were indeed equal, but it's helpful to know that's not the case. I think I will take this route in building a defense. Are there any citations that would support this or is it common knowledge?

Thank you again for your help,
Jamaal

It is hard to say for sure why the indirect effect weakened when you broke up the latent construct. Part of the reason is simply because the explanation of variance transferred from the mediated effect over to the direct effect—you can see that the direct effect increases from 0.11 to 0.25. This will naturally take away some of the explanation of variance going through other paths (in this case, the mediated path). The only thing I can say for sure is that the latent construct is not the same as the sum of its parts (parts vs. whole argument), and this is why we make latent constructs. This is the argument I would make against the reviewers if you want to retain the former model. Sorry to not have been more help. Best of luck!

James

Hi James, sorry for the delay.

Attached, I have a description of the problem and the two models. Any insight you have would be much appreciated. I'm hoping that maybe I just mis-specified something. Thank you again for taking the time to help.

Best,
Jamaal

No problem. Send it along.

James
Hello James,

I hope you are well. I’ve subscribed to your video tutorials on youtube and have learned a lot from them. Thank you for those resources. I’m writing because I’m working on revising a paper where I used mediation in Amos. I am having one problem and looking for some help to explain my problem. I was wondering if you would be willing be field my question. It wouldn't take long, probably five minutes of your time. However, I know you are probably busy, so either way if fine. Just let me know.

Respectfully,
Jamaal Matthews

From: james.eric.gaskin@gmail.com
To: jamaalmatthews@hotmail.com
Subject: RE: Heterogeneity Spreadsheet (moderated mediation)
Date: Fri, 27 Apr 2012 14:58:18 -0400

Hi Jamaal,

You can find it on my wiki:
http://statwiki.kolobkreations.com on the homepage. You may find other materials in the wiki useful. I’ve also attached the excel workbook. It has macros embedded in it, so you may have to enable the macros.

James

From: Jamaal Matthews [mailto:jamaalmatthews@hotmail.com]
Sent: Friday, April 27, 2012 2:17 PM
To: james.eric.gaskin@gmail.com
Subject: Heterogeneity Spreadsheet (moderated mediation)

Greetings James,

I happened to stumble across your youtube video on moderated mediation and found it really informative! I’m working on this concept for a paper of mine through Amos and wanted to know if you have the heterogeneity spreadsheet that you mentioned in your video to test for significant differences between indirect effects. If so, would you be willing to send me to spreadsheet? Let me know your thoughts.

Thanks you for your time,
Jamaal Matthews
Hi James, sorry for the delay.

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Best,
Jamaal

From: james.eric.gaskin@gmail.com
To: jamaalmatthews@hotmail.com
Subject: RE: Mediation Question
Date: Sat, 1 Dec 2012 21:45:12 -0700

No problem. Send it along.
James

---

Hi Jamaal,

I hope you are well. I’ve subscribed to your video tutorials on youtube and have learned a lot from them. Thank you for those resources.
I’m writing because I’m working on revising a paper where I used mediation in Amos. I am having one problem and looking for some help to explain my problem. I was wondering if you would be willing to field my question. It wouldn’t take long, probably five minutes of your time. However, I know you are probably busy, so either way if fine. Just let me know.

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Thanks you for your time,
Jamaal Matthews
Dear Professor Gaskin, I really thank you for your effort. I have a problem with the file and could not run the file you sent to me. Additionally, as far as I understand, the model you tested is not a causal model, am I right? Is it possible to test the causal model using a model you tested? Thank you very much for your patience.

King regards,
Omer.

2011/11/23 James Gaskin <james.eric.gaskin@gmail.com>

Here you go. This is how it should look for a test of common method bias. I’ve attached the modified model.

James

[Diagram of the modified model]

Dear Professor Gaskin, thank you very much for your quick reply and concern. You can find the results from LISREL in a diagram and the files of AMOS in a zip file. You can kindly find in the diagram that there also should be a covariance between Rum (rumination) and Ref (Reflection). I made them covary in LISREL using "No x-variables" command. But AMOS did not let me add this to the model. Thank you very much in advance.

Omer Faruk Simsek

Omer Faruk Simsek
Dear Professor Gaskin, I really thank you for your effort. I have a problem with the file and cannot run the file you sent to me. Additionally, as far as I understand, the model you tested is not a causal model, am I right? Is it possible to test the causal model using a model you tested? Thank you very much for your patience.

King regards,
Omer.

2011/11/23 James Gaskin <james.eric.gaskin@gmail.com>

Here you go. This is how it should look for a test of common method bias. I've attached the modified model.

James
From: robert watt
To: James Gaskin
Subject: RE: Moderated Mediation and Controls - Part 2
Date: Sunday, March 10, 2013 8:08:27 PM

James,

Same chart-different question. With your Indirect Beta - are you referring to the beta between the Independent variable to the Mediator, or the beta between the Mediator to the Dependent Variable?

ROBERT WATT

--- On **Tue, 2/19/13, James Gaskin <james.eric.gaskin@gmail.com>** wrote:

From: James Gaskin <james.eric.gaskin@gmail.com>
Subject: RE: [wsom-dm-2014] RE: Assignment 2 Part 3
To: "robert watt" <wattrt@yahoo.com>
Date: Tuesday, February 19, 2013, 11:31 AM

See attached. It is in the “X2 threshold” tab.

James

--- On **Sat, 2/16/13, James Gaskin <james.eric.gaskin@gmail.com>** wrote:

From: James Gaskin <james.eric.gaskin@gmail.com>
Subject: RE: [wsom-dm-2014] RE: Assignment 2 Part 3
To: "robert watt" <wattrt@yahoo.com>
Date: Saturday, February 16, 2013, 11:26 AM

James,

where can I upload the the Chi-Squared Test calculator from your website?? As you know I am "computer challenged"- :) or is there another place I can download the file? I could not find it in my Excel file.

Cheers!

P.S. after reviewing your slides and videos, things are becoming a lot clearer and easier.

ROBERT WATT

--- On **Sat, 2/16/13, James Gaskin <james.eric.gaskin@gmail.com>** wrote:

From: James Gaskin <james.eric.gaskin@gmail.com>
See attached. By the way, version 3.0 is going to be released soon.

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Office Phone: (828) 277-7570
Cell Phone: (828) 712-0672
Email: smiller@gen-span.com

Lecturer and Co-Founder
Family Enterprise Center
Kenan-Flagler Business School
Group, below is the exchange between Gary and I.

My thinking has evolved a bit since this exchange. My recommendation is to ignore my original suggestion to Gary of the two direct effect hypotheses (H5 and H6 in my note to him) and focus on the combinations of all the mediation hypotheses as that seems to be the purposes of the homework exercise. Mediation includes both direct and indirect effects. Phil

Hi Phil,

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The mediation terminology becomes central in that, and I agree can add a bit of tongue twisting to an explanation. So, some people do prefer the 18 route, although you’d need to report results of the zero-constraint hypotheses using something like modification indices (LaGrange Multiplier test) to bolster your causal ordering. This omits the first step of mediation testing (showing a relationship exists between x and y without m involved), but it’s not at all uncommon in the literature. In fact, I’ve done it that way for the reason you’re citing.
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Hope this makes sense and helps. If not, please write us back.

Best,
Gary

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From: Cola, Philip [mailto:Philip.Cola@UHhospitals.org]
Sent: Wednesday, February 13, 2013 7:53 PM
To: Aron Lindberg
Cc: Gary.Hunter@Case.edu
Subject: RE: [wsom-dm-2014] RE: Assignment 2 Part 3

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Thanks

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Victoria Woo

Mobile:+1.415.747.5157
Email: vic@victoriaw.com

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Thanks!

ROBERT WATT

--- On Sun, 3/10/13, James Gaskin <james.eric.gaskin@gmail.com> wrote:

I’m just looking at the Betas. So, for H2 (2nd row of each table), for females, the beta decreased in strength (but remained significant) when I added the mediator, and the indirect effect was significant. This means that we have partial mediation (according to Baron and Kenny). For males, the beta dropped out of significance when I added the mediator, and the indirect effect is significant. This means that we have Full mediation. This also shows that the mediated effect is different for males and females (which can also be seen in the difference between the indirect effects).
in your video titled Moderated Mediation and Controls at time 6:02 of the video, you presented two tables for female and male. The last column of the table (Mediation type observed), how did you complete this column? That is how do you know that it is full or partial mediation? Did you run a mediation test beforehand or are you using the Betas?

Thanks!

ROBERT WATT

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From: James Gaskin <james.eric.gaskin@gmail.com>
Subject: RE: [wsom-dm-2014] RE: Assignment 2 Part 3
To: "Steve Miller" <smiller@gen-span.com>, "Cola, Philip"
   <Philip.Cola@UHhospitals.org>, wsom-dm-2014@case.edu
Cc: "Aron Lindberg" <aron.lindberg@case.edu>, Gary.Hunter@Case.edu
Date: Saturday, February 16, 2013, 2:27 PM

See attached. By the way, version 3.0 is going to be released soon.

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Best,
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---

**From:** Gary Hunter [mailto:gkh5@case.edu]
**Sent:** Tuesday, February 12, 2013 8:49 PM
**To:** wsom-dm-2014@case.edu
**Cc:** 'Aron Lindberg'
**Subject:** [wsom-dm-2014] RE: Assignment 2 Part 3

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Cheers,
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---

**From:** Gary Hunter [mailto:gkh5@case.edu]
**Sent:** Tuesday, February 12, 2013 8:22 PM
**To:** 'Victoria Woo'
**Cc:** 'wsom-dm-2014@case.edu'; 'Aron Lindberg'
**Subject:** RE: Assignment 2 Part 3

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---

From: Victoria Woo [mailto:vic@victoriaw.com]
Sent: Monday, February 11, 2013 3:24 PM
To: Aron Lindberg; Gary Hunter
Cc: wsom-dm-2014@case.edu
Subject: Assignment 2 Part 3

Hi Gary & Aron,

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Thanks

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Victoria Woo

Mobile:+1.415.747.5157
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Million thanks, James. It's working as your advice.

Have a nice weekend.

Best regards,

Joy

On Sun, Feb 10, 2013 at 1:29 PM, James Gaskin wrote:

You did not head the instructions on the button:

If you delete the rows with no labels, then you end up with this result. Hope this helps. James

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<td>SAT2</td>
<td>Satisfaction</td>
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<td>0.000</td>
</tr>
</tbody>
</table>

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

From: Thipchutha Kosrapunyaapoom [mailto:thipchutha@gmail.com]
Sent: Saturday, February 09, 2013 11:06 PM
To: James Gaskin
Subject: Multigroup analysis -error in stat tool

Dear James,

Today, I want to explore the multigroup analysis using AMOS. Once I copied data and input in statwiki tool. I found the error. Not sure what’s wrong. I crossed check several times and it seems that I did put in the correct column as advised in the VDO. Would you help to advise me?

I have attached the one I used, and the error I found after clicked the button for your reference.

Best regards,

Joy
Dear James,

Thank you very much for your advice. I will try that. God bless and reward you for your videos. I learnt a lot from them and I have recommended them to several colleagues.

Warmest wishes
Abid

>>> "James Gaskin" 19/11/12 7:11 PM >>>
You just have to examine them two at a time. So, you can do that by just looking at paired comparisons (Group A vs. Group B), or you can look at part vs remainder (Group A vs. Groups B-E combined).
Hope this helps.
James

HI James,

I would be grateful if you could give me some advice regarding multi-group test with more than two groups. For example, I have 4 categories and I want to run multi-group analysis.

Kind Regards

Abid Ahmad
University of Bedfordshire
Hi James,

Thank you for your continued assistance. I was able to analyze for more than two groups. However I am still trying to understand the z-score threshold to determine how significant the difference between estimates are. On a previous mail you pointed out how a certain path of z-score value of 0.658 was approaching significance.

Is it correct to say that if the z-score exceeds + or - 1.96 and p<0.05 then there two parameters are highly significant and less than 0.8 as not significant but approaching significance?

Also in regards to the p-values since I have two values for each group, which p-value should I be looking out for?

Below is the analysis of three groups in which I would say only the path between Behavioral Intention and Facilitating Conditions is significant for the primary and sec due to its z-score of 1.16. In this case which p-value should guide me?

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<tr>
<th>Pry edcutaion</th>
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<th>Tertiary Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimate P</td>
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<td>Estimate P</td>
</tr>
<tr>
<td>z-score</td>
<td>z-score</td>
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</tr>
</tbody>
</table>

Behavioral_Intention <--- Performance_Expectancy
0.173 0.617 3.446 0.856 0.172
Behavioral_Intention <--- Effort_Expectancy
0.127 0.75 -3.569 0.868 -0.172
Behavioral_Intention <--- Social_Influence
0.241 0.319 -5.268 0.857 -0.189
Behavioral_Intention <--- Perceived_Trust
0.609 0.351 -3.572 0.864 -0.2
Behavioral_Intention <--- Facilitating_Conditions
-0.059 0.814 8.969 0.852 0.187

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I am so grateful for taking time to assist

With kind regards,

Andrew

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<td>0.594</td>
<td>-0.561</td>
</tr>
<tr>
<td>Behavioral_Intention &lt;--- Effort_Expectancy</td>
<td>0.289</td>
<td>0.088</td>
<td>0.258</td>
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<td>0.248</td>
<td>0.070</td>
<td>0.871</td>
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</tr>
<tr>
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<td>0.336</td>
<td>0.650</td>
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<td>0.961</td>
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Sent: Tuesday, June 12, 2012 7:32 AM
To: james.eric.gaskin@gmail.com
Subject: Re: Multigroup Moderation in Amos - Made Easy

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Thanks a lot!

oanacatalinavicul 1 month ago
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<tr>
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<td>0.252</td>
<td>0.059</td>
<td>-0.158</td>
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<td>0.680</td>
<td>0.000</td>
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</tr>
<tr>
<td>riskyness &lt;--- Independent</td>
<td>0.972</td>
<td>0.000</td>
</tr>
<tr>
<td>NPD &lt;--- DPN</td>
<td>-0.195</td>
<td>0.063</td>
</tr>
<tr>
<td>NPD &lt;--- Independent</td>
<td>0.284</td>
<td>0.010</td>
</tr>
</tbody>
</table>

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10
I first want to thank you for posting so many helpful videos on YouTube. They have been a great help for me when working through problems in AMOS. I'm trying to do a multigroup moderation using your tutorial and stats tutorial spreadsheet but am having problems generating the table for group differences. I keep getting an error. I was wondering if you could help me troubleshoot the issue I'm having. I do have latent to indicator variables but I delete them before I click the button...but the Excel spreadsheet still gives me an error. (they are included in the table attached)

I have attached the three tables to this email and was wondering if you could see if you can get the analysis to run. Thanks a lot.

Rows 11-29 are my measured variables. I've also included a screen shot of my model. If you need me to explain anything just let me know.

Thank you,

Todd Morgan
Wow, that was fast. Thanks. I appreciate your help!

On Sun, Jul 22, 2012 at 5:18 PM, James Gaskin wrote:

Here are your results. Sorry to say there are no significant differences, although the difference between estimates on the first line is fairly large. The reason the tool wouldn’t run was because the second row of data included a constrained path. I removed that row and everything worked fine.

James

<table>
<thead>
<tr>
<th>Estimate</th>
<th>P</th>
<th>Estimate</th>
<th>P</th>
<th>z-score</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPN</td>
<td>0.176</td>
<td>0.120</td>
<td>0.411</td>
<td>0.027</td>
</tr>
<tr>
<td>proactiveness</td>
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<td>0.047</td>
<td>0.252</td>
<td>0.059</td>
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<tr>
<td>riskyness</td>
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<td>0.680</td>
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<tr>
<td>NPD</td>
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<td>0.063</td>
<td>-0.152</td>
<td>0.035</td>
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<tr>
<td>NPD</td>
<td>0.284</td>
<td>0.010</td>
<td>0.384</td>
<td>0.002</td>
</tr>
</tbody>
</table>

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Hi James,

I first want to thank you for posting so many helpful videos on YouTube. They have been a great help for me when working through problems in AMOS. I’m trying to do a multigroup moderation using your tutorial and stats tutorial spreadsheet but am having problems generating the table for group differences. I keep getting an error. I was wondering if you could help me troubleshoot the issue I’m having. I do have latent to indicator variables but I delete them before I click the button… but the Excel spreadsheet still gives me an error. (they are included in the table attached)
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Rows 11-29 are my measured variables. I've also included a screen shot of my model. If you need me to explain anything just let me know.

Thank you,

Todd Morgan
OK, I’ll holler if I need help.........thanks

On Thu, Feb 21, 2013 at 11:05 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

However, we want them to be invariant at the measurement level, just not at the structural level. So, we need to figure out on which items they are invariant. To do this, I would run a moderation test during the CFA and do a critical ratios test (using my stats tools package). This will tell you which items have the greatest difference in loadings and error. A simpler way to do this is simply to just paste the standardized regression weights into Excel for each group, and then calculate the differences between each pair (or the variance across all three groups).

James

Deirdre Dixon
Deirdre.dixon84@gmail.com

On Thu, Feb 21, 2013 4:52 AM, Deirdre Dixon <deirdre.dixon84@gmail.com> wrote:

Ok thanks i obviously read that wrong. Deirdre

Sent from my Samsung Galaxy Note™, an AT&T LTE smartphone

----- Original message -------
Subject: RE: My third model and question on Chi-squared invariance test
From: James Gaskin <james.eric.gaskin@gmail.com>
To: Deirdre Dixon <deirdre.dixon84@gmail.com>
CC: RE: My third model and question on Chi-squared invariance test

The invariance test is showing that they are not invariant, meaning that they are different at the measurement level.

Deirdre Dixon
Deirdre.dixon84@gmail.com

On Wednesday, February 20, 2013 11:52 AM, Deirdre Dixon <deirdre.dixon84@gmail.com> wrote:

James, I have a question. I was trying to get a little farther before bugging you on this analysis! I’ve started on my latest model. I have it attached with the data set. But I’m trying to see if my groups of military (1), Fire fighters(2) and police (3) are all separate and distinct, and they do not seem to be. I’m wondering if I am doing something incorrectly, or if they are in fact too similar to use. If they are too similar to use, is there a construct that is causing the issue that I can look at and possible delete? No rush, thanks, Deirdre

<table>
<thead>
<tr>
<th></th>
<th>Overall Model</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chi-square</td>
<td>df</td>
<td>p-val</td>
<td>Invariant?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unconstrained</td>
<td>2704.2</td>
<td>1773</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fully constrained</td>
<td>2839.123</td>
<td>1847</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of groups</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Difference</td>
<td>134.923</td>
<td>74</td>
<td>0.000</td>
<td>NO</td>
</tr>
<tr>
<td></td>
<td>Chi-square Thresholds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>90% Confidence</td>
<td>2708.81</td>
<td>1775</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Any chi-square more than the threshold (Green Cells) will be variant for a path by path analysis.

<table>
<thead>
<tr>
<th>Difference</th>
<th>4.61</th>
<th>2</th>
<th>0.100</th>
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<tr>
<td>95% Confidence</td>
<td>2710.19</td>
<td>1775</td>
<td></td>
</tr>
<tr>
<td>Difference</td>
<td>5.99</td>
<td>2</td>
<td>0.050</td>
</tr>
<tr>
<td>99% Confidence</td>
<td>2713.41</td>
<td>1775</td>
<td></td>
</tr>
<tr>
<td>Difference</td>
<td>9.21</td>
<td>2</td>
<td>0.010</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group1</th>
<th>Group2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Size</td>
<td>345</td>
</tr>
<tr>
<td>Regression Weight</td>
<td>-0.213</td>
</tr>
<tr>
<td>Standard Error (S.E.)</td>
<td>0.1</td>
</tr>
<tr>
<td>t-statistic</td>
<td>2.557</td>
</tr>
<tr>
<td>p-value (2-tailed)</td>
<td></td>
</tr>
</tbody>
</table>

\[
\frac{(m-1)^2}{(m+n-2)} = 118336
\]
\[
\frac{(m+n-2)}{621}
\]
\[
\frac{(n-1)^2}{76729}
\]
\[
\sqrt{\frac{1}{m} + \frac{1}{n}} = 0.080595738
\]
\[
1st \text{ half denom} = 1.905571659
\]
\[
2nd \text{ half denom} = 1.336394306
\]
\[
\sqrt{1st \text{ half} + 2nd \text{ half}} = 1.800548018
\]
\[
\text{Full denom} = 0.145116336
\]
\[
\text{numerator} = 0.371
\]

--
Deirdre Dixon
deirdre.dixon84@gmail.com
813 765-8527

--
Deirdre Dixon
deirdre.dixon84@gmail.com
813 765-8527
Ok thanks i obviously read that wrong. Deirdre

Sent from my Samsung Galaxy Note™, an AT&T LTE smartphone

-------- Original message --------
Subject: RE: My third model and question on Chi-squared invariance test
From: James Gaskin <james.eric.gaskin@gmail.com>
To: 'Deirdre Dixon' <deirdre.dixon84@gmail.com>
The invariance test is showing that they are not invariant, meaning that they are different at the measurement level.

James, I have a question. I was trying to get a little farther before bugging you on this analysis! I've started on my latest model. I have it attached with the data set. But I'm trying to see if my groups of military (1), Fire fighters(2) and police (3) are all separate and distinct, and they do not seem to be. I'm wondering if I am doing something incorrectly, or if they are in fact too similar to use. If they are too similar to use, is there a construct that is causing the issue that I can look at and possible delete? No rush, thanks, Deirdre

Chi-square     df     p-val     Invariant?
Overall Model
Unconstrained  2704.2  1773
Fully constrained  2839.123  1847
Number of groups  3
Difference  134.923  74 0.000 NO Groups are different at the model level. Check path differences.

Chi-square Thresholds
90% Confidence  2708.81  1775
Difference  4.61  2 0.100
95% Confidence  2710.19  1775
Difference  5.99  2 0.050
99% Confidence  2713.41  1775
Difference  9.21  2 0.010

Sample Size
Group1  345
Group2  278
Regression Weight
Group1  -0.213
Group2  -0.584
Standard Error (S.E.)
Group1  0.1
Group2  0.104
t-statistic
Group1  2.557
Group2  0.104
p-value (2-tailed)
Group1  0.011
Group2  0.851
(m-1)^2  118336
\[
\begin{align*}
(m+n-2) &= 621 \\
(n-1)^2 &= 76729 \\
\sqrt{\frac{1}{m+1/n}} &= 0.080595738 \\
1\text{st half denom} &= 1.905571659 \\
2\text{nd half denom} &= 1.336394306 \\
\sqrt{1\text{st half} + 2\text{nd half}} &= 1.800546018 \\
\text{Full denom} &= 0.145116336 \\
\text{numerator} &= 0.371
\end{align*}
\]

---

Deirdre Dixon
deirdre.dixon84@gmail.com
813 765-8527
From: Anwar Al Sheyadi
To: James Gaskin
Subject: RE: need your help please
Date: Thursday, October 04, 2012 10:42:11 AM

Thanks a lot James

Best Regards,
Anwar Al Sheyadi
PhD Student
Nottingham University Business School
Wollaton Road
Nottingham
NG8 1BB
(+44) 115 8468467752

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 04 October 2012 17:38
To: ‘Anwar Al Sheyadi’
Subject: RE: need your help please

1. To be safe, I would do it without the mediator in place first, then add the mediator.
2. Either approach can be taken. You will end up with slightly different values, but they shouldn’t be too different.
3. Multicollinearity is addressed by standardizing the variables before multiplying them together.

Hope this helps.

James

From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
Sent: Thursday, October 04, 2012 8:33 AM
To: James Gaskin
Subject: RE: need your help please

Hi James, thanks for your kind reply and valuable comments. Watching these videos and relating them to your answers raised some further questions which I hope that you can assist in dealing with them:

1- For Aron’s video, I noticed that he set up the bootstrap before testing the direct effects (that means he tested the direct and indirect effects using the bootstrap), but in your PP slides (testing mediation using Bootstrapping/from your stat wiki) you set up the bootstrapping after testing the direct effects (that means you used the bootstrap only to test the indirect effects). So, do you think the bootstrap should be done before or after testing the direct effect? I tried both options and I got different results for the direct relationships (significant W/O bootstrap and insignificant with bootstrap).

2- To create the interaction term to test the moderation effects of the continues moderator, should the interaction term be created using the composite latent variables of the DV and the Moderator or the indicators of each one of them? And should I save the standardized values of the composite latent variables or to save the standardized values of their indicators and then to create the composite variable using the standardized values of the indicators?

3- By using the interaction term moderator, don’t you think that we are going to have the problem of multicollinearity between the new interaction term and the latent DV and moderator variable? How to solve the problem of multicollinearity in this case, or do you think that using the composite latent factor can help to reduce this
problem?

Thanks a lot in advance for all your support. My SEM skills have really improved after watching your videos and chatting with you.

Best Regards,

Anwar Al Sheyadi
PhD Student
Nottingham University Business School
Wollaton Road
Nottingham
NG8 1BB
(+44) 115 8468467752

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 03 October 2012 21:01
To: ‘Anwar Al Sheyadi’
Subject: RE: need your help please

For the mediation, just use the bootstrapping method demonstrated by my good friend Aron: http://www.youtube.com/watch?v=IkBeR2Z4bPA
For categorical moderation, use the “moderation made easy” video and the excel tool
For the continuous moderation (interaction), yes, just use the procedure I demonstrate here: http://www.youtube.com/watch?v=K34sF_AmWio
To create a composite out of the 2\textsuperscript{nd} order factor, I recommend this procedure: http://www.youtube.com/watch?v=dsOS9tQjxW8
To test moderated mediation, yes, use that video: http://www.youtube.com/watch?v=yMGkluhHxQY
I hope I answered all your questions. Best of luck!
James

From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
Sent: Wednesday, October 03, 2012 11:22 AM
To: jeg82@case.edu
Cc: james.eric.gaskin@gmail.com
Subject: need your help please

Hi James, thanks a lot for your valuable videos and all the information you posted in your stat wiki. I have some questions related to testing moderation mediation, so please guide me to solve them:

In my structural model I’m using two types of moderators: A- Categorical (firm size-small/large), and B- Continues (Customer integration: used four items likert-scale to measure this construct). Also, I’m using a third variable MeV that is expected to mediate the relationship between my IV and DV, keeping in mind that I’m using two IVs and one DV which is a second order-construct. At the same time I’m expecting the two moderators (A & B) to moderator the direct relationship between IV and DV, and to moderated the mediation effect of the MeV. What do you think should be done to test the moderation effects of the direct and
indirect relationships? Should I use a multi group moderation test when testing the moderation effect of the first moderator and use interaction term moderation test for the second moderator or should I use the same approach (multi group-illustrated in video/ Moderated Mediation and Controls) to test the moderated mediation effect of both types of moderators? If the interaction term is used with the two moderators, do you think I should use the composite measure (centered interaction term) and if that should be done do you think that I still can use the excel sheet which you developed (video: moderation made easy)? How to create a composite variable for the second order construct?

Note: Attached is a sample of the mode which I’m trying to test, so can easily understand my questions

Please I need your help and your valuable comments in order to solve these problems.

Thanks a lot for you kind support.
Best Regards,

Anwar
Hi James,

Should the structural path with standardized coefficient estimates of .171, p-values < .1 and t-values of 1.766 be considered as significant or not?

Best Regards,

Anwar Al Sheyadi
PhD Student
Nottingham University Business School
Wollaton Road
Nottingham
NG8 1BB
(+44) 115 8468467752

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 21 February 2013 16:12
To: 'Anwar Al Sheyadi'
Subject: RE: need your help please

The question then is whether these constructs passed the discriminant validity test? If so, then we may just have an issue of systematic residuals – often caused by similarity of wording in survey questions.
You may benefit from looking through Dave Kenny’s webpage about this:
http://davidakenny.net/cm/respec.htm
Hope this helps.
James

From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
Sent: Thursday, February 21, 2013 5:14 AM
To: James Gaskin
Subject: RE: need your help please

Hi James,

In fact, I have checked the modification indices and they suggested to create some new paths between the constructs that are not supported by the literature and creating these new paths will make some other initially significant paths to be non-significant. The total sample size of my study is 150. Will creating new covariances between indicators be a good practice to solve this problem and how this strategy can affect the quality of my data analysis?

Best Regards,

Anwar Al Sheyadi
PhD Student
Nottingham University Business School
Wollaton Road
Nottingham
NG8 1BB
(+44) 115 8468467752

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 21 February 2013 03:45
To: 'Anwar Al Sheyadi'
Subject: RE: need your help please
Have you checked modification indices? If not, then that is the first thing you should do to see if you neglected any major relationships. Another reason you may have poor fit is if you have a large sample size – in which case you can accept lower values for fit metrics.

James

From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
Sent: Tuesday, February 19, 2013 12:51 PM
To: James Gaskin
Subject: RE: need your help please

Dear James,

Thanks a lot for your ongoing support in using the SEM. After establishing a measurement model with an acceptable model fit, for the time being I’m working on the final stage of the SEM analysis which is assessing the structural model validity in terms of the GOF and significance, direction, and size of structural parameter estimates. Unfortunately, my structural model didn’t achieve good fit for most of the fit indicates but all parameter estimates are significant. So, should I accept this structural model regardless of the unacceptable model fit and continue with the discussion of the data analysis? what do you think should be done at this stage of the analysis?

Best Regards,

Anwar Al Sheyadi
PhD Student
Nottingham University Business School
Wollaton Road
Nottingham
NG8 1BB
(+44) 115 8468467752

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 15 October 2012 17:01
To: ‘Anwar Al Sheyadi’
Subject: RE: need your help please

A. 0.80

B. For predictors, use the number of arrows coming into the DV (excluding the from the error term). For probability, you probably want to stick with 0.05 (95%). Report the R-square for whatever your model is when you are needing the power analysis.

4. Yes.

5. Yes. After.

From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
Sent: Sunday, October 14, 2012 5:04 AM
To: James Gaskin
Subject: RE: need your help please

3. not a contradiction. One way you can defend it is by explaining that you simply did not have sufficient power to detect the significant interaction (probably due to sample size). You can do a power test using this calculator: http://www.danielsoper.com/statcalc3/calc.aspx?id=9

A- What is the minimum statistical power needed to predict the significant relationships?

B- When testing a moderated mediation model, should we consider the mediator and the interaction term as predictors or just we include the main predictors (X1 & X2) to perform a power test? From where we can get the probability level? Do we need to report the R2 for the outcome (Y) after adding the mediation and moderation or just without these?

4. Not much you can do about small sample sizes, except don’t split up the data,, does that means it’s not recommended to use the multi-grouping approach ((which usually requires splitting up the data)) to
test the moderation effects if we are having a small sample size and to use the interaction term instead?

5. Should the effects of the control variables be included during all the stages of the analysis? Any should the model fit be reported after adding the control variables or before adding these?

Best Regards,

Anwar Al Sheyadi
PhD Student
Nottingham University Business School
Wollaton Road
Nottingham
NG8 1BB
(+44) 115 8468467752

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 14 October 2012 03:59
To: 'Anwar Al Sheyadi'
Subject: RE: need your help please

3. not a contradiction. One way you can defend it is by explaining that you simply did not have sufficient power to detect the significant interaction (probably due to sample size). You can do a power test using this calculator: http://www.danielsoper.con/3statcalc3/calc.aspx?id=9

4. Not much you can do about small sample sizes, except don't split up the data... You could also run different kinds of analyses. Use composites instead of complete SEM with latents, or run paths one at a time. Each of these has limitations, but they might be better than not getting any results at all.

5. If the values increase as the size increases then this is fine (e.g., 1=small, 2=large; NOT 1=large, 2=small).

From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
Sent: Friday, October 12, 2012 10:26 AM
To: James Gaskin
Subject: RE: need your help please

Hi James

3. I would still plot the interaction to see the difference in slopes. It is very difficult to get a significant interaction, especially if you don’t have a high sample size. But even if the p-value is not significant, the difference in slopes may be meaningful. In fact, plotting the interaction shows that the moderator changes the relationships between X-->Y, but can the interaction slope results be used without the support of a significant p-value? Don’t you think that it is going to be kind of contradiction between the results of these two tests (p-value vs interaction slope).

4. You are correct that this is most likely due to small sample size. Is there any way to deal with the problem of small sample size when testing the moderation effects? Can the bootstrap approach be used to test the moderated mediation in AMOS? I have tried to run the bootstrap after splitting the dataset (2groups) based on the levels of the moderator but will AMOS stopped working. Any suggestions??

You cannot use categorical variables as interactions unless the categories are numerically significant (like age categories: 1-20, 21-30, 31-40, 40+). What about diving a sample of firms based on their size as large and small, if the firm size is used as moderator can it be used to create the interaction term or it should be only tested using the multi-grouping approach?

5. Should the effects of the control variables be included during all the stages of the analysis? Any should the model fit be reported after adding the control variables or before adding these?

Best Regards,

Anwar Al Sheyadi
PhD Student
Nottingham University Business School
From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 12 October 2012 16:55
To: ‘Anwar Al Sheyadi’
Subject: RE: need your help please

1. Depends on how important they are to the model, how much they improve model fit, and how many other items are left on the latent construct.

2. You do not need to trim the non-significant paths. Doing so simply bolsters the other paths (usually). It also frees up degrees of freedom, which increases parsimony, and should improve fit (RMSEA). I don’t have any references for that, it’s just logic and math.

3. I would still plot the interaction to see the difference in slopes. It is very difficult to get a significant interaction, especially if you don’t have a high sample size. But even if the p-value is not significant, the difference in slopes may be meaningful. As for whether to report subsequent changes (F->Y), that is up to you. It depends on what your main intent is and whether this is a meaningful change.

4. You are correct that this is most likely due to small sample size. You cannot use categorical variables as interactions unless the categories are numerically significant (like age categories: 1-20, 21-30, 31-40, 40+).

Hope this helps.

James

From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
Sent: Friday, October 12, 2012 9:37 AM
To: James Gaskin
Subject: RE: need your help please

Hi James,
I got some questions and I need your advices in answering these.

1) Is it a good practice to delete some measurement items, with moderate factor loading, in order to improve the model fit during the CFA?

2) Why should we trim the insignificant paths when testing the moderation effects in AMOS? What are the consequences of doing the analysis without trimming the insignificant paths? Can you please suggest some references to support the idea of trimming the insignificant paths.

3) If the interaction effect (XZ) and the moderation effect (Z) on the outcome (F) are insignificant, should we stop the analysis by that and conclude that the moderation was not conform? Or we should also report what happened with the other structural paths (F-->Y) involved in the model which were previously significant before adding the moderation and became insignificant after adding the moderation, keeping in mind that the research is interested in testing the moderation on the path X-->F ONLY, not from F-->Y (i.e.g., X-->F-->Y, Z moderate X-->F)?

4) If the moderator used in the model is categorical variable, can the interaction moderation be used instead of the multi-grouping approach? This is because by using the multi-grouping approach has reduced the model fit and resulted in having insignificant relationships for most of the structural paths in both groups, which were significant before splitting the dataset. This might happened because of the small sample size per each group (57 vrs 86). Can you suggest some reference to support the idea that the interaction term ends up using the same approach of multi-grouping moderation.

Best Regards,
From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 05 October 2012 02:47
To: 'Anwar Al Sheyadi'
Subject: RE: need your help please

The model fit could be for any number of reasons. Most likely it is because the new interaction term is significantly correlated with another variable in the model. Check the modification indices. As for the categorical variable, if you are just using it to do a multi-group moderation, it can be 1,2 or 0,1, or James,Anwar, or Ren,Stimpy. It doesn't really matter what the different values are.

James

From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
Sent: Thursday, October 04, 2012 3:27 PM
To: James Gaskin
Subject: RE: need your help please

HI James,
I have tried to use the composite variables for each latent factor in order to test the direct relationships and I have got almost same results of significance compared to model without using the composite variable, but the problem is that the model fit became very bad for the model with the composite variables compared with the model fit when the composite variables were not used. What do you think could be the reason? DO you think it happened because I composited the 2nd order factor? Also, can the categorical moderators be coded as 1 and 2 (as what you did in your video 'Multi group moderation in AMOS) or it should be dummy coded (0,1)?

Best Regards,

Anwar Al Sheyadi
PhD Student
Nottingham University Business School
Wollaton Road
Nottingham
NG8 1BB
(+44) 115 8468467752

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 04 October 2012 17:38
To: 'Anwar Al Sheyadi'
Subject: RE: need your help please

1. To be safe, I would do it without the mediator in place first, then add the mediator.

2. Either approach can be taken. You will end up with slightly different values, but they shouldn't be too different.

3. Multicollinearity is addressed by standardizing the variables before multiplying them together.

Hope this helps.

James

From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]<mailto:lixaa49@nottingham.ac.uk>]
Sent: Thursday, October 04, 2012 8:33 AM
To: James Gaskin
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From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 03 October 2012 21:01
To: ‘Anwar Al Sheyadi’
Subject: RE: need your help please

1. For the mediation, just use the bootstrapping method demonstrated by my good friend Aron: http://www.youtube.com/watch?v=IkBeR2Z4bPA

2. For categorical moderation, use the “moderation made easy” video and the excel tool

3. For the continuous moderation (interaction), yes, just use the procedure I demonstrate here: http://www.youtube.com/watch?v=K34sF_AmWio

4. To create a composite out of the 2nd order factor, I recommend this procedure: http://www.youtube.com/watch?v=dsO59tQjxW8

5. To test moderated mediation, yes, use that video: http://www.youtube.com/watch?v=yMGkluhHxQY
I hope I answered all your questions. Best of luck!
James

From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk] Sent: Wednesday, October 03, 2012 11:22 AM
To: jeg82@case.edu
Cc: james.eric.gaskin@gmail.com
Subject: need your help please

Hi James, thanks a lot for your valuable videos and all the information you posted in your stat wiki. I have some questions related to testing moderation mediation, so please guide me to solve them:

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Note: Attached is a sample of the mode which I’m trying to test, so can easily understand my questions

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From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
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Hi James

3. I would still plot the interaction to see the difference in slopes. It is very difficult to get a significant interaction, especially if you don't have a high sample size. But even if the p-value is not significant, the difference in slopes may be meaningful. In fact, plotting the interaction shows that the moderator changes the relationships between X→Y, but can the interaction slop results be used without the support of a significant p-value? Don’t you think that it is going to be kind of contradiction between the results of these two tests (p-value vs interaction slop).

4. You are correct that this is most likely due to small sample size. Is there any way to deal with the problem of small sample size when testing the moderation effects? Can the bootstrap approach be used to test the moderated mediation in AMOS? I have tried to run the bootstrap after splitting the dataset (2groups) based on the levels of the moderator but will AMOS stopped working. Any suggestions??

You cannot use categorical variables as interactions unless the categories are numerically significant (like age categories: 1-20, 21-30, 31-40, 40+). What about diving a sample of firms based on their size as large and small, if the firm size is used as moderator can it be used to create the interaction term or it should be only tested using the multi-grouping approach?

5. Should the effects of the control variables be included during all the stages of the analysis? Any should the model fit be reported after adding the control variables or before adding these?

Best Regards,

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Sent: 05 October 2012 02:47
To: 'Anwar Al Sheyadi'
Subject: RE: need your help please

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Best Regards,
Anwar Al Sheyadi
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From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 12 October 2012 16:55
To: 'Anwar Al Sheyadi'
Subject: RE: need your help please

1. Depends on how important they are to the model, how much they improve model fit, and how many other items are left on the latent construct.
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3. I would still plot the interaction to see the difference in slopes. It is very difficult to get a significant interaction, especially if you don’t have a high sample size. But even if the p-value is not significant, the difference in slopes may be meaningful. As for whether to report subsequent changes (F→Y), that is up to you. It depends on what your main intent is and whether this is a meaningful change.
4. You are correct that this is most likely due to small sample size. You cannot use categorical variables as interactions unless the categories are numerically significant (like age categories: 1-20, 21-30, 31-40, 40+).

Hope this helps.

James

From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
Sent: Friday, October 12, 2012 9:37 AM
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James

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Sent: Thursday, October 04, 2012 3:27 PM
To: James Gaskin
Subject: RE: need your help please

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PhD Student
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(+44) 115 8468467752

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Sent: 04 October 2012 17:38
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Subject: RE: need your help please

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To create a composite out of the 2nd order factor, I recommend this procedure: http://www.youtube.com/watch?v=d529T6jW8
To test moderated mediation, yes, use that video: http://www.youtube.com/watch?v=yMGkluHopQ
I hope I answered all your questions. Best of luck!
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From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
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To: jeg82@case.edu
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3. not a contradiction. One way you can defend it is by explaining that you simply did not have sufficient power to detect the significant interaction (probably due to sample size). You can do a power test using this calculator: http://www.danielsoper.com/statcalc3/calc.aspx?id=9

A- What is the minimum statistical power needed to predict the significant relationships?

B- When testing a moderated mediation model, should we consider the mediator and the interaction term as predictors or just we include the main predictors (X1 & X2) to perform a power test? From where can we get the probability level? Do we need to report the R² for the outcome (Y) after adding the mediation and moderation or just without these?

4. Not much you can do about small sample sizes, except don’t split up the data... does that means it’s not recommended to use the multi-grouping approach ((which usually requires splitting up the data)) to test the moderation effects if we are having a small sample size and to use the interaction term instead?

5. Should the effects of the control variables be included during all the stages of the analysis? Any should the model fit be reported after adding the control variables or before adding these?

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Hi James

3. I would still plot the interaction to see the difference in slopes. It is very difficult to get a significant interaction, especially if you don’t have a high sample size. But even if the p-value is not significant, the difference in slopes may be meaningful. In fact, plotting the interaction shows that the moderator changes the relationships between $X \rightarrow Y$, but can the interaction slope results be used without the support of a significant p-value? Don’t you think that it is going to be kind of contradiction between the results of these two tests (p-value vs interaction slope).

4. You are correct that this is most likely due to small sample size. Is there any way to deal with the problem of small sample size when testing the moderation effects? Can the bootstrap approach be used to test the moderated mediation in AMOS? I have tried to run the bootstrap after splitting the dataset (2groups) based on the levels of the moderator but will AMOS stopped working. Any suggestions??

You cannot use categorical variables as interactions unless the categories are numerically significant (like age categories: 1-20, 21-30, 31-40, 40+). What about diving a sample of firms based on their size as large and small, if the firm size is used as moderator can it be used to create the interaction term or it should be only tested using the multi-grouping approach?

5. Should the effects of the control variables be included during all the stages of the analysis? Any should the model fit be reported after adding the control variables or before adding these?

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1. Depends on how important they are to the model, how much they improve model fit, and how many other items are left on the latent construct.

2. You do not need to trim the non-significant paths. Doing so simply bolsters the other paths (usually). It also frees up degrees of freedom, which increases parsimony, and should improve fit (RMSEA). I don’t have any references for that, it’s just logic and math.

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From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Monday, October 15, 2012 04:01
To: Anwar Al Sheyadi
Subject: RE: need your help please

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This message has been checked for viruses but the contents of an attachment may still contain software
viruses which could damage your computer system: you are advised to perform your own checks. Email
communications with the University of Nottingham may be monitored as permitted by UK legislation.
Dear James,

Thanks a lot for your ongoing support in using the SEM. After establishing a measurement model with an acceptable model fit, for the time being I’m working on the final stage of the SEM analysis which is assessing the structural model validity in terms of the GOF and significance, direction, and size of structural parameter estimates. Unfortunately, my structural model didn't achieve good fit for most of the fit indicators but all parameter estimates are significant. So, should I accept this structural model—regardless of the unacceptable model fit—and continue with the discussion of the data analysis? what do you think should be done at this stage of the analysis?

Best Regards,

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From: James Gaskin [james.eric.gaskin@gmail.com]
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A. 0.80
B. For predictors, use the number of arrows coming into the DV (excluding the from the error term). For probability, you probably want to stick with 0.05 (95%). Report the R-square for whatever your model is when you are needing the power analysis.

4. Yes.
5. Yes. After.

From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
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3. not a contradiction. One way you can defend it is by explaining that you simply did not have sufficient power to detect the significant interaction (probably due to sample size). You can do a power test using this calculator: http://www.danielsoper.com/statcalc3/calc.aspx?id=9, ...

A- What is the minimum statistical power needed to predict the significant relationships?
B- When testing a moderated mediation model, should we consider the mediator and the interaction term as predictors or just we include the main predictors (X1 & X2) to perform a power test? From where we can get the probability level? Do we need to report the $R^2$ for the outcome (Y) after adding the mediation and moderation or just
4. Not much you can do about small sample sizes, except don’t split up the data. Does that mean it’s not recommended to use the multi-grouping approach (which usually requires splitting up the data) to test the moderation effects if we are having a small sample size and to use the interaction term instead?

5. Should the effects of the control variables be included during all the stages of the analysis? Any should the model fit be reported after adding the control variables or before adding these?

Best Regards,

Anwar Al Sheyadi
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(+44) 115 8468467752

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 14 October 2012 03:59
To: ‘Anwar Al Sheyadi’
Subject: RE: need your help please

3. not a contradiction. One way you can defend it is by explaining that you simply did not have sufficient power to detect the significant interaction (probably due to sample size). You can do a power test using this calculator: http://www.danielsoper.com/statcalc3/calc.aspx?id=9

4. Not much you can do about small sample sizes, except don’t split up the data... You could also run different kinds of analyses. Use composites instead of complete SEM with latents, or run paths one at a time. Each of these has limitations, but they might be better than not getting any results at all.

5. If the values increase as the size increases then this is fine (e.g., 1=small, 2=large; NOT 1=large, 2=small).

From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
Sent: Friday, October 12, 2012 10:26 AM
To: James Gaskin
Subject: RE: need your help please

Hi James

3. I would still plot the interaction to see the difference in slopes. It is very difficult to get a significant interaction, especially if you don’t have a high sample size. But even if the p-value is not significant, the difference in slopes may be meaningful. In fact, plotting the interaction shows that the moderator changes the relationships between X -> Y, but can the interaction slop results be used without the support of a significant p-value? Don’t you think that it is going to be kind of
contradiction between the results of these two tests (p-value vs interaction slope).

4. You are correct that this is most likely due to small sample size. Is there any way to deal with the problem of small sample size when testing the moderation effects? Can the bootstrap approach be used to test the moderated mediation in AMOS? I have tried to run the bootstrap after splitting the dataset (2groups) based on the levels of the moderator but will AMOS stopped working. Any suggestions??

You cannot use categorical variables as interactions unless the categories are numerically significant (like age categories: 1-20, 21-30, 31-40, 40+). What about diving a sample of firms based on their size as large and small, if the firm size is used as moderator can it be used to create the interaction term or it should be only tested using the multi-grouping approach?

5. Should the effects of the control variables be included during all the stages of the analysis? Any should the model fit be reported after adding the control variables or before adding these?

Best Regards,

Anwar Al Sheyadi
PhD Student
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NG8 1BB
(+44) 115 8468467752

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 12 October 2012 16:55
To: 'Anwar Al Sheyadi'
Subject: RE: need your help please

1. Depends on how important they are to the model, how much they improve model fit, and how many other items are left on the latent construct.

2. You do not need to trim the non-significant paths. Doing so simply bolsters the other paths (usually). It also frees up degrees of freedom, which increases parsimony, and should improve fit (RMSEA). I don’t have any references for that, it’s just logic and math.

3. I would still plot the interaction to see the difference in slopes. It is very difficult to get a significant interaction, especially if you don’t have a high sample size. But even if the p-value is not significant, the difference in slopes may be meaningful. As for whether to report subsequent changes (F → Y), that is up to you. It depends on what your main intent is and whether this is a meaningful change.

4. You are correct that this is most likely due to small sample size. You cannot use categorical variables as interactions unless the categories are numerically significant (like age categories: 1-20, 21-30, 31-40, 40+).

Hope this helps.

James

From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
Sent: Friday, October 12, 2012 9:37 AM
To: James Gaskin
Subject: RE: need your help please
Hi James,

I got some questions and I need your advices in answering these.

1) Is it a good practice to delete some measurement items, with moderate factor loading, in order to improve the model fit during the CFA?
2) Why should we trim the insignificant paths when testing the moderation effects in AMOS? What are the consequences of doing the analysis without trimming the insignificant paths? Can you please suggest some references to support the idea of trimming the insignificant paths.
3) If the interaction effect (XZ) and the moderation effect (Z) on the outcome (F) are insignificant, should we stop the analysis by that and conclude that the moderation was not conformed? Or we should also report what happened with the other structural paths (F→Y) involved in the model which were previously significant before adding the moderation and became insignificant after adding the moderation, keeping in mind that the research is interested in testing the moderation on the path X→F ONLY, not from F→Y ((e.g., X→F→Y, Z moderate X→F))?
4) If the moderator used in the model is categorical variable, can the interaction moderation be used instead of the multi-grouping approach? This is because by using the multi-grouping approach has reduced the model fit and resulted in having insignificant relationships for most of the structural paths in both groups, which were significant before splitting the dataset. This might happened because of the small sample size per each group (57 vrs 86). Can you suggest some reference to support the idea that the interaction term ends up using the same approach of multi-grouping moderation.

Best Regards,

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PhD Student
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Wollaton Road
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NG8 1BB
(+44) 115 8468467752

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 05 October 2012 02:47
To: Anwar Al Sheyadi
Subject: RE: need your help please

The model fit could be for any number of reasons. Most likely it is because the new interaction term is significantly correlated with another variable in the model. Check the modification indices. As for the categorical variable, if you are just using it to do a multi-group moderation, it can be 1,2 or 0,1, or James, Anwar, or Ren, Stimpy. It doesn’t really matter what the different values are.
James

From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
Sent: Thursday, October 04, 2012 3:27 PM
To: James Gaskin
Subject: RE: need your help please

HI James,
I have tried to use the composite variables for each latent factor in order to test the
direct relationships and I have got almost same results of significance compared to model
without using the composite variable, but the problem is that the model fit became very
bad for the model with the composite variables compared with the model fit when the
composite variables were not used. What do you think could be the reason? DO you think
it happened because I composited the 2nd order factor? Also, can the categorical
moderators be coded as 1 and 2 (as what you did in your video ‘Multi group moderation in
AMOS) or it should be dummy coded (0,1)?

Best Regards,

Anwar Al Sheyadi
PhD Student
Nottingham University Business School
Wollaton Road
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(+44) 115 8468467752

---

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 04 October 2012 17:38
To: 'Anwar Al Sheyadi'
Subject: RE: need your help please

1. To be safe, I would do it without the mediator in place first, then add the mediator.
2. Either approach can be taken. You will end up with slightly different values, but they
shouldn’t be too different.
3. Multicollinearity is addressed by standardizing the variables before multiplying them
together.
Hope this helps.
James

---

From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
Sent: Thursday, October 04, 2012 8:33 AM
To: James Gaskin
Subject: RE: need your help please

Hi James, thanks for your kind reply and valuable comments. Watching these videos and
relating them to your answers raised some further questions which I hope that you can
assist in dealing with them:

1. For Aron’s video, I noticed that he set up the bootstrap before testing the direct
effects (that means he tested the direct and indirect effects using the bootstrap),
but in your PP slides (testing mediation using Bootstrapping/from your stat wiki)
you set up the bootstrapping after testing the direct effects (that means you used
the bootstrap only to test the indirect effects). So, do you think the bootstrap
should be done before or after testing the direct effect? I tried both options and I
got different results for the direct relationships (significant W/O bootstrap and
insignificant with bootstrap).
2. To create the interaction term to test the moderation effects of the continues
moderator, should the interaction term be created using the composite latent
variables of the DV and the Moderator or the indicators of each one of them? And
should I save the standardized values of the composite latent variables or to save
the standardized values of their indicators and then to create the composite
variable using the standardized values of the indicators?

3- By using the interaction term moderator, don’t you think that we are going to have the problem of multicollinearity between the new interaction term and the latent DV and moderator variable? How to solve the problem of multicollinearity in this case, or do you think that using the composite latent factor can help to reduce this problem?

Thanks a lot in advance for all your support. My SEM skills have really improved after watching your videos and chatting with you.

Best Regards,

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From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 03 October 2012 21:01
To: 'Anwar Al Sheyadi'
Subject: RE: need your help please

For the mediation, just use the bootstrapping method demonstrated by my good friend Aron: http://www.youtube.com/watch?v=Ik8eR2Z4bPA
For categorical moderation, use the “moderation made easy” video and the excel tool
For the continuous moderation (interaction), yes, just use the procedure I demonstrate here: http://www.youtube.com/watch?v=K34sF_AmWio
To create a composite out of the 2nd order factor, I recommend this procedure: http://www.youtube.com/watch?v=dsOS9tQjxW8
To test moderated mediation, yes, use that video: http://www.youtube.com/watch?v=yMGklyuHxQY
I hope I answered all your questions. Best of luck!
James

From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
Sent: Wednesday, October 03, 2012 11:22 AM
To: jeg82@case.edu
Cc: james.eric.gaskin@gmail.com
Subject: need your help please

Hi James, thanks a lot for your valuable videos and all the information you posted in your stat wiki. I have some questions related to testing moderation mediation, so please guide me to solve them:

In my structural model I’m using two types of moderators: A- Categorical (firm size-small/large), and B- Continues (Customer integration: used four items likert-scale to measure this construct). Also, I’m using a third variable MeV that is expected to mediate the relationship between my IV and DV, keeping in mind that I’m using two IVs and one DV which is a
second order-construct. At the same time I’m expecting the two moderators (A & B) to moderator the direct relationship between IV and DV, and to moderated the mediation effect of the MeV. What do you think should be done to test the moderation effects of the direct and indirect relationships? Should I use a multi group moderation test when testing the moderation effect of the first moderator and use interaction term moderation test for the second moderator or should I use the same approach (multi group-illustrated in video/ Moderated Mediation and Controls) to test the moderated mediation effect of both types of moderators? If the interaction term is used with the two moderators, do you think I should use the composite measure (centered interaction term) and if that should be done do you think that I still can use the excel sheet which you developed (video: moderation made easy)? How to create a composite variable for the second order construct?

Note: Attached is a sample of the mode which I’m trying to test, so can easily understand my questions

Please I need your help and your valuable comments in order to solve these problems.

Thanks a lot for you kind support.
Best Regards,

Anwar
Hi James,

In fact, I have checked the modification indices and they suggested to create some new paths between the constructs that are not supported by the literature and creating these new paths will make some other initially significant paths to be non-significant. The total sample size of my study is 150. Will creating new covariances between indicators be a good practice to solve this problem and how this strategy can affect the quality of my data analysis?

Best Regards,

Anwar Al Sheyadi
PhD Student
Nottingham University Business School
Wollaton Road
Nottingham
NG8 1BB
(+44) 115 8468467752

Have you checked modification indices? If not, then that is the first thing you should do to see if you neglected any major relationships. Another reason you may have poor fit is if you have a large sample size – in which case you can accept lower values for fit metrics.

James

Dear James,

Thanks a lot for your ongoing support in using the SEM. After establishing a measurement model with an acceptable model fit, for the time being I’m working on the final stage of the SEM analysis which is assessing the structural model validity in terms of the GOF and significance, direction, and size of structural parameter estimates. Unfortunately, my structural model didn't achieve good fit for most of the fit indicates but all parameter estimates are significant. So, should I accept this structural model regardless of the unacceptable model fit-and continue with the discussion of the data analysis? what do you think should be done at this stage of the analysis?

Best Regards,

Anwar Al Sheyadi
PhD Student
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A. 0.80
B. For predictors, use the number of arrows coming into the DV (excluding the from the error term). For probability, you probably want to stick with 0.05 (95%). Report the R-square for whatever your model is when you are needing the power analysis.

4. Yes.
5. Yes. After.

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From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
Sent: Sunday, October 14, 2012 5:04 AM
To: James Gaskin
Subject: RE: need your help please

3. not a contradiction. One way you can defend it is by explaining that you simply did not have sufficient power to detect the significant interaction (probably due to sample size). You can do a power test using this calculator: http://www.danielsoper.com/statcalc3/calc.aspx?id=9,

A- What is the minimum statistical power needed to predict the significant relationships?
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---

Hi James

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4. You are correct that this is most likely due to small sample size. Is there any way to deal with the problem of small sample size when testing the moderation effects? Can the bootstrap approach be used to test the moderated mediation in AMOS? I have tried to run the bootstrap after splitting the dataset (2groups) based on the levels of the moderator but will AMOS stopped working. Any suggestions??

You cannot use categorical variables as interactions unless the categories are numerically significant (like age categories: 1-20, 21-30, 31-40, 40+). What about diving a sample of firms based on their size as large and small, if the firm size is used as moderator can it be used to create the interaction term or it should be only tested using the multi-grouping approach?

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Best Regards,

Anwar Al Sheyadi
PhD Student
Nottingham University Business School
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2. You do not need to trim the non-significant paths. Doing so simply bolsters the other paths (usually). It also frees up degrees of freedom, which increases parsimony, and should improve fit (RMSEA). I don’t have any references for that, it’s just logic and math.

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Hope this helps.

James

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4) If the moderator used in the model is categorical variable, can the interaction moderation be used instead of the multi-grouping approach? This is because by using the multi-grouping approach has reduced the model fit and resulted in having insignificant relationships for most of the structural paths in both groups, which were significant before splitting the dataset. This might happened because of the small sample size per each group (57 vrs 86). Can you suggest some
reference to support the idea that the interaction term ends up using the same approach of multi-grouping moderation.

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From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 05 October 2012 02:47
To: ‘Anwar Al Sheyadi’
Subject: RE: need your help please

The model fit could be for any number of reasons. Most likely it is because the new interaction term is significantly correlated with another variable in the model. Check the modification indices. As for the categorical variable, if you are just using it to do a multi-group moderation, it can be 1,2 or 0,1, or James,Anwar, or Ren,Stimpy. It doesn’t really matter what the different values are.

James

From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
Sent: Thursday, October 04, 2012 3:27 PM
To: James Gaskin
Subject: RE: need your help please

HI James,

I have tried to use the composite variables for each latent factor in order to test the direct relationships and I have got almost same results of significance compared to model without using the composite variable, but the problem is that the model fit became very bad for the model with the composite variables compared with the model fit when the composite variables were not used. What do you think could be the reason? DO you think it happened because I composited the 2nd order factor? Also, can the categorical moderators be coded as 1 and 2 (as what you did in your video 'Multi group moderation in AMOS) or it should be dummy coded (0,1)?

Best Regards,

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Sent: 04 October 2012 17:38
To: ‘Anwar Al Sheyadi’
Subject: RE: need your help please
1. To be safe, I would do it without the mediator in place first, then add the mediator.
2. Either approach can be taken. You will end up with slightly different values, but they shouldn’t be too different.
3. Multicollinearity is addressed by standardizing the variables before multiplying them together.

Hope this helps.

James

---

From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
Sent: Thursday, October 04, 2012 8:33 AM
To: James Gaskin
Subject: RE: need your help please

Hi James, thanks for your kind reply and valuable comments. Watching these videos and relating them to your answers raised some further questions which I hope that you can assist in dealing with them:

1. For Aron’s video, I noticed that he set up the bootstrap before testing the direct effects (that means he tested the direct and indirect effects using the bootstrap), but in your PP slides (testing mediation using Bootstrapping/from your stat wiki) you set up the bootstrapping after testing the direct effects (that means you used the bootstrap only to test the indirect effects). So, do you think the bootstrap should be done before or after testing the direct effect? I tried both options and I got different results for the direct relationships (significant W/O bootstrap and insignificant with bootstrap).
2. To create the interaction term to test the moderation effects of the continues moderator, should the interaction term be created using the composite latent variables of the DV and the Moderator or the indicators of each one of them? And should I save the standardized values of the composite latent variables or to save the standardized values of their indicators and then to create the composite variable using the standardized values of the indicators?
3. By using the interaction term moderator, don’t you think that we are going to have the problem of multicollinearity between the new interaction term and the latent DV and moderator variable? How to solve the problem of multicollinearity in this case, or do you think that using the composite latent factor can help to reduce this problem?

Thanks a lot in advance for all your support. My SEM skills have really improved after watching your videos and chatting with you.

Best Regards,

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---

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 03 October 2012 21:01
To: Anwar Al Sheyadi
Subject: RE: need your help please
For the mediation, just use the bootstrapping method demonstrated by my good friend Aron: http://www.youtube.com/watch?v=IkBeR2Z4bPA

For categorical moderation, use the “moderation made easy” video and the excel tool
For the continuous moderation (interaction), yes, just use the procedure I demonstrate here: http://www.youtube.com/watch?v=K34sF_AmWlo

To create a composite out of the 2nd order factor, I recommend this procedure: http://www.youtube.com/watch?v=dsOS9tQjxW8

To test moderated mediation, yes, use that video: http://www.youtube.com/watch?v=yMGkluHxQy

I hope I answered all your questions. Best of luck!

James

From: Anwar Al Sheyadi [mailto:lixaa49@nottingham.ac.uk]
Sent: Wednesday, October 03, 2012 11:22 AM
To: jeg82@case.edu
Cc: james.eric.gaskin@gmail.com
Subject: need your help please

Hi James, thanks a lot for your valuable videos and all the information you posted in your stat wiki. I have some questions related to testing moderation mediation, so please guide me to solve them:

In my structural model I’m using two types of moderators: A- Categorical (firm size-small/large), and B- Continues (Customer integration: used four items likert-scale to measure this construct). Also, I’m using a third variable MeV that is expected to mediate the relationship between my IV and DV, keeping in mind that I’m using two IVs and one DV which is a second order-construct. At the same time I’m expecting the two moderators (A & B) to moderator the direct relationship between IV and DV, and to moderated the mediation effect of the MeV. What do you think should be done to test the moderation effects of the direct and indirect relationships? Should I use a multi group moderation test when testing the moderation effect of the first moderator and use interaction term moderation test for the second moderator or should I use the same approach (multi group-illustrated in video/ Moderated Mediation and Controls) to test the moderated mediation effect of both types of moderators? If the interaction term is used with the two moderators, do you think I should use the composite measure (cantered interaction term) and if that should be done do you think that I still can use the excel sheet which you developed (video: moderation made easy)? How to create a composite variable for the second order construct?

Note: Attached is a sample of the mode which I’m trying to test, so can easily understand my questions

Please I need your help and your valuable comments in order to solve these problems.
Thanks a lot for you kind support.
Best Regards,

Anwar

This message and any attachment are intended solely for the addressee and may contain confidential information. If you have received this message in error, please send it back to me, and immediately delete it. Please do not use, copy or disclose the information contained in this message or in any attachment. Any views or opinions expressed by the author of this email do not necessarily reflect the views of the University of Nottingham. This message has been checked for viruses but the contents of an attachment may still contain software viruses which could damage your computer system: you are advised to perform your own checks. Email communications with the University of Nottingham may be monitored as permitted by UK legislation.
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Best Regards,

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Please I need your help and your valuable comments in order to solve these problems.

Thanks a lot for you kind support.

Best Regards,

Anwar
Great, thanks!

On 14-03-13, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Here you go. See attached. Best of luck! (I’m working on a 3.0 that can handle two factors).
James

From: W.S. Jansen [mailto:W.S.Jansen@rug.nl]
Sent: Thursday, March 14, 2013 3:09 AM
To: james.gaskin@byu.edu
Subject: Old stats tool

Dear professor Gaskin,

I have a short question. I am attempting to determine the convergent and discriminant validity of a model with two latent factors. In your latest version of the Stats Tool package, however, the validity master is not suited for models with only two factors. Is it possible for me to somehow obtain the old stats tool (as used in your video 'validity tutorial') in which it is possible to assess validity in a two factor model?

Thank you very much in advance!

Wiebren Jansen

--

Wiebren Jansen
PhD student Cultural diversity and integration
mon-fri
http://www.rug.nl/staff/w.s.jansen/index

University of Groningen

Faculty of Behavioural and Social Sciences
Institute for Integration and Social Efficacy

Nieuwe Kijk in 't Jatstraat 68, 9712 TS Groningen
T 050 363 64 38, M 06 47 11 35 29
www.instituutisw.nl
I tried that and it worked just like you said. Going from 6 to 5 factors was magic. I only had one cross-loading and it was more than .200, otherwise all loadings were greater than .700 average. Looked really clean. Thank you very much. See you on Jan. 18th.

Dave

On Wed, Jan 4, 2012 at 11:48 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

This is called a Heywood Case. This usually happens when the sample size is too small or when too many factors are extracted (leaving too few items per factor). Try to reduce the number of factors. You should not have loadings greater than 1.

James

James:

I have a pattern matrix question if you don't mind.

In our first assignment for Toni Somers we have an EFA problem. I have studied the factors given and I have run several iterations and found one I like except I have a load on an item that is 1.001. I know you said we don't want to have a load factor over 1 but I forgot why? What does a load factor greater than 1 in my pattern matrix indicate and when it exists is that item invalid meaning I should keep working until I get a "cleaner" pattern matrix?

Thanks and Happy New Year. Sorry to bother you.

Dave
Adjunct Professor
Weatherhead School of Management
David (Dave) E. Jones, CPA
471 PBL Building
+1 (216) 368-1057
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Adjunct Professor
Weatherhead School of Management
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471 PBL Building
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James,

I was playing around with Multigroup (original dataset the 196 was too small – see error message) and Interaction.

I received the first error messages while trying to conduct the multigroup – the first I assume is because the data is too small.

However, when I tried to impute with a data set of over 314, I received the 2nd error. Before the multigroup I wanted to create composites from my factor scores.

I done multigroup several times, and I think I know what I am doing.

Any suggestions?

David Klossner
President
TLT-Babcock, Inc.
260 Springside Drive
Akron, Ohio 44333
Tel: 1-330-869-4755

The information transmitted in this correspondence is intended only for the person or entity to which it is addressed and contains confidential and/or privileged information. Any review, retransmission, dissemination or other use of, or taking of any action in reliance upon, this information by persons or entities other than the intended recipient is strictly prohibited. If you received this in error, please contact the sender and delete the material from any computer.

I’m guessing the inverse relationship is due to what we talked about before, where the executive will report good environmental performance no matter what...
Not sure why intrinsic value becomes significant, except that everything in a structural model is so interconnected that a little change here can make a little change everywhere.

Thinking about our next research project...

I put back in the perceived safety and perceived environmental performance – and ran the model again.

- Inverse relationship with profit and perceived environmental performance (-.150)
- Inverse relationship with perceived environmental and actual safety performance (-.20)
- Intrinsic value goes into play (.23)
- Pressure goes away

Why is there an inverse relationship with perceived environmental performance and actual safety?

Why did intrinsic values come back into influence when the perceived variables of safety and environmental was added back?
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Thanks for your thoughts.

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James Gaskin  
Send: Tuesday, December 18, 2012 3:52 PM  
To: David Klossner; ‘Kalle Lyytinen’  
Subject: RE: PhD proposal

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yes, my questionnaires have positive and negative questions, using 5 Likert scale. I reverse code for negative questions in data file before i run CFA. (5 -> 1) (1 -> 5) (4 -> 2)(2 -> 4) (3 -> 3)

I have two additional questions.
1. Is this reverse-coded correct? or i unnecessary recode it before run CFA.
2. The correlation between latent has negative. How i do it? I should remove any latent or not.
Sincerely yours.

<james.eric.gaskin@gmail.com>

Yes, a negative factor loading is definitely possible. This means that it runs opposite the other items on that factor. Same with the correlation. It just means that as one goes up, the other goes down. If you have a negative loading, then you may want to check to see if the item was reverse-coded (if it is from a survey). If it was not reverse coded, then this just means that it is not part of the same factor, because it is not addressing the core issue of the construct. Thus, you should remove it, or try constructing a formative model (this gets somewhat more complicated).

I hope this helps!

James

I am a Ph.D.student from Thailand. Please advise me about my thesis. when i run CFA model using AMOS, i found a negative factor loading and negative correlation between two latent variable in this model. It is possible or not for this analysis. Please reply me.

Thank you

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Ph.D.student, Thailand
From: khaira abd <khaira_20010@yahoo.com>
To: James Gaskin <james.eric.gaskin@gmail.com>
Sent: Wednesday, January 04, 2012 8:03 PM
Subject: Re: please your help

Thank you so much

Hi James,

If I want to use EAF score in hierarchal cluster what method I have to use: case or variable clustering.

Many thanks

From: James Gaskin <james.eric.gaskin@gmail.com>
To: khaira abd <khaira_20010@yahoo.com>
Sent: Tuesday, December 6, 2011 1:34 AM
Subject: RE: please your help

Hi Khaira,

This looks better. The square root of the AVE should be greater than the correlations with all other correlating factors. So, in the matrix, the value on the diagonal should be greater than anything below it in its column, and anything to the left of it in its row. It appears that there are no problems with this matrix. The references you can use are pasted below:


Hope this helps.

James

From: khaira abd <khaira_20010@yahoo.com>
Sent: Monday, December 05, 2011 8:31 AM
To: James Gaskin
Subject: Re: please your help

Hi,

Here is factor correlation matrix. My question is that the square root of the ave should be compared with all other correlation or just with its factor. if not great than what is mean? it is mean the model is not adequate.

please let me know at least one reference about this.

your advice is really appreciated

From: James Gaskin <james.eric.gaskin@gmail.com>
To: khaira abd <khaira_20010@yahoo.com>
Sent: Sunday, December 4, 2011 1:29 PM
Subject: RE: please your help

Those are pretty low AVE. Use this new version to create a factor correlation matrix (MasterValidity tab). You are the first beta tester. If the square root of the ave is greater than any other correlation, then you are fine. Also, this depends on if you are using previously validated scales, or if you are using scales you made up.

James

From: khaira abd <khaira_20010@yahoo.com>
Sent: Sunday, December 04, 2011 7:37 AM
To: James Gaskin
Subject: Re: please your help

I am so sorry for asking a lot.Convergent and discriminant validity were calculated by using your stat tool package. Here this the result;

As you can see there are some convergent validity. is the that I used adequate or not. if not and I have to carry out EFA to get new model

Dear James,

Many thanks
This actually looks very nice. One can always improve model fit. The goal is not always to optimize fit, but to achieve adequate fit with a model that is true to your theory. The various references are all fine. Hair et al. tends to give lower thresholds, but also usually specifies the conditions under which these thresholds are valid. The loadings should be above .7 if you are exploring new constructs, but anything above .4 is tolerable if you are simply using existing and established measures. If you have values less than .7 then you will just have some convergent validity issues (like a low AVE). I would not worry too much about the standardized residuals greater than 4. You will nearly always get some, especially if you have a large sample size. Like I said, the idea is to get a model that has adequate fit. I recommend including the PCLOSE value (near the RMSEA).

Hope this helps.

James

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Dear James,

First of all thank you so much for great videos.

May I introduce myself; my name is Khairia PhD student at Newcastle University (UK). I carried CFA analysis to model that was took from previous work to know how well fit my data, my result in the below table.

I am really confused, there are many cut off criteria such as Hair 2010 (.90) and Hu 1999 (.95). Please tell me which reference should be considered and why. Another thing regarding to factor loading, there are a lot of them less than 0.5, it is will be effect my model fit if all over all model are ok. Also there are a lot of standardized residual great than 4 as Hair argued.

Many thanks in advance

khairia

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From: James Gaskin <james.eric.gaskin@gmail.com>
To: 'khaira abd' <khaira_20010@yahoo.com>
Sent: Saturday, December 3, 2011 10:50 PM
Subject: RE: please your help

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As you can see there are some convergent validity. is the that I used adequate or not. if not and I have to carry out EFA to get new model

Many thanks
From: James Gaskin <james.eric.gaskin@gmail.com>
To: khaira abd <khaira_20010@yahoo.com>
Sent: Saturday, December 3, 2011 10:50 PM
Subject: RE: please your help

This actually looks very nice. One can always improve model fit. The goal is not always to optimize fit, but to achieve adequate fit with a model that is true to your theory. The various references are all fine. Hair et al. tends to give lower thresholds, but also usually specifies the conditions under which those thresholds are valid. The loadings should be above .7 if you are exploring new constructs, but anything above .4 is tolerable if you are simply using existing and established measures. If you have values less than .7 then you will just have some convergent validity issues (like a low AVE). I would not worry too much about the standardized residuals greater than 4. You will nearly always get some, especially if you have a large sample size. Like I said, the idea is to get a model that has adequate fit. I recommend including the PCLOSE value (near the RMSEA).

Hope this helps.

James

From: khaira abd <khaira_20010@yahoo.com>
Sent: Saturday, December 03, 2011 5:28 PM
To: james.eric.gaskin@gmail.com
Subject: please your help

Dear James,

May I introduce myself; my name is Khairia PhD student at Newcastle University (UK). I carried CFA analysis to model that was took from previous work to know how well fit my data, my result in the below table.

I am really confused, there are many cut off criteria such as Hair 2010 (.90) and Hu 1999 (.95). Please tell me which reference should be considered and why. Another thing regarding to factor loading, there are a lot of them less than 0.5, it is will be effect my model fit if all over all model are ok. Also there are a lot of standardized residual great than 4 as Hair argued.

Many thanks in advance

Khairia

<table>
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<tr>
<th>Fit measures</th>
<th>CMIN</th>
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<th>CFI</th>
<th>GFI</th>
<th>AGFI</th>
<th>PGFI</th>
<th>PCI</th>
<th>IFI</th>
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</tr>
</tbody>
</table>

Latent factor observed missing data 0
Thank you so much

From: khaira abd [mailto:khaira_20010@yahoo.com]
Sent: Tuesday, January 03, 2012 3:34 PM
To: James Gaskin
Subject: Re: please your help

Hi James,

If I want to use EAF score in hierarchal cluster what method I have to use: case or variable clustering.

Many thanks

From: James Gaskin <james.eric.gaskin@gmail.com>
Sent: Sunday, December 4, 2011 1:29 PM
Subject: RE: please your help

Hi Khaira,

This looks better. The square root of the AVE should be greater than the correlations with all other correlating factors. So, in the matrix, the value on the diagonal should be greater than anything below it in its column, and anything to the left of it in its row. It appears that there are no problems with this matrix. The references you can use are pasted below:


Hope this helps.
James

From: khaira abd [mailto:khaira_20010@yahoo.com]
Sent: Monday, December 05, 2011 8:31 AM
To: James Gaskin
Subject: Re: please your help

Hi,

Here is factor correlation matrix. My question is that the square root of the ave should be compared with all other correlation or just with its factor. If not great than what is mean? it is mean the model is not adequate.

please let me know at least one reference about this.

your advice is really appreciated

From: James Gaskin <james.eric.gaskin@gmail.com>
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Those are pretty low AVE. Use this new version to create a factor correlation matrix (Master/Validity tab). You are the first beta tester. If the square root of the ave is greater than any other correlation, then you are fine. Also, this depends on if you are using previously validated scales, or if you are using scales you made up.

James

From: khaira abd [mailto:khaira_20010@yahoo.com]
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To: James Gaskin
Subject: Re: please your help

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To: James Gaskin
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Date: Tuesday, January 03, 2012 1:56:57 PM

Thank you so much

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Sent: Tuesday, January 3, 2012 8:53 PM
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**Fit measures**

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<th>value</th>
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<td>p</td>
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</tr>
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<tr>
<td>Missing data</td>
<td>0</td>
</tr>
</tbody>
</table>
James
Much appreciated.
Gert

James Gaskin [mailto:james.eric.gaskin@gmail.com]
Sent: 13 February 2013 08:24 PM
To: Gert Human
Subject: RE: PLS Graph and multigroup moderation

I’ve attached it, but it is also available on my wiki: statwiki.kolobkreations.com
Best of luck.
James

Gert Human [mailto:gert.human@uct.ac.za]
Sent: Wednesday, February 13, 2013 8:29 AM
To: james.eric.gaskin@gmail.com
Subject: PLS Graph and multigroup moderation

Hi there
I came across your PLS Graph videos on YouTube and I was wondering how can I obtain you spreadsheet for calculating the significance of the estimates between groups. I am a SmartPLS user, but I am also considering it to use PLS Graph.
Kind regards
Gert Human

UNIVERSITY OF CAPE TOWN

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thanks a ton. good night

On Tue, Mar 12, 2013 at 9:42 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Depends on what criteria you are trying to meet. For convergent validity in a measurement model, they should average out to 0.700 on each factor. For a structural model, the standardized regression weight just needs to be significant. My videos explain a lot of this. As does Hair et al 2010. Best of luck.

James

Thanks a ton......

Another clarification I need..... when i see the standardized regression weights, do the values necessarily have to be at least 0.5 and above for the variables?

On Tue, Mar 12, 2013 at 7:41 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Correct. Z-scores is fine.

James
Fortunately and with your guidance the stats tool is running. As my analysis involves comparing Indian and multinational companies, can I do it by using z scores that your tool gives? So now I need not do a chi square difference as in your earlier video on group moderation uploaded in 2011?

Plz help with answer.

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Puja Sareen
Sr. Lecturer

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In this case do I need group differences in sytats wiki.

At present I have made 4 separate constructs in amos to compare. Attaching them. Do I need amos and set up a combined model or only use anova in spss. I want to assess what is the difference in indian and mnc for all the 4 factors and their variables( attached amos sheets).

I am really indebted to u. U have been a true guide to me.

On Thu, Mar 14, 2013 at 10:06 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

But the model you are testing is a single factor. At least, the tables you sent me and the model you sent me are just a single latent factor with 9 indicators. If you just want to know if there are significant differences between the two groups, then I would do an anova test. Here are the results using Country as the factoring variable. The Sig. column indicates whether there is a significant difference between the two countries. So, this says that there is a significant difference between these two countries for all the variables of interest.
<table>
<thead>
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<td>128.684</td>
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</tbody>
</table>

From: Puja Sareen [mailto:puja.sareen@aitgurgaon.org]
Sent: Wednesday, March 13, 2013 9:40 PM
To: James Gaskin
Subject: Re: plz solve my confusion

Thanks for a prompt reply.

I have to compare Indian and Multinational companies for e-HRM benifits. I have 4 constructs made in AMOS each with variables(6-7) under it. I find critical ratios and regression weights for these variables in AMOS and then do a multigroup moderation in staswiki in group differences to get z scores for each of these 4 factors. Is it the right approach?

But I face this problem that when I take those variables in a factor whose regression weight is more than 0.5 only , then the z scores are not above 1.96? How do I do a comparison of factors?

Plz let me know where I am wrong or if I need to compare these groups in another way. The way u compare in your video-multigroup moderation in AMOS
made easy; I am following the same way.

On Thu, Mar 14, 2013 at 1:19 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

The real question is, what are you trying to accomplish? Looks like a single factor measurement model, but then why are you doing an invariance test? Is it because you are doing a multigroup moderation later? But if so, then why don’t you have more than one factor?

James

From: Puja Sareen [mailto:puja.sareen@aitgurgaon.org]
Sent: Wednesday, March 13, 2013 12:40 PM
To: James Gaskin
Subject: plz solve my confusion

Hi James

Sorry for bothering again.

If I keep only those variables whose Standard regression weights are more than 0.5, then z score are not significant in group comparison. On the other hand if I include all variables whether or not there standard regression weight is 0.5 or more- then z score has values more than 1.96.

What to do? I am attaching 2 files. One with z score significant but there std regression weights are mixed and other with only 0.5 or more std weights.

I badly need your expertise.

--
Regards
Puja Sareen
Regards
Puja Sareen
Sr. Lecturer

--
Regards
Puja Sareen
Sr. Lecturer
tHANKS.

Then I need not make constructs in amos, CFA and then do group differences? Actually I was not getting a satisfactory EFA(variables were not coming under exact factors) so my guide told me to do cfa.

On Thu, Mar 14, 2013 at 10:48 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Sounds like you just need to do an ANOVA like I did in the last email. This will tell you the extent of differences between the two countries for each of the variables you are interested in.

James

Thanks

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Subject: Re: plz solve my confusion

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<thead>
<tr>
<th></th>
<th>var00060</th>
<th>var00074</th>
<th>var00075</th>
<th>var00076</th>
<th>var00079</th>
<th>var00080</th>
<th>var00087</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>employee relations</td>
<td>employee relations</td>
<td>employee relations</td>
<td>employee relations</td>
<td>employee relations</td>
<td>employee relations</td>
<td>employee relations</td>
</tr>
<tr>
<td></td>
<td>1.000</td>
<td>0.884</td>
<td>1.119</td>
<td>1.387</td>
<td>0.930</td>
<td>1.184</td>
<td>0.877</td>
</tr>
<tr>
<td></td>
<td>1.000</td>
<td>0.000</td>
<td>0.968</td>
<td>0.000</td>
<td>0.000</td>
<td>0.774</td>
<td>0.000</td>
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<tr>
<td></td>
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<td>0.228</td>
<td>-0.898</td>
<td>-0.279</td>
<td>-0.583</td>
<td>-1.014</td>
<td>-0.022</td>
</tr>
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Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

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HOW TO DO AVERAGE SCORES?

On Thu, Mar 14, 2013 at 8:52 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Again, these are meaningless. Really you should just take the average scores to see which one is higher, and then do an ANOVA to see if those differences in averages is significant.

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<th>MNC</th>
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<td>0.869</td>
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Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

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<td>1.119</td>
<td>0.000</td>
<td>0.774</td>
<td>0.005</td>
</tr>
<tr>
<td>VAR00076</td>
<td>&lt;--</td>
<td>employee relations</td>
<td>1.387</td>
<td>0.000</td>
<td>1.252</td>
<td>0.000</td>
</tr>
<tr>
<td>VAR00079</td>
<td>&lt;--</td>
<td>employee relations</td>
<td>0.930</td>
<td>0.000</td>
<td>0.706</td>
<td>0.010</td>
</tr>
<tr>
<td>VAR00080</td>
<td>&lt;--</td>
<td>employee relations</td>
<td>1.184</td>
<td>0.000</td>
<td>0.769</td>
<td>0.003</td>
</tr>
<tr>
<td>VAR00087</td>
<td>&lt;--</td>
<td>employee relations</td>
<td>0.877</td>
<td>0.002</td>
<td>0.869</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Now how do I interpret this data for comparing indian and mnc on parameters of employee relations? This is bothering me. I need to know employee relations is better in which group. Can these scores help me?

On Thu, Mar 14, 2013 at 7:47 PM, James Gaskin wrote:

Why do you need to do the EFA?

From: Puja Sareen [mailto:puja.sareen@aitgurgaon.org]
Sent: Wednesday, March 13, 2013 11:33 PM

To: James Gaskin
Subject: Re: plz solve my confusion

can i do annova without EFA?
On Thu, Mar 14, 2013 at 10:59 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Correct. You shouldn’t need to do any of that. Just simple ANOVAs.

James

From: Puja Sareen [mailto:puja.sareen@aitgurgaon.org]
Sent: Wednesday, March 13, 2013 11:27 PM

To: James Gaskin
Subject: Re: plz solve my confusion

tHANKS.

Then I need not make constructs in amos, CFA and then do group differences? Actually I was not getting a satisfactory EFA(variables were not coming under exact factors) so my guide told me to do cfa.

On Thu, Mar 14, 2013 at 10:48 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Sounds like you just need to do an ANOVA like I did in the last email. This will tell you the extent of differences between the two countries for each of the variables you are interested in.

James

From: Puja Sareen [mailto:puja.sareen@aitgurgaon.org]
Sent: Wednesday, March 13, 2013 10:48 PM

To: James Gaskin
Subject: Re: plz solve my confusion

Thanks

Like this I have 4 more factors with variables.

If I get u right, then should I compare each of these constructs/factors separately or make one model in amos combining all the factors and then run annova?
In this case do I need group differences in sytats wiki.

At present I have made 4 separate constructs in amos to compare. Attaching them. Do I need amos and set up a combined model or only use anova in spss. I want to assess what is the difference in indian and mnc for all the 4 factors and their variables (attached amos sheets).

I am really indebted to u. U have been a true guide to me.

On Thu, Mar 14, 2013 at 10:06 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

But the model you are testing is a single factor. At least, the tables you sent me and the model you sent me are just a single latent factor with 9 indicators. If you just want to know if there are significant differences between the two groups, then I would do an anova test. Here are the results using Country as the factoring variable. The Sig. column indicates whether there is a significant difference between the two countries. So, this says that there is a significant difference between these two countries for all the variables of interest.

<table>
<thead>
<tr>
<th>ANOVA</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
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<td></td>
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<td>83.662</td>
<td>1</td>
<td>83.662</td>
<td>158.507</td>
</tr>
<tr>
<td>VAR00071 Within Groups</td>
<td>40.642</td>
<td>77</td>
<td>.528</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>124.304</td>
<td>78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Between Groups</td>
<td>75.384</td>
<td>1</td>
<td>75.384</td>
<td>86.023</td>
</tr>
<tr>
<td>VAR00077 Within Groups</td>
<td>67.477</td>
<td>77</td>
<td>.876</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>142.861</td>
<td>78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Between Groups</td>
<td>75.285</td>
<td>1</td>
<td>75.285</td>
<td>142.467</td>
</tr>
<tr>
<td>VAR00078 Within Groups</td>
<td>40.690</td>
<td>77</td>
<td>.528</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>115.975</td>
<td>78</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
From: Puja Sareen [mailto:puja.sareen@aitgurgaon.org]
Sent: Wednesday, March 13, 2013 9:40 PM
To: James Gaskin
Subject: Re: plz solve my confusion

Thanks for a prompt reply.

I have to compare Indian and Multinational companies for e-HRM benifits. I have 4 constructs made in AMOS each with variables(6-7) under it. I find critical ratios and regression weights for these variables in AMOS and then do a multigroup moderation in staswiki in group differences to get z scores for each of these 4 factors. Is it the right approach?

But I face this problem that when I take those variables in a factor whose regression weight is more than 0.5 only, then the z scores are not above 1.96? How do I do a comparison of factors?

Plz let me know where I am wrong or if I need to compare these groups in another way. The way u compare in your video-multigroup moderation in AMOS made easy; I am following the same way.
On Thu, Mar 14, 2013 at 1:19 AM, James Gaskin wrote:

The real question is, what are you trying to accomplish? Looks like a single factor measurement model, but then why are you doing an invariance test? Is it because you are doing a multigroup moderation later? But if so, then why don’t you have more than one factor?

James

---

From: Puja Sareen [mailto:puja.sareen@aitgurgaon.org]
Sent: Wednesday, March 13, 2013 12:40 PM
To: James Gaskin
Subject: plz solve my confusion

Hi James

Sorry for bothering again.

If I keep only those variables whose Standard regression weights are more than 0.5, then z score are not significant in group comparison. On the other hand if I include all variables whether or not there standard regression weight is 0.5 or more- then z score has values more than 1.96.

What to do? I am attaching 2 files. One with z score significant but there std regression weights are mixed and other with only 0.5 or more std weights.

I badly need your expertise .

--
Regards
Puja Sareen
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Hi James: Many thanks, I attached the excel file.

I really enjoy your YouTube course, do you have any course about advanced mediation test. I learn a lot from your simple mediation test using bootstrap in AMOS. Now, I am doing a test about the chain model like, have you done any course on this topic, or do you have any recommend lit. about this kind of model testing.

Best regards,
Eason Zhang

**********************************************************************
PHD Student
School of Organisation and Management
Australian School of Business
University of New South Wales
Sydney, Australia
Email: yucheng.zhang@student.unsw.edu.au
yucheng.eason.zhang@gmail.com
http://www.business.unsw.edu.au
**********************************************************************

From: james Gaskin [mailto:james.eric.gaskin@gmail.com]
Sent: 2012年5月31日 12:49
To: 'Eason'
Subject: RE: Problem about Stats tools package

Hi Eason,
Please send me an excel file with your tables you are trying to use in group differences so that I can see what the issue is. Account holders on my wiki have the opportunity to edit and upload content. You don't need that. All publicly available pages are free to access.
James

From: Eason [mailto:yucheng.eason.zhang@gmail.com]
Sent: Wednesday, May 30, 2012 9:20 PM
To: james.eric.gaskin@gmail.com
Subject: Problem about Stats tools package

Hi Dear Gaskination: Many thanks for building Gaskination's StatWiki web, which is so so so helpful.

I like the Stats tools package very much, so convenient. However, I found one function in this package do not work very well. I run a simple multigroups in AMOS, and try to use ‘groupdifferences’ function. However, I have tried more than 10 times, the result always is ‘run time error '1004' application defined or object defined error’. I suppose probably, the excel VBA has some problems. Could you kindly have a look on that?

Also, could you let me know what’s the differences between a common visitor to your page and people, who have an account? Does user with account have some privilege, also, if I wanna create an account, will you charge?

With many thanks.

Best regards,
Eason Zhang

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University of New South Wales
Sydney, Australia
Email: yucheng.zhang@student.unsw.edu.au
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Email: yucheng.zhang@student.unsw.edu.au
I suppose we are going to recognise the issue in the paper, but I will discuss your suggestion with my co-authors.

Christopher

Am 12.07.2012 um 17:55 schrieb "James Gaskin" <james.eric.gaskin@gmail.com>:  

Correct. But you can test these separately in SPSS, or in AMOS, just exclude one from the model, then exclude the other. Or simply say that you recognize the multicollinear nature of the two variables but you want to see which is stronger.
James

Hello James,

Thanks for this explanation. We are, however, interested in showing that the effect of satisfaction on purchase intention is different (weaker) than the effect of delight on purchase intention. I suppose a second-order construct would not allow us to do that...

All the more reason to make it second order. The reason to make it second order is to capture distinctly the separate constructs of delight and satisfaction, all while acknowledging their high correlation. Using a second order factor you will be able to see their separate loadings, but measure their effect (or what affects them) together. If the reviewer says they should be measured separately, he/she does not understand statistics, and this should be explained to him/her. If it were me, I would definitely do a second order factor.
James

The construct only consists of two items. Would that work? What would be the explanation for turning it into a second-order factor?

Can’t you turn it into a second order factor?

Thank you for your help.

You are right, satisfaction and delight are quite similar, but one reviewer insisted that it had to be included in our model. Therefore, we have added it and are now dealing with the consequences.
It must be your version of Excel. It worked like a charm in 2010. Here are your results. Satisfaction seems to be the main issue. To me, satisfaction sounds very similar to delight.

<table>
<thead>
<tr>
<th></th>
<th>CR</th>
<th>AVE</th>
<th>MSV</th>
<th>ASV</th>
<th>delight</th>
<th>satisfaction</th>
<th>surprise</th>
<th>purchaseintention</th>
</tr>
</thead>
<tbody>
<tr>
<td>delight</td>
<td>0.824</td>
<td>0.610</td>
<td>0.615</td>
<td>0.414</td>
<td>0.781</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>0.439</td>
<td>0.281</td>
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<td>0.806</td>
</tr>
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</table>

**VALIDITY CONCERNS**

Discriminant Validity: the square root of the AVE for delight is less than one the absolute value of the correlations with another factor.

Discriminant Validity: the square root of the AVE for satisfaction is less than one the absolute value of the correlations with another factor.

Discriminant Validity: the AVE for delight is less than the MSV.

Reliability: the CR for satisfaction is less than 0.70.

Convergent Validity: the AVE for satisfaction is less than 0.50.

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Am 12.07.2012 um 16:42 Uhr schrieb "James Gaskin" <james.eric.gaskin@gmail.com>:

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Regards
Puja Sareen

On Sat, Mar 16, 2013 at 10:16 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

I think it is time for you to use your own brain. The error below clearly states what the problem is. Apparently the Tukey’s test doesn’t work for fewer than three groups. Surely you could have deduced that.

You have emailed me 43 times this week. This is a bit excessive. You are a graduate student, so you must be smart. I have made over 40 videos to help guide you. I have created a wiki, and I have made available all the questions others have asked me and my responses to them (see the left column of the wiki for the “stats help archive”). There are also many books, articles, free online courses, etc. to help guide you through statistics. I cannot be your personal tutor. I charge people $150 (USD) per hour for my services when they want more of my time than a quick email every now and then.

I wish you the best. I hope you are able to figure it out. If you do, you will have learned more than if you keep relying on me.

James
Post hoc tests are not performed for aligning HR function with the strategic objectives because there are fewer than three groups.

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Post hoc tests are not performed for allowed for improvement in overall business because there are fewer than three groups.

Regards
Puja Sareen
Sr. Lecturer

--

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Sr. Lecturer
Thanks a lot.
Sorry for the trouble.

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Sent from my iPhone

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James
When I'm doing tuckey test after one way anova, I am finding this
warning?

What do I do

-- Warnings

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Regards
Puja Sareen
Sr. Lecturer

--

Regards
Puja Sareen
Sr. Lecturer

--

Regards
Puja Sareen
Sr. Lecturer
Okay thanks. I will watch that video and try again and then get back to you.

Many thanks.

Sent from my iPhone

On 2013-03-06, at 6:45 PM, "James Gaskin" <james.eric.gaskin@gmail.com> wrote:

> Yes, this would probably be due to having a negative error variance. If you
> look at the notes for the model, it will show you which one is negative. Try
> my video called: "Iteration Limit Reached in AMOS". This should help. If
> not, then you could send me your model and data and I could try to
> troubleshoot it.
> James
>
> -----Original Message-----
> From: Amina Malik [mailto:amina14@yorku.ca]
> Sent: Wednesday, March 06, 2013 4:40 PM
> To: James Gaskin
> Subject: Re: Query regarding CMV
>
> Hi James,
>
> Hope you are well. I tried doing some data imputation using your new
youtube video on common method bias, however, for some reason I am getting
an error.
> Attached you can see the picture of the model. I asked my friend to
run it but he also got the same error. I even tried with constraining
> every path of the control variable, but still it did not run.
>
> I would really appreciate if could you please look at the figure and
> tell me if I am doing anything wrong.
>
> Thanks in advance.
Kind Regards,
Amina Malik
PhD Candidate, HRM
York University
Toronto
Canada

Quoting James Gaskin <james.eric.gaskin@gmail.com>:

One reason it might not be working is that you only have three relationships, and my tool is not very robust. If you send me the excel tables I can run it to see what is wrong.

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From: Amina [mailto:amina14@yorku.ca]
Sent: Thursday, February 28, 2013 2:03 PM
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I chose this topic for presentation, I thought I would teach this to my colleagues. But thank you so much for your help. I really appreciate it.

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I'm not sure why it won't work then. But, your model is so small, you can just do it by hand. I can't see behind the button, but I'll do the last one for you:

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Hope this helps.

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Cc: James Gaskin
Subject: RE: Query regarding multi group moderation video

sorry forgot to attach.

Amina Malik
PhD Candidate, HRM
York University
Toronto
Canada

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From: Amina Malik [mailto:amina14@yorku.ca]
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Hi James,

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and
paste

the formatted table in your excel file.

Many Thanks.

Amina Malik
PhD Candidate, HRM
York University
Toronto
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Thank you so much James. All these steps are really helpful. I did not think of that way. Once again thank you so much. I really appreciate your time:)

Many Thanks.

Regards,
Amina Malik
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York University
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Quoting James Gaskin <james.eric.gaskin@gmail.com>:

> Here is my guess. I haven't tried acting on this information yet, but I'm guessing it will work. Here is the problem (I think). I ran an EFA on this data and let it extract as many factors as seemed appropriate (dictated by eigenvalues > 1.00), and it extracted six. See the pattern matrix below. You can see that there are many issues with this matrix. So, instead I tried to force it to only three factors. See table below this one.
> Pattern Matrixa
> Factor
> 1
> 2
> 3
> 4
> 5
> 6
> EXT10
> 1.006
>
> P3
> 0.341
> 0.922
> -0.216
> P2
> 0.831
> P1
> 0.808
> AGR8
> 0.480
In this pattern matrix with only three factors we can see that AGR1 loads distinctly with the EXT items. We can also see that AGR5, AGR7, and EXT1 do not have a home factor (a factor on which they load consistently and solely). We can also see that AGR8 loads with the P items. This will cause all sorts of issues in your CFA (as is evident by the terrible validity and reliability scores). So, if I trim this model a bit to try to arrive at a clean factor solution, I arrive at the next pattern matrix (below this one).
<table>
<thead>
<tr>
<th>Factor</th>
<th>EXT10</th>
<th>EXT7</th>
<th>EXT8</th>
<th>EXT2</th>
<th>AGR1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.910</td>
<td>0.836</td>
<td>0.817</td>
<td>0.766</td>
<td>0.764</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
EXT5
-.761

EXT9
-.728

EXT6
-.725

EXT3
-.317

EXT4
-.252

AGR5
.516

EXT1
-.351
<table>
<thead>
<tr>
<th>AGR</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGR3</td>
<td>.265</td>
<td></td>
</tr>
<tr>
<td>AGR2</td>
<td></td>
<td>-.241</td>
</tr>
<tr>
<td>AGR4</td>
<td>.726</td>
<td></td>
</tr>
<tr>
<td>AGR6</td>
<td>.320</td>
<td>.698</td>
</tr>
<tr>
<td>AGR10</td>
<td>-.224</td>
<td>.610</td>
</tr>
<tr>
<td>AGR9</td>
<td>-.204</td>
<td>.603</td>
</tr>
<tr>
<td>AGR7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In this version I have removed many of the cross-loading items and item that were loading on the wrong factor. Now, if I test this version in the CFA I get the correlation matrix and validities below.

Pattern Matrixa

Extraction Method: Maximum Likelihood.
Rotation Method: Promax with Kaiser Normalization.
a. Rotation converged in 5 iterations.
<table>
<thead>
<tr>
<th>Factor</th>
<th>EXT10</th>
<th>.886</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EXT8</td>
<td>.831</td>
</tr>
<tr>
<td></td>
<td>EXT7</td>
<td>.804</td>
</tr>
<tr>
<td></td>
<td>EXT5</td>
<td>.791</td>
</tr>
<tr>
<td></td>
<td>EXT2</td>
<td>.780</td>
</tr>
<tr>
<td></td>
<td>EXT9</td>
<td></td>
</tr>
</tbody>
</table>
> Extraction Method: Maximum Likelihood.
> Rotation Method: Promax with Kaiser Normalization.
You can see in the matrix below that we only have one very minor issue (which can actually be resolved by removing AGR9). And then I ran the CMB model, but still ended up with issues. So, I’m guessing this is because the EXT factor is really two factors as shown in the pattern matrix below.

<table>
<thead>
<tr>
<th>CR</th>
<th>AVE</th>
<th>MSV</th>
<th>ASV</th>
<th>Ext_</th>
<th>Agr_</th>
<th>per_f</th>
<th>Ext_</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.924</td>
<td>0.579</td>
<td>0.022</td>
<td>0.012</td>
<td>0.761</td>
<td>0.761</td>
<td>0.702</td>
<td></td>
</tr>
</tbody>
</table>

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</tr>
</thead>
<tbody>
<tr>
<td>0.851</td>
<td>0.493</td>
<td>0.022</td>
<td>0.014</td>
<td>0.147</td>
<td>0.147</td>
<td>0.702</td>
<td></td>
</tr>
</tbody>
</table>

> Rotation converged in 4 iterations.

> You can see in the matrix below that we only have one very minor issue (which can actually be resolved by removing AGR9). And then I ran the CMB model, but still ended up with issues. So, I’m guessing this is because the EXT factor is really two factors as shown in the pattern matrix below.

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<td>0.147</td>
<td>0.702</td>
<td></td>
</tr>
</tbody>
</table>
> > per_f
> > 0.880
> > 0.710
> > 0.006
> > 0.004
> > -0.043
> > -0.076
> > 0.843
> >
> > VALIDITY CONCERNS
> >
> > Convergent Validity: the AVE for Agr_ is less than 0.50.
> >
> >
> > Pattern Matrixa
> >
> > Factor
> >
> > 1
> > 2
> > 3
> > 4
> > EXT10
> > .910
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p.s. That's the original model, e5 would have to be removed.

Many Thanks.

Regards,

Amina Malik

PhD Candidate, HRM

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From: Amina Malik [mailto:amina14@yorku.ca]
Sent: Wednesday, March 06, 2013 8:59 PM
To: James Gaskin
Subject: RE: Query regarding CMV

I tried simply removing EXT5,8,9, from the CMB model and it ran just fine.
You could also try running it with a separate factor for those three (which I haven't tried because my battery is dying).

Best of luck!

James

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Best of luck!

James

Sent from my iPhone

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An easy way.

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> Cc: James Gaskin
> Subject: RE: Query regarding multi group moderation video
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Wow. Thank you so very much- James. I could not have figured it out.

I really really appreciate your time and concern.

Kind Regards,
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> I found the problem. In the row labels for the matrix, the par_1 value had a
> space after it... yep. That's it. I don't know how it ended up having a
> space after it, but it did. That made it so that it didn't match exactly the
> label in the regression weights tables. This made it so that the code
> couldn't find a match for that label in the matrix. Here is how it looks
> when it runs properly.
<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>1.757</td>
<td>0.000</td>
<td>0.602</td>
<td>0.044</td>
</tr>
<tr>
<td>PBC</td>
<td>2.707***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O</td>
<td>0.096</td>
<td>0.678</td>
<td>-0.550</td>
<td>0.059</td>
</tr>
<tr>
<td>C</td>
<td>1.735*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notes: *** p-value &lt; 0.01; ** p-value &lt; 0.05; * p-value &lt; 0.10</td>
<td></td>
<td></td>
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-Craig

On Mon, Dec 19, 2011 at 9:07 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Hi Craig,

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“A more rigorous test is to compare the average variance-extracted values for any two constructs with the square of the correlation estimate between these two constructs. The variance-extracted estimates should be greater than the squared correlation estimate.” (pg. 688 at the top in the 7th edition)

So, despite not using the term MSV or ASV, their words do support these thresholds of MSV and ASV greater than AVE.

Hope this helps.

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Best,
Selene

On Wed, Mar 13, 2013 at 4:46 PM, Chih-Wei (Selene) Hu <vestamomo@gmail.com> wrote:

Hi James,

Thanks a lot for replying! I am going to try to remove them! Truly appreciate your help!

Best,
Selene

On Wed, Mar 13, 2013 at 4:35 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Just by looking at your output I would say that you could do a lot of good by removing MH5 (sum of 171 MI) and HSC5 (sum of 159 MI).

James
Hi James,

I am a big fan of your Youtube tutorial videos about SEM and CFA! And after watching them, I am still confused about a few things regarding 2nd order CFA and would like to consult with you about my current model. As attached, my model contain one 2nd order latent variable, and 8 first-order variables. For the 8 first-order variables, each of them has several items. I did the Amos and the result is bad. The Chi square is huge and p is significant. I am thus wondering, aside from correlate errors within the same variables, can I put arrows to correlate the 8 first-order variables? Is there any restrain to do so in CFA? And what you would suggest me to do to modify the model? Thank you very much!

Best,

Selene

--
Selene Hu
Doctoral Student
Annenberg School for Communication and Journalism
huchihwe@usc.edu

--
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Hi James,

Thanks so much again for your reply. I've watched that one you just recommended, and it's pretty clear and a nice tutorial! But what I am still confused about is that, after did so (impute variables on Amos), my original second-order latent variable became an "observed variable" with data!! So, if I want to draw the diagram like you showed in the video, all the variables on the diagram would be all "squared" observed variables, right? It seems a bit weird to me.

Can you please look at my two results which I used different methods. One is a simpler model which has a good model fit and p value, and it's done by using the compostie(average) of each of the eight latent variables. In other words, I calculated each of their average in SPSS and draw the data into the model. The other one is the one I was doing this afternoon, in which I run the 2nd order CFA, but this one has a huge chi square and a significant p-value. The reason I was doing the latter one is because I was told that it's wrong to treat the eight latent variables as observed variables by using the composite scores from their items. However, you said it's okay, right? I just want to know if the method is statistically legitimate. If it's okay, then I think why not to use the former one because it showed a very goodness of fit! What do you think? Can you please take a look of the two results and let me know your suggestions? Thank you sooooo much! I really appreciate your time and help!

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On Wed, Mar 13, 2013 at 10:20 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

You can do this, but you lose some information (error estimation). The best way to do it is to use AMOS's built in composite variable tool. See my video on how to do this: "Imputing Composite Variables in AMOS"

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Best regards,

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James

From: Chih-Wei (Selene) Hu [mailto:vestamomo@gmail.com]
Sent: Wednesday, March 13, 2013 11:01 PM
To: James Gaskin
Subject: Re: question about CFA

Hi James,

Sorry for keeping bothering you. I am very confused about one thing regarding CFA and cannot find an answer online or on the books I have. My question is: If I have one second order latent variable and eight first-order latent variables in my model, and each of the eight first order variables has several items to measure. Can I transform each of the eight variables into a "composite variable" by calculating the average of the items (for example, HSC item1+HSC item2+HSC item3/3), and then use the eight newly-generated variables as "observable variables" in my model to run the CFA, in that case the 2nd order latent variable will become a first order variable? It seems to me lots easier and make the model clear, but I don't know if it's not correct. Looking forward to your suggestion!

Thank you so much!

Best,

Selene
On Wed, Mar 13, 2013 at 4:46 PM, Chih-Wei (Selene) Hu <vestamomo@gmail.com> wrote:

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From: Chih-Wei (Selene) Hu [mailto:vestamomo@gmail.com]
Sent: Wednesday, March 13, 2013 2:38 PM
To: james.gaskin@byu.edu
Subject: question about CFA

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May I know, If you were me, which one would you choose to present? I want to stick to the more rigorous way, but the problem with that one is its significance and huge chi squares. What do you think? Thank you!!

Best regards,
Selene

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James

From: Chih-Wei (Selene) Hu [mailto:vestamomo@gmail.com]
Sent: Thursday, March 14, 2013 10:51 AM
To: James Gaskin
Subject: Re: question about CFA

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James

From: Chih-Wei (Selene) Hu [mailto:vestamomo@gmail.com]
Sent: Wednesday, March 13, 2013 11:50 PM

To: James Gaskin
Subject: Re: question about CFA

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Best,

Selene
Got it! Thank you so much, James!!

Have a great day~~

Best regards,
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On Thu, Mar 14, 2013 at 10:55 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Go with the more rigorous one.

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From: Chih-Wei (Selene) Hu [mailto:vestamomo@gmail.com]
Sent: Thursday, March 14, 2013 11:52 AM
To: James Gaskin
Subject: Re: question about CFA

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Dear Dr. Gaskin:

Situation: I received a data set on a representative (weighted) sample of Japanese living in the Hawaiian Islands. Unique to the data set is the use of psychometrically validated measure of discrimination. The discrimination data were collected on 40% of the total sample, which means 60% missing data.

Scientific Question: To determine the use of AMOS/CFA on the Japanese and particularly the discrimination data to determine the validity of the original two factor (overt and covert factors) structure initially developed on and for the study of African Americans. Obviously the question is handling the missing data.

Any wisdom would be appreciated.

= 

Hamilton I. McCubbin PhD
Professor
Myron B Thompson School of Social Work
University of Hawaii at Manoa
Honolulu, HI 96822
email: him@hawaii.edu Cell: 808-286-1724
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Honolulu, HI 96822
email: him@hawaii.edu Cell: 808-286-1724
From: Irene Garrick
To: James Gaskin
Subject: Re: Question on multi-group analysis
Date: Monday, March 19, 2012 8:02:47 AM
Attachments: image002.png

Thank you - this helps...need to process it in my mind and see what to do next! Take care, Irene

Irene Garrick, PhD-C, M.S., MBA
University of Rochester, Warner School of Education

From: James Gaskin <james.eric.gaskin@gmail.com>
To: 'Irene Garrick' <irenegarrick@yahoo.com>
Sent: Monday, March 19, 2012 9:47 AM
Subject: RE: Question on multi-group analysis

Hi Irene,
The first problem is probably that you are using data with such little variance – they only vary from 1 to 2. This means that they will not covary very well.
The second reason for not working is probably due to the relationships between observed variables. For example, I ran a quick EFA and found that “Relieve Negative Feelings” loaded on Relationship Difficulties rather than with Extrinsic Motivation. Also, Alcohol loaded poorly.
The third reason why this might not be working is because the Extrinsic Motivation variable is acting abnormal (for example, I can’t delete it, resize it, change its parameters, etc.).
The fourth reason is that you are covarying the error terms from different latent constructs (e.g., e14 with e11).
Hope this helps.
James

From: Irene Garrick [mailto:irenegarrick@yahoo.com]
Sent: Sunday, March 18, 2012 9:58 PM
To: James Gaskin
Subject: Re: Question on multi-group analysis

Hi James - thanks so much for getting back to me. When I try to run the multi-group analysis, I get this error message that keeps popping up:
Also, it says minimization was unsuccessful, most likely due to too small of a sample size. I'm trying to save the output but not sure how....I try to copy and paste into word and it explodes...not having a lot of luck :(  

I did try an analysis with larger n, between ages 18-49 and 50+, and that seemed to work better....Thanks so much, Irene

Irene Garrick, PhD-C, M.S., MBA
University of Rochester, Warner School of Education
that be the problem? The full model with total n = 720 ran.

One of the things I would like to do is compare the model by age groupings. I also want to compare male and female, and type of gambling (skill versus chance). Does it make sense to have a model with all the groups, or 3 separate models (one for age, one for gender, one for type of gambling).

I have attached the file with my final model that I ran with good fit to the data (Final Model_3-12-2012). Also attached is the model with the age groups (Full Model Groups Age 3-17-2012) and the dataset I’m using (Clean_Data_SPSS_2-16-12). Any suggestions, feedback, etc. is extremely appreciated as I have hit a brick wall in my analysis!!!!! Thanks so much, Irene

Irene Garrick, PhD-C, M.S., MBA
University of Rochester, Warner School of Education
Thank you - this helps...need to process it in my mind and see what to do next! Take care, Irene

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Irene Garrick, PhD-C, M.S., MBA
University of Rochester, Warner School of Education

Hi Irene,
You can definitely run an amos file with all the groups in there. They all run separately anyway, so you will end up with the same results either way. As for troubleshooting your data with my multigroup tester, please send me the output file for this analysis. It should look something like this (see embedded image), but with the name of your file, instead of “OrderEffects”

Once you send that, I can do some quick checking to see what the issue might be.

Thanks,
James

Hi James - I was watching some of your videos on multi-group analysis and wanted to try out the easy version using your Excel tool. Unfortunately, my analysis bombed and I'm not sure why. I'm wondering if you can take a quick look at things to see what the problem is. The only thing that comes to mind is that, although my total n is > 200 (it's 720), some of the groups have n <200...can
that be the problem? The full model with total n = 720 ran.

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Hi James,

Is it normal to have no Modification Indices when Amos recognized that the datafile has missing values? Amos’ command indicated to unclick the Modification Indices when running analyses when there are missing values represented by Estimated Means and Intercepts. Hence, I do not know which items to tweak for a better fit. Are there any ways to do that?

Cheers
Anne

-----Original Message-----
From: Anne Gene Broomhall [mailto:abroomha@myune.edu.au]
Sent: Tuesday, December 04, 2012 6:07 AM
To: James Gaskin
Subject: RE: question

Hi James,
Thanks for the reply. My other question is would it be ok to have negative critical ratios for differences between parameters (e.g. Par 1 & 21 is -.588)?

Cheers,
Anne

Yes, you can also use this method for metric invariance. It is somewhat stricter than a chi-square test, but it is valid. For metric invariance you simply need to show that the loadings are not different across groups. This definitely tests that. The tool won’t work though for paths that are constrained, so, you either need to remove those paths from the resulting regression weights table, or you need to unconstrain them and then constrain the variance of the latent factor instead (to equal 1).
Thank you for your educational videos about Confirmatory Factor Analysis. I have a question, though, does conducting Multigroup Moderation in Amos as instructed in your video http://www.youtube.com/watch?v=ZMY59QAU8bs, also verifies Metric Invariance? I also watched your other video which uses the chi-square test to verify metric invariance, which of the two methods do you prefer? Thank you. Looking forward to your response.

Kind regards,

Anne
Hi James,

Thank you for your informative videos on Youtube about CFAs. I tried to fit a model of a collectivism scale (configural model) and then test for the equivalence of latent mean structures. Unfortunately, when I look into the model fit, there is no default model that shows the CMIN, CMINdf, etc. It only shows the values for the Saturated and Independent models. I attached a copy of my output so you can see. I hope you can help me understand why my output is like this. Thank you very much. Looking forward to your reply.

Cheers,
Anne
Hi James,
Thanks for the email. Here is the output. Alternatively, you can run the model I gave to you and look at the model summary. Thanks heaps.

Cheers
Anne

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Friday, 1 February 2013 4:38 PM
To: Anne Gene Broomhall
Subject: RE: question

Hi Anne,
I tried several different things to try to replicate your problem, but can't manage to do it. I can't figure out why you can't see the default model. You only sent the model though, not the output. If you figure it out, please do let me know.
Thanks!
James

-----Original Message-----
From: Anne Gene Broomhall [mailto:abroomha@myune.edu.au]
Sent: Thursday, January 31, 2013 11:17 PM
To: James Gaskin
Subject: RE: question

Hi James,
Thank you for your informative videos on Youtube about CFAs. I tried to fit a model of a collectivism scale (configural model) and then test for the equivalence of latent mean structures. Unfortunately, when I look into the model fit, there is no default model that shows the CMIN, CMINdf, etc. It only shows the values for the Saturated and Independent models. I attached a copy of my output so you can see. I hope you can help me understand why my output is like this. Thank you very much. Looking forward to your reply.

Cheers,
Anne
Hi James,
Re: my previous problem with the lack of default model using CFA with factor, I managed to sort it out by dropping some variables. However, the RMSEA value was above the required cut off. In other words, quite a bad fit as indicated by the RMSEA but the other fit indices were ok. Would you trust the other fit indices? What's your opinion?

Thank you.

Cheers,
Anne

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Friday, 1 February 2013 4:38 PM
To: Anne Gene Broomhall
Subject: RE: question

Hi Anne,
I tried several different things to try to replicate your problem, but can't manage to do it. I can't figure out why you can't see the default model. You only sent the model though, not the output.
If you figure it out, please do let me know.
Thanks!
James

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Cheers,
Anne
Hi James,
Thanks for the reply. My other question is would it be ok to have negative critical ratios for differences between parameters (e.g. Par 1 & 21 is -.588)?

Cheers,
Anne

---

Yes, you can also use this method for metric invariance. It is somewhat stricter than a chi-square test, but it is valid. For metric invariance you simply need to show that the loadings are not different across groups. This definitely tests that. The tool won't work though for paths that are constrained, so, you either need to remove those paths from the resulting regression weights table, or you need to unconstrain them and then constrain the variance of the latent factor instead (to equal 1).

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Hello,

Thank you for your educational videos about Confirmatory Factor Analysis. I have a question, though, does conducting Multigroup Moderation in Amos as instructed in your video http://www.youtube.com/watch?v=ZMYS90AU8bs, also verifies Metric Invariance? I also watched your other video which uses the chi-square test to verify metric invariance, which of the two methods do you prefer? Thank you. Looking forward to your response.

Kind regards,
Anne
Hi James,

Thank you very much for your reply.

Several of the factors in my model have only one indicator... I try to fix the negative covariance and succeed, but model fit is very poor. Correlating the error according to modification index makes the negative covariance happens again...

I attach my model and data set, I really appreciate your help. Look forward to your reply.

BTW, big congratulation on your MISQ paper!

Best,
Ashley

On Tue, Jan 8, 2013 at 6:21 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Hi Ashley,

Glad to be of service. This often happens as a result of having unstable factors – usually because there are only two items on a single factor. If that is the case, then you can constrain the regression weights between the factors to equal each other (name the regression weight for both of them “a”).

This might also happen if your factors are too similar or too different. Check your modification indices to find out if the errors are too similar, and then covary them if necessary. If all else fails, you can constrain the factor variance to be equal to 0.01. This is a bandaid, but it works (really there is some other underlying issue that is not being addressed, and this is just a temporary patch). If that fails, then let’s skype about it or you can send me the model to quickly troubleshoot.

Hope this helps.

James
Dear Prof. Gaskin,

This is Ashley, PhD from HEC Lausanne. I watch your videos on youtube and find them very useful, thank you for your sharing.

I recently have a question with SEM using AMOS. When I run the mode, one problem always appear that "the error term's variances are negative" and "covariance matrix is not positive definite". Could you help me solving this? Thank you very much!

Best,
Ashley
Yes, that is the video I watched originally. I got CMIN =3.2, GFI = .714, CFI = .836, and RMSEA = .100. I tried covarying a few error terms as suggested in the video, but this didn't really seem to help much. You also stated in the video that standardized residual errors are problematic when they are point 4 and higher; virtually all of mine were not point 4, but rather 4 point something and higher - I assume that is very bad news!

Jeff

----- Original Message ----- 
From: James Gaskin 
Date: Thursday, May 31, 2012 10:58 am  
Subject: RE: RE: AMOS question  
To: 'Jeffrey Webster'

> Try looking through my model fit video on youtube:  
> http://www.youtube.com/watch?v=JkZGWUJdLg  
> I do paid consulting work as well. Mostly though I just answer a  
> whole heap  
> of questions (5-25 per day) from people all over the world about  
> this and  
> that in the world of statistics.  
> James  
> >  
> > -----Original Message-----  
> > From: Jeffrey Webster [mailto:jwebster@langara.bc.ca]  
> > Sent: Thursday, May 31, 2012 1:52 PM  
> > To: James Gaskin  
> > Subject: Re: RE: AMOS question  
> > >  
> > Wow - thanks for your very quick response. After I wiped the egg  
> > off my face  
> > for such a stupid question (I'm new at AMOS) I was able to run  
> > the analysis.  
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> > 70's and 80's,  
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> > ----- Original Message ----- 
> > From: James Gaskin  
> > Date: Wednesday, May 30, 2012 9:52 am  
> > Subject: RE: AMOS question  
> > To: 'Jeffrey Webster'
The problem is that there is a variable in your dataset called "Past". If you change the name of that latent construct in AMOS to something like "Pastfoo" then it should fix that specific error.

James

From: Jeffrey Webster [mailto:jwebster@langara.bc.ca]
Sent: Wednesday, May 30, 2012 12:19 PM
To: james.eric.gaskin@gmail.com
Subject: AMOS question

Hello Dr. James Gaskin (?):

Thank you for your very informative and clear statistics videos on SPSS/AMOS. I recently followed your instructions for a CFA but got an warning message which prevented me from running the analysis which is incredibly frustrating.

Without taking up your time now, I simply wish to ask whether you are willing to try to answer a quick question I have about this. I am not on (nor do I wish to be) on facebook/google, etc., and so I have not asked this question via the postings which follow your video presentations.

If this is not an appropriate request, I apologize. If you charge a consultant's fee, please let me know.

As a heads up, I have 2 latent variables, each with 14 measured indicator variables. The warning message I receive is: "The measured variable Past is represented by an ellipsis in the path
> diagram", and
> > this has prevented the running of the analysis. I don't
> > understand as
> > > Past (a measure of
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> > > At any, I would appreciate hearing whether you can/would help
> > in this
> > > regard. I am happy to pay a reasonable fee if required.
> > >
> > >
> > > Thanks so much for your consideration,
> > >
> > >
> > > Jeff Webster
> > >
> > > Psychology Department
> > >
> > > Langara College,
> > >
> > > Vancouver, BC
> > >
> > >
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Thanks so much for your consideration,

Jeff Webster

Psychology Department

Langara College,

Vancouver, BC
Hey James,

I am sorry I didn't answer before. I didn't have the time to work on my factor model until now. Thank you very much for your detailed answer, it was really helpful! :)

Jennifer

-------- Original-Nachricht --------
Datum: Wed, 14 Dec 2011 10:11:45 -0500
Von: "James Gaskin" <james.eric.gaskin@gmail.com>
An: "Jenny Lorenz" <jenny-lorenz@gmx.net>
Betreff: RE: Statwiki

Hi Jennifer,

I'm glad you have found the stats tool useful. As for your question regarding CR for 2nd order constructs, this should not be a problem. I just ran the tool using a 2nd order factor from a paper I recently submitted. It works great. The model you should be testing it on is the measurement model (the model with items and latent factors correlated, but no regressions between latent factors yet), and the measurement model would definitely have correlations. Validity and reliability of constructs is established prior to running the structural model (the model with regression lines between latent factors). If you have a 2nd order construct in your structural model, then you should check its validity and reliability first in the measurement model by correlating it with the other latent factors (and removing correlations between the 1st order factors that it is subsuming). I hope this makes sense. Here is a picture of the one I just worked on, in which Immers is a 2nd order construct subsuming fFI and fTD.

I hope this is helpful.

James
Hey James,

first of all: thank you so much for the tool you provided on Statwiki. I’ve been trying to calculate the CR for my model with paper&pencil, which is quiet
unhandy. So I was really happy when I found your tool! I have one further question about that and I hoped that you would help me: As far as I can see your
tool only calculates the CR for models with correlated factors. I also want to test an alternative model with a second order factor, but in this one, I do not have
the correlations necessary for the calculation with your tool. Is there any possibility how I can obtain the CR for this model with your tool?

I am looking forward to your answer!
Greeting from Germany,
Jennifer
Empfehlen Sie GMX DSL Ihren Freunden und Bekannten und wir belohnen Sie mit bis zu 50,- Euro! https://freundschaftswerbung.gmx.de
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Thank you.

On Sat, Aug 4, 2012 at 1:29 AM, YouTube Service <noreply@youtube.com> wrote:

Gaskination has replied to your comment on Model fit during a Confirmatory Factor Analysis (CFA) in AMOS:

see reply above

To reply back click here.

To see all comments on this video click here.
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If it is a dichotomous/binary variable, then you are trying to predict the selection of Godiva as the brand of choice? Yes I'm.

And then you will do this for the other brands as well? Yes, 12 of them including my favorite; kitkat.

I see two problems with this approach. First, you have very little variance in your dependent variable (0 or 1). Yes, I know as not many chose the brand for example Godiva.

Second, you probably have only a few respondents who answered “Yes” for each of the different brands. For example, 21 for Godiva but unfortunately that is not all...

What is the main goal of the study? Or the research question?

The focus of the research is to understand how consumers make their chocolate brand choice decisions across three consumption situations and the influence of various benefits, intrapersonal and brand engagement self concept factors.

As you know my dependent var brand choice is tested under three different scenarios:

Self consumption = SC Casual at home situation
Gift = G The reference group of friends is a friend
Host = H The reference group of friends is a work-office gathering or treat for a party

The one I sent you is SC and the DB stands for desired benefit.

**Desired benefits** or as you mentioned them **mediator vars are**:

Social Consumption Desired Benefit SDB, Quality Desired Benefit QDB, Price Desired Benefit PDB & Emotion Desired Benefit EDB.

For example, SCSDB = Self consumption social Desired Benefit.

**My independent var**: intrapersonal and brand engagement self concept factors are:

SNI Self normative influence Relationship that exist between self & others (Self & others)
RISC=Relational Interdependence Self Construal (sociability)
BESC=Brand engagement in self concept (Self & brand)

I need to identify the combined influence of personality, brand benefits and consumption situations on brand choice. That is why I used SEM.

I had hypothesised for example that an individual's RISC will be positively related to emotional benefit that is derived from consumption situations in which the reference group are more salient than consumption situations without no reference group. Then the same with SNI & BESC.

One way ANOVA assessed the relationship between consumers desired brand benefits and
consumers brand choice AND A PAIR T-TEST TO MEASURE THE VARIANCE BETWEEN THE DESIRED BRAND BENEFITS IN DIFFERENT CONSUMPTIONS OCCASIONS. OOPS caps on

I do hope this is useful so you can understand the plot at least just a little bit.

Many thanks

Rosa

If I understood this, I could probably better guide your statistical analysis. I think SEM is probably the wrong approach, but maybe that is just because I don’t understand the research agenda.

James

From: Rosa Elvira Rios [mailto:rosariosq@hotmail.com]
Sent: Monday, December 12, 2011 10:02 AM
To: James Gaskin
Subject: RE: req2

Thanks James.
I thought i did but I understand that I'm only using sem to explain the whole relationship of choice. The ZSGodiva is my dichotomous variable & the standardise variable of the brand chosen & Godiva is a chocolate brand with normal values of either 0 or 1. Standardised=-0.2826 or 3.5259.
I can send you more details if you need me to.
I hope this info is what you were after.
Thanks
Rosa

-----Original Message-----

From: James Gaskin
Sent: 12 Dec 2011 13:53:45 GMT
To: 'Rosa Elvira Rios'
Subject: RE: req2

I use path models (with composite variables) in my videos because they are simpler and still allow for the concepts and mechanics to be taught. Errors and residuals are essentially the same thing.
You are not performing “3rd order SEM process”, so that is good. You simply have three “types” of variables: independent, mediators, and dependent.
The main issue with your model seems to be the dependent variable. What is ZSGodiva? What is the range of possible values for this variable?
James

From: Rosa Elvira Rios [mailto:rosariosq@hotmail.com]
Sent: Sunday, December 11, 2011 2:29 PM
To: James Eric Gaskin
Cc: rosaelvirarios@gmail.com
Subject: req2

Hi James,
I’m so glad you had replied to me.

Please find attached the model & at the moment I’m working with the mean of observable variables of the constructs and see if there is a difference.

I had noticed that you used observable rather than latent variables in your models to explain models. especially the CS, trust & Loy model. I also noticed that what I call it residual in a latent variable you call it error in your explanation of basic analysis in AMOS.

I know it is complicated to perform this having a categorical variables but consumers need to have a choice.

Now, I’m measuring the influence of consumption occasion on consumer brand choice decisions, according to interpersonal ans self concept on the desired benefits.

SNI is the relationship with self and others
RISC the degree of socialibility
BESC Self-brand

Then we have the benefits:
Social
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My dependent variable is brand choice and I have 12 brands to look at within 3 different scenarios: Self, Gift & Host.

Thank you very much for taking an interest and I hope you can understand what I’m trying to do as I’m not an expert on this stuff. Everytime that I’m sure of doing something there is always something else to learn and try to figure out. Challenging but frustrating

Rosa
From: Rosa Elvira Rios
To: James Amos Gaskin
Subject: RE: req2
Date: Monday, December 12, 2011 11:23:28 AM

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Rosa
Hi James,
Thank you very much for sharing the article. It help me a lot to understand conjoint analysis.

Best regards
Nicholas

Hi Nicholas,
I’m glad you have found the tutorials useful. I have never attempted a conjoint analysis. They are definitely not my preference for theory testing. They serve their purpose, however, I have always felt manipulated as a participant in such studies, so the data collected always seems slightly inaccurate. If you are looking for a tutorial on how to do conjoint analysis, you can refer to the article attached. Although, it is probably not as user friendly as a youtube video.
Good luck!
James

Dear Sir,
I am studying Ph.D program in Taiwan, I found your tutorials are very useful for me to do analysis for my research papers. Thank you very much for your time to make such a very clear and useful tutorials.

Could I request one more things ? can you provide how to do Conjoint Analysis? If you can provide, that will be very helpful for me.

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Nicholas
Dear sir,

I tested a second order CFA model for MTEs (Memorable Tourism Experiences) and model fit indices show a good fit to the data. Now I am expecting to test a path model to test causal relationships between MTEs and various endogenous variables i.e. the memory scale (a latent variable), intention revisit the same destination (an observed variable) and intention to generate word of mouth recommendations (an observed variable). My problem is that whether I should use an entire structural model with two latent variables having their all indicators or just using a path model using the composite variables of MTEs and the memory scale. When I use only the composite variables, I get very good model fit indices rather than using the full structural model. Could you please let me know what is the best option for my PhD thesis?

Thanks,

Lalith

---

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Friday, 25 January 2013 4:26 AM
To: Lalith Kotuwegoda Pilliyaguruge
Subject: RE: Request for help

What version of Excel are you using? It is only guaranteed to work with Excel 2010, but may also work with 2007 (possibly). It definitely doesn’t work with 2008 and 2011 (Mac versions).

James

---

From: Lalith Kotuwegoda Pilliyaguruge [mailto:lkotuw@myune.edu.au]
Sent: Wednesday, January 23, 2013 9:13 PM
To: james.eric.gaskin@gmail.com
Subject: Request for help

Dear sir,

I am a PhD student at the University of New England, Australia and developing a model (instrument) for Memorable Tourism Experiences (MTEs) construct as a part of my PhD project. While I was trying to find how to calculate convergent and discriminant validity, I found your video tutorial from Stat Wiki web site. Then I downloaded 'Stats Tools Package' and followed your instructions but there was an error message saying "cannot run the macro "Stats Tools Package.slxm Master validity'. The macro may not be available in this workbook or all macros may be disabled". Then I enabled macros in excel but still I am getting the same message. Could you please let me know how I can solve this problem?

Thanking you

Lalith

Lalith Chandralal
PhD Student
University of New England
Armidale
NSW 2358

+61 267732728
+61 4 14279241
James,

I was reviewing your slides from residency 2 (last semester). I had a question about slide 9. I was wondering about the Hypotheses analysis.

The 1st is **maybe** because of the low R-Squared?
The 2nd is **no** because of the Beta?
The 3rd is **maybe** because of the P-Value?
The 5th is **probably** because of ?? I would have said Yes-not probably

if you could shed some "light" on this

Thanks

ROBERT WATT

--- On Fri, 9/14/12, James Gaskin <james.eric.gaskin@gmail.com> wrote:

From: James Gaskin <james.eric.gaskin@gmail.com>
Subject: [wsom-dm-2014] datasets
To: wsom-dm-2014@case.edu
Date: Friday, September 14, 2012, 11:38 AM

Here are the datasets

James
Hello Dr. GAskin,

I went through all the tutorial videos again in statwiki to re-learn all the EFA and CFA in AMOS.

For the "Handling 2nd order factors in AMOS" [http://www.youtube.com/watch?v=HBQPqj63Y7s](http://www.youtube.com/watch?v=HBQPqj63Y7s), I really want to follow step by step to see if I can get the exact results you get. Do you mind to share with me the data set so that I can do so?

With this I think I can achieve at least the practical understanding of this important step. Appreciate if you can help.

regards,

stchong

On Wed, Jan 9, 2013 at 10:36 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

I did bivariate correlations amongst the items. Then, when running the EFA I removed TMA1 and it was able to run again. If I left TMA1 included, then the EFA couldn’t run.

James

Hello Dr. Gaskin,

Aha! Appreciate your real quick response which is beyond the standard of the milky way. This sounds like a hopeless data again.

By the way, I followed your statwiki to perform the data screening earlier and cannot detect CSA2 and TMA1 to be identical. May I know the trick to do so?

Thanks so much again,
On Wed, Jan 9, 2013 at 6:50 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

CSA2 and TMA1 are identical. Remove one of them. You’ll still have terrible problems though. I ran an EFA on the data and you do not have convergent or discriminant validity.

Hope this helps.

James

---

From: chong ST [mailto:stchong63@gmail.com]
Sent: Tuesday, January 08, 2013 9:56 AM
To: James Gaskin
Subject: Seeking advice

Hello Dr. Gaskin,

I have been learning all the SPSS and AMOS tricks from your statwiki website. Thank you my great Guru of stats.

I have a problem with the above example. I tried to run model fit for the EMS Structural model but failed. I tried to check for multicollinearity issues and also even-distribution issues but the data looks OK.

Appreciate if you can suggest some solutions to my problem. I just want the AMOS to be able to run and tell me how the model fit.

Thanks in advance.

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James,

Thank you for taking your time to provide me with a thorough explanation. Your videos are more than helpful but an indication of a future trend. I am uncertain if you have read "Innovative University" by Clayton Christensen (a fellow Mormon), but your videos exemplify Clay's message in the book. Take care.

Adrian Seketa
seketaa@mcmaster.ca 905.525.9140 ext. 26180
Doctoral Candidate  |  Management of Organizational Behaviour and Human Resources
Michael G. DeGroote School of Business  |  McMaster University
1280 Main Street West, DSB Room A210, Hamilton, Ontario, Canada, L8S 4M4

On Tue, Nov 8, 2011 at 8:58 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Hi Adrian,

Glad you found the videos useful. I hope you will use the wiki as well: http://statwiki.kolobkreations.com

As for reporting the EFA and CFA, that is typically kept to a minimum unless you are trying to establish a new set of measures. Typically you might report a pattern matrix in the appendix, some fit measures and a reliability/validity table from the CFA, and if your reviewers are anal, then something about common method bias. If you are trying to establish a new set of measures, then you need to offer considerable attention to each of these things I listed, particularly convergent and discriminant validity, and reliability (assuming your measures are reflective, rather than formative). Reporting the SEM (by this I assume you mean the actual structural model that tests your hypotheses), you simply include the necessary information for testing the hypotheses. This usually includes standardized regression weights for each hypothesized relationship, and their p-values. This is sufficient for most models. If you are testing a more complex model with moderation or mediation, then you'll need to include significance tests for these as well. So, for mediation, that is typically a two-tailed p-value for the indirect effect (after bootstrapping). For multigroup moderation, this is usually either a chi-square difference test (lame...) or a z-score and p-value from the critical ratios (awesome). Lastly, if you are including controls (sometimes called covariates), make sure you list them and their effects in some table in the appendix, and offer a single sentence in the analysis section and in the findings section to report that you are including them, and what their effects were (if any).

Hope this helps.

James
James,

I am a first doctoral candidate at McMaster University at the DeGroote School of Business in Management of Organizational Behaviour and Human Resources (MOBHR) and found your helpful videos on SPSS and AMOS. Wondering if you have a standard method of reporting your results from EFA, CFA and SEM?

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Adrian Seketa
Hi James,

I am still trying to learn about multigroup comparison with SEM. In PLS we use Smith-Satterthwaite test to generate t-value. Do we also use this test with AMOS? Did you use the Smith-Satterthwaite test to create the excel template? I tried to fined Byrne's book from my library but too many people hold that book so i cannot find the reference.

I am looking forward to hear from you.

Best Regards,
Ananda

On Wed, Oct 31, 2012 at 9:54 AM, ananda Hussein <misterhussein@gmail.com> wrote:

Hi James,

Thanks for the advise. I will try again later. Actually I just used fake data. I will come to you again if I still face the problem.

Cheers

On Wed, Oct 31, 2012 at 6:03 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Hi Ananda,

Most likely, your regression weight tables contain rows that have no value for the label column. This consistently crashes it. If you remove those rows, then it should run. If you still have trouble with it, please feel free to email me your data in the excel sheet (prior to running it) and then I can troubleshoot it. The reference for this method is in the Byrne 2009 book called “Structural Equation Modeling with AMOS”.

James

From: ananda Hussein [mailto:misterhussein@gmail.com] Sent: Tuesday, October 30, 2012 4:01 AM To: james.eric.gaskin@gmail.com Subject: SEM - Multigroup Comparison

Hello James,

I am Ananda, a researcher from Lincoln University New Zealand. I am learning about multi group comparison with AMOS. It is more interesting than using PLS
(XLStat/OTG permutation). I come to your WIKI stat and downloaded the excel template from that website. However, when I am using that template to calculate the the group difference, the excel file seems not working. I am not sure the problem is with my laptop or with the template itself. Every time I run the group difference, it is always fail to generate the Z-score. The Debug command always appears in my screen. Please advise me how to solve this problem.

In addition, could you advise me the reference used to calculate the critical ratio/Z-score for this multigroup comparison. I can easily use your template to calculate the group difference, however, I think I am also interested to know the way behind that calculation.

I am looking forward to hear from you.

Kind Regards,

--

Ananda Sabil Hussein,
Ph.D Candidate in Marketing

Faculty of Commerce
Lincoln University Canterbury - New Zealand

Lecturer

School of Management

Faculty of Economics and Business

University of Brawijaya Malang - Indonesia

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Lecturer
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Faculty of Economics and Business
University of Brawijaya Malang - Indonesia
Dear Mr. Gaskin,

First of all thanks a million for the great resources you've put online on youtube and the statwiki.

I am trying to follow the order you suggest in going through the data cleaning first, then EFA, CFA, etc., but I am clueless on whether to use a measurement model or a structural model during the assumption tests. There is a world of difference between the two in terms of skewness/kurtosis and the overall Mardia multivariate normality values in my data set, which may be a result of having my multi-item moderators in the measurement model but not in the structural model (since I want to test its moderating effect through two-groups)... but I just don't know how to proceed.

If I choose to base any decisions on the measurement model, which has poor normality indices currently, I have to remove a serious number of (mahalanobis) outliers from my rather limited data set (N=118), whereas if I immediately set out with my structural model, my indices are good to go. Please find attached two small images for a bit more clarification. Which should I use as the foundation of my assumption analyses?

Also, I get rather confused by the iterative nature of the task and the abundance of cut-off points suggested in literature, what would you suggest me to look for regarding data normality? Below a few of the varying and seemingly contradictory indications in extant literature:

- Bentler (2005) has suggested that values > 5 for multivariate normality are indicative of data that are nonnormally distributed, but
- Kline (2005): (skewness or kurtosis value / SD) > 1.96 is indicative of univariate nonnormality
- Cut-off values of 2 for univariate skewness, 7 for univariate kurtosis, and 3 for multivariate kurtosis are most frequently employed (Byrne, 2010; Finney and DiStefano, 2006; Mindrilă, 2010)

I tried to find a Youtube tutorial to learn how to go through the assumptions in AMOS and the subsequent EFA, but I can hardly find any concrete information. Maybe an idea ;) ?

Thank you in advance!

King regard,

Ruud Peters
Dear James,

Thank you for your feedback but my observed power is 0.99993 which in all honesty i have no idea what that means.. please may i ask where i can find information on this?

Amara

You are correct that they are not significant. This may simply be due to a lack of power though (likely as a result of low sample size). If you have a low sample size, you may want to do a power analysis (I use this one: http://www.danielsoper.com/statcalc3/calc.aspx?id=9). Then you can leave these relationships in and say in your write-up that you simply did not have sufficient power.

James

Dear James,

Hope you are well.

I was wondering if you was able to help me interpret the table attached in terms of the P values, I have ran my model as first order factor and second order factor. When running the model as first order factor - what I noticed is that I have more p values above 0.05. Please may I ask you to have a look at the table attached and am I right in concluding that values highlighted in yellow are not significant therefore they should be removed from the analysis?

your time and consideration is very much appreciated

Amara
Hi James,

Many thanks for your quick reply and kind help,

I went through most of your videos and benefited from them more than the three books, and more than 50 published academic papers I read. So many thanks once again for your videos, I have few questions;

1. How I can get copy of this Validity Master Tab;
2. I used SEM for two different dataset; Dataset_1 gives me a good model fit indices but some of the relationships between the variables are not significant, even tow of them in wrong direction (positive rather than the hypothesized negative relationship)
3. In Dataset_2 most of the relationships are in the predicted direction and significant but the model is poor fit specially RMSEA

Note:
- Both models are tested against well established and developed theories;
- The questionnaires are adapted from different sources and tested for the validity and reliability (i.e. Cronbach’s alpha is higher than 0.82);
- The total number of factor is 10 and 13 for dataset 1 and 2 respectively, the final questionnaires include 30 and 54 questions while the sample size is 284 and 785 observations;
- PCA and EFA results show that all loadings are more than 0.70;
- I tried to simplify both models, but nothing is change in term of significance for dataset 1 nor fitness for dataset 2.

Do you have any suggestion, how to improve the fitness and relationship or how we can justify or report these results??

Thank you once again for your kind help,

Warm Regards,
Abdel Latef

On Thu, Jan 5, 2012 at 7:24 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Hi Abdel,

I’m glad you find my videos useful. I hope you will also use the wiki:  
http://statwiki.kolobkreations.com

As for the excel file, the one you have is the new one. I felt that the way to test convergent and discriminant validity, although greatly sped up, was still arduous and error-prone. So, I developed a new tool, the Validity Master tab, to do everything the old ones did and more and with only the press of a button. So, instead of it taking 30-60 minutes to test validities and build
relevant tables, now it takes about ten seconds. Please refer to the video called “Validity during CFA made easy”.

Good luck!

James

---

From: Abdel Latef [mailto:anouze2005@gmail.com]
Sent: Wednesday, January 04, 2012 1:30 PM
To: james.eric.gaskin@gmail.com
Subject: Soft_Copy_of_Excel_File

Dear Dr.

Many thanks for your clear and very useful AMOS presentation in youtube. I want to test the

- Convergent validity
- Discriminant validity

But the excel sheet did not include the worksheet that we should use to do test for Convergent and Discriminant validity, I think it is the old one. I wonder is it possible to email me the new excel sheet that you use in the presentation.

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Abdel Latef Anouze
James: This is the original file from Qualtrics without my changes for missing data. If you want to see my survey go to this link: https://cwru.qualtrics.com/SE/?SID=SV_88M1TWQPQ0wBnJq

I really want to do this "fix" so I can understand what is the process as I anticipate this issue in the future. So I am not delegating up if you will and thanks for any suggestions.

Dave

On Thu, Aug 16, 2012 at 9:46 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Send the data my way and I’ll take a look. It looks like you have enough variance in the variables. I’ll just have to troubleshoot it.

James

from: David Jones [mailto:dej34@case.edu]
sent: Thursday, August 16, 2012 5:08 PM
to: James Gaskin
subject: Some Pilot Survey Questions

James:

when you have 10 minutes could you please read the attachment and if you have a suggestion please let me know. I am stuck on a "not positive definite" issue. I promise I have been following the "Capstone" methodology and I have researched this issue but my research is suggesting solutions I haven't encountered before thus the reason for my questions.

Thanks Dave
David (Dave) E. Jones, CPA
Visiting Associate Professor
Taxation and Accounting
Weatherhead School of Management
10900 Euclid Avenue
422 PBL Building
Cleveland Ohio 44106-7232
(O) +1 (216) 368-1057

--
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Hi James:

In my sample, reliability of burnout is .89 and its variance is .56. So, when I used burnout as a latent construct with one indicator, I fixed its factor loading at "1" and the error term as \((1 - \text{reliability}) \times \text{variance}\), \((1 - .89) \times .56 = .06\). Then, the direct path between burnout and satisfaction was (-1.12).

However, when I do not fix the error term and allow it to be estimated, the error is estimated as .03, the direct path between burnout and satisfaction is (-.92).

If I fixed the error term to "0", then the direct path between burnout and satisfaction was "-.78." This result is similar to using burnout as an observed variable with the error.

So, the standardized coefficient of (-1.12) is due to the situation that the error term estimated (.03) by SEM is smaller than .06 which is calculated from \((1 - .89) \times .56 = .06\).

Does this make sense to you?

Thank you.

Angus

"James Gaskin" <james.eric.gaskin@gmail.com> writes:
The error is still applied to the observed item. I don’t see this as a problem, but if others do, you may want to try my original recommendation of fixing burnout during the CFA. I’m not sure how good the construct is if its components are so inconsistent. So, although the model will run, the construct may be useless.
Hi James:

I have tried burnout as an observed variable and applied the error term to it. It works well and the previous standardized coefficient of (-1.12) is gone. The relation became .78.

But, I was told that the use of an observed variable fails to take its error into consideration. That is why people normally use a latent construct with one indicator but setting its error as (1 - its reliability) x (its variance).

Do you think that will be an concern? In other words, what are the rationales to use burnout as an observed variable, rather than a construct with one indicator?

May I argue that burnout have three sub factors, but they have completely different factor loading on burnout, and the three sub-factors of burnout have different loading to burnout, exhaustion (.92), cynicism (.65) and inefficacy (.25)?

Thank you very much for your help.

Best regards,
Angus Yonghneg Yao

PhD candidate in Organizational Behavior
Department of Management
John Molson School of Business
Concordia University
1445 de Maisonneuve Blvd. W.
Montreal (Quebec) H3G 1M8 CANADA

Best regards,
Angus Yonghneg Yao

PhD candidate in Organizational Behavior
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You do it the same way. Just apply the error term to the observed item.
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But, I was told that the use of an observed variable fails to take its error into consideration. That is why people normally use a latent construct with one indicator but setting its error as (1 - its reliability) x (its variance).

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Thank you for your prompt response.

Brandon

On Fri, Nov 11, 2011 at 11:21 AM, James Gaskin wrote:

Hi Brandon,

I’m sorry you had to do that by hand! I did it once on a 10 x 10 matrix and was upset enough to write a tool to do it for me (I am pretty impatient with things like that…). The site should work now, but if not, then here is the link to the stats tools package: http://www.kolobkreations.com/Stats%20Tools%20Package.xls

As for the controls, the issue is that your controls have strong relationships with other variables in your model, but those variables are either not covaried with them, or they are not regressed upon. So, you may try covarying your controls to all your exogenous variables, and regressing your controls onto each endogenous variable. That would remove the model fit effects (or at least it should). The other possible explanation is that your controls do not have linear relationships with the variables in your model. Or, if you are using latent factors for the controls (highly irregular…), the issue might be that those factors are poorly constructed. Lastly, if they are not having any effect, you can simply say so in your paper, and then use that as justification for removal.

Hope this helps!

James

---

From: Brandon McDaniel [mailto:btmcdaniel2007@gmail.com]
Sent: Friday, November 11, 2011 11:12 AM
To: james.eric.gaskin@gmail.com
Subject: Stat Tools Package - statwiki.kolobkreations.com - SEM

Hello James,

I would like to obtain a copy of your "stat tools package" in order simplify my examination of the critical difference ratios in SEM (instead of looking at 100 x 100 matrix, etc.). I actually already did it that way once, but then I found your site and video today. However, your main page will not load for me today for some reason. Could you email me a copy of your stats tool?

Also, I have a question for you that you may or may not be able to answer. What would it mean if my model showed a very good fit to the data before putting in any controls, but a terrible fit after putting them in? (By the way putting in the controls did not appear to affect the other path estimates in the model, just destroyed the model fit).
Thank you for your assistance.

Brandon McDaniel
-----------------------------
Masters / Ph.D. Student
Human Development & Family Studies
The Pennsylvania State University
5-110 Henderson Bldg.
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About Me
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Brandon McDaniel
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Masters / Ph.D. Student
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The Pennsylvania State University
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bom5123@psu.edu
About Me
Hi James,

F1 have a naturel split by concept and the items are spècific to this dimension. even EFA regoupe those items in the same factor... what shoud i do!

Hi Hajer,

Your second order model looks better. You could probably fix the validity issues by making F1 also a 2nd order. Is this a possibility? Do the observed items for F1 have a natural split by concept? For example, do half of the items (like B2, B6, and B7) refer to one dimension of F1 while the other half refer to another dimension? If you can find a way to do this, I think you will have stronger results.

James

First, thank you so much for your help.

I'm thankful for you, i leaned so much from your videos and your wiki and i always talk to my freinds about your helpful informations.

Second, I'm a tunisian girl, and i'm not a stuped guy ;) but i'm the major of my faculty but not in statistic analysis (specialy in AMOS and SPSS progrm and CFA analysis)

Third, i make lot of effort because your videos are helpful but some statistic terms with english be more difficlut for me, as a person who speak frensh or arabe.

For me the probleme that i found in the analyse, that i shoud make the validity and the construction for my questionnaire (scale).
For this , i make 3 big dimensions with some items with collaboration of two spécialistes, than with (EFA), i found 5 factors 1 dimension : )2 under-dimensions/sous dimensions) / second dimension/ third dimenion :( 2 under-dimenions).

i have Alpha cronbach = 0,897 and the extraction with varimax give me 5 factors and i delted 3 items who don't have a good signification on the factor, KMO = 0:900 then the correlation inter-items are between 0.3 till 0.6 .
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The numbers you listed seem good enough. I've attached an example of an analysis of some data, start to finish, that should help you with your statistics. Between this example, my wiki, and my youtube videos, a smart guy doing a doctorate should be able to figure things out.

Best of luck to you!

James
Hello,
I'm Hajer Mesfar (Copralive) who commented your video youtoub "Model fit during a CFA with Amos". First sorry for my bad English, i'm from Tunisia and i speak French or arabic
Please sir i'm begging you to help me i try to make a validity and construction for questionnaire and see if there is a difference between sexe (Male/Femal) and between (perseverant groupe and abandonnic groupe) in sport and ! i shoud make this CFA but i don't know exactly what i shoud calcule it or doing in this kind of analyse.
As i know about reading and videos and articles, i shoud have some indices and as i told you i find after covarinace between two errors (and 3 correlations) a model with CMIN = 449,357 df =184 p<0,00 CMIN/DF 2,442 ( for this CMIN/DF i find some one how accepte it if it "s <2 but others say it could be <5 ( Roussel 2002) (RMR 0,42/ GFI=0,904, AGFı= 0,880/ PGFI 0,720 / CFI =0,914 /TLI= 0,902/ NFI =,864/RMSEA = 0,060 (it 's true we can accepte this 0,05<RMSEA<0,08 ( Hu & Bentler 1999)) Pclose =0,011 ( <0.05 Pclose Steiger & Lind (1980).)
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Thanks,

Hajer Mesfar (Waiting for you)
Hi Gaskin,
Thank you for this support. I will check and try these. 
Thanks again.
Rana

On Mar 18, 2013 5:32 PM, "James Gaskin" <james.eric.gaskin@gmail.com> wrote:

   Hi Rana,

   Here are the two sheets. I’m actually coming out with a version 3.0 soon. 
   Hopefully it will be even easier to use.

   James
Thanks so much for your help. Kind regards, Ramón

On Tue, Mar 12, 2013 at 3:09 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

See attached for the old stats tools package. See this video for how to use it:
http://www.youtube.com/watch?v=DqN_mpqGLtA

Best of luck.
James

Hi James:

Thanks for your response regarding my doubt about the AVE. Here is my email address where you can send me the file. Do you still have the old video? Thanks again for your help. Kind regards and many blessings, Ramón

--

Ramón Rodríguez Montalbán
WoNT Research Team
Social Psychology Department
Universitat Jaume I
Campus Riu Sec s/n, 12071 Castellón, Spain

Telephone 34 964 72 9571
Fax 34 964 72 9262
Skype: ramonmontalban
http://www.wont.uji.es

“When you do things right, people won’t be sure you’ve done anything
“When you do things right, people won’t be sure you’ve done anything at all.”

*God in an episode of Futurama*

---

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Hi James,

Sorry that I have to contact you again. I tried to post this to you tube but due to length it didn’t accept. I have some questions now regarding the output file. I hope you may answer:

hello, Thanks for the video. I have some questions.

1- Where in the output or the model itself are the direct, indirect and total effects of the dependent variable on the independent ones?
2- Which path coefficients can be reported in the manuscript? Standardized regression weights, If yes then how to calculate their significance?
3- In making up the hypotheses can I assume a negative relationship between independent and the predictor variable (according to theory) and then see how (positively or negatively) this moderates the relationship between independent and the dependent variable?

If you don’t want to have emails (asking questions) from me, let me know. I will accept it – no option.

thanks.

Saba

---

No modification indices means that nothing needs to be changed (although you can also look at standardized residual covariances to see if there are any other issues).

---

OMG, AMOS and you are really right. I do not have those statistical eyes ;(
But now I get nothing for the modification indices, don’t know it’s a good or a bad sign. Model fit is just Ok with few relationships removed.

Thanks a lot.

Saba

---

Upon closer inspection, it appears that you have a row of missing values in position 101. It has only one value showing. So you can delete this row and it will work fine. I’ve attached a working copy.
From: Saba Khalid [mailto:saba.khalid@uwasa.fi]
Sent: Wednesday, May 30, 2012 8:32 AM
To: James Gaskin
Subject: RE: StatWiki -

Thank you.
This was the first thing I did, but I hope this is not the last thing to do. I know that my data is not
having any missing value, but AMOS thinks it does.
When I keep it unchecked and run the model, then it says that in order to analyse data with missing
observations, you must explicitly estimate means and intercepts...
Can you please take a more closer look at my data to figure out what is wrong? I am sorry to ask
you for this.
Saba

From: James Gaskin [mailto:james.eric.gaskin@gmail.com]
Sent: 30 May 2012 15:13
To: Saba Khalid
Subject: RE: StatWiki -

You have to uncheck “estimate means and intercepts” if you want to run modification indices. You
don’t need to have “estimate means and intercepts” checked anyway, because you don’t have any
missing data.
James

From: Saba Khalid [mailto:saba.khalid@uwasa.fi]
Sent: Wednesday, May 30, 2012 5:04 AM
To: james.eric.gaskin@gmail.com
Subject: StatWiki -

Hi James,
I have been learning SEM and StatWiki really helped me way too much. I appreciate this channel
and your efforts.

I am now having some problem with my Data or don’t know what... Here (in Finland) mostly
people are out for Holidays to warm places and I am helpless. I am taking the liberty to send you
my files to take a look and let me know where the problem lies.
Two files, interaction model and the data files are attached.
I hope you can give me few minutes of your time and take me out of this, it’s been more than two days now struggling with this.
The message that I get when I run the model in AMOS is
Modification indices cannot be completed incomplete data. If you are using AMOS graphics, remove the check mark next to modification indices in the analysis properties.

Please help!
Best regards
Saba

Saba Khalid, PhD
Assistant Professor/Yliopistotutkija
IB-Coordinator (Master’s Degree Programme in International Business)
Department of Marketing, University of Vaasa
Room B318, P.O. Box 700, FIN-65101, FINLAND
Email: sakh@uwasa.fi
https://www.uwasa.fi/markkinointi/henkilokunta/sabakhalid/
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Thanks a lot.
Saba

Upon closer inspection, it appears that you have a row of missing values in position 101. It has only one value showing. So you can delete this row and it will work fine. I’ve attached a working copy.
Thank you.
This was the first thing I did, but I hope this is not the last thing to do. I know that my data is not having any missing value, but AMOS thinks it does.
When I keep it unchecked and run the model, then it says that in order to analyse data with missing observations, you must explicitly estimate means and intercepts...
Can you please take a more closer look at my data to figure out what is wrong? I am sorry to ask you for this.
Saba

You have to uncheck “estimate means and intercepts” if you want to run modification indices. You don’t need to have “estimate means and intercepts” checked anyway, because you don’t have any missing data.
James

Hi James,
I have been learning SEM and StatWiki really helped me way too much. I appreciate this channel and your efforts.

I am now having some problem with my Data or don’t know what... Here (in Finland) mostly people are out for Holidays to warm places and I am helpless. I am taking the liberty to send you my files to take a look and let me know where the problem lies.
Two files, interaction model and the data files are attached.
I hope you can give me few minutes of your time and take me out of this, it’s been more than two
days now struggling with this.
The message that I get when I run the model in AMOS is
Modification indices cannot be completed incomplete data. If you are using AMOS graphics,
remove the check mark next to modification indices in the analysis properties.

Please help!
Best regards
Saba

Saba Khalid, PhD
Assistant Professor/Yliopistotutkija
IB-Coordinator (Master’s Degree Programme in International Business)
Department of Marketing, University of Vaasa
Room B318, P.O. Box 700, FIN-65101, FINLAND
Email: sakhiuwasa.fi
https://www.uwasa.fi/markkinointi/henkilokunta/sabakhalid/
Office Tel: +358 (0) 6324 8290
Mobile: +358-40-8641092
Hi James,
Thank you for your answer. I was watching your video about moderated mediation and they really helped, however I was wondering if I can really perform it since my dependent variable is actually the probability of survival (i.e. cox regression). Is it possible to do this in Amos? I'm asking you this because mediation, as you explained is much more reliable on SEM. By the way your videos are awesome! Thank you in advance,
Patricio

James,
I will check it out and get back to you. I tested the CFA for a second order factor. I have pretty good model fit but the variance for the second order factor was not significant and the paths from the second order construct to the first order latent variables were not significant either. Does this mean that the assumption of second order factor doesn’t hold even if the model fit is good? I also tested the model fit without the second order construct but only co-varying the 2 first order construct and the third construct. The correlation among the two first order latent variable was significant .4. However I’m not sure if this means that a second order construct might exist. I also read that the Composite reliability is not really appropriate when you have a multidimensional construct, and in those cases Cronbach Alpha is underestimating the true reliability. I was thinking that having high alphas on the 2 first order factors, will increase the correlation among them because they are measuring the same thing, which contradicts the fact that they are two separate factors (by theory and EFA). In other words, an obsession with higher alpha can decrease construct validity on the higher order construct. In all, I'm not sure, from what i read, that having alphas less than .7 is bad as long as your CFA shows good factor loadings and good model fit. I’ve seen that Stratified alpha, is a appropriate for multidimensional construct. What is your take on that? Can you advice?
You are doing a great favor to many scholars by doing this. Thank you my friend,
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Oh, the problem is that you have only two latent variables. This is assumption #4 in the assumptions box under the button. :) I have not fixed this problem yet. It is not too difficult to fix; just difficult enough to require me to think hard and spend a little time on it – which is why it hasn’t happened yet… In the mean time, you could use my old version and watch my older video about validity during the CFA in order to get validity and reliability values for the 2nd order
construct. See attached.
James

From: Patricio Mori [mailto:pmori001@fiu.edu]
Sent: Thursday, May 17, 2012 3:45 PM
To: James Gaskin
Subject: Re: StatWiki Macros

James,
I think the problem is that I was trying to test a measurement model with a second order factor model. Find attached the measurement model I was trying to test and also the correlation and standardized regression weights I was pasting in the spreadsheet. I had to delete the higher order factor and correlate the 3 latent variables and it worked, however the Ave were low. I don't know how to make it run with second order factors. I appreciate your help in advance.

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On Thu, May 17, 2012 at 3:17 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:
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thank you very much.

i'll try first.

many thanks.

On Wed, Feb 27, 2013 at 1:17 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

You have a couple options:

1. You can remove the lowest loading items on each factor (this raises the AVE).

2. You can identify which items on each factor are causing the high correlation between factors (do bivariate correlations between the indicators for both factors), and then remove one or more to reduce the strength of the shared variance.

Hope this helps.

James
Hello James,

I am sorry to keep bothering you with questions. In one of your videos you slightly mentioned about correlating error variances. I am reading “Multivariate data analysis” (Hair et al. 2010). So far I am struggling to find support for that procedure in my model.

If you get a chance to take a look at my model I will be very appreciate.

I will summarize in a few words what is the research about. I want to check the impact of user-generated and firm-created social media on brand equity.

The model consists of three parts. The first part is the social media variables. The second are the BE constructs. Finally, the model closes with purchase intention.

My question is the following: Can I consider the BE constructs as endogenous and exogenous (considering that BE constructs are measuring the same phenomena, but with different dimensions)? I am following this:

UG/FC (exogenous) - > BE (endogenous)
BE (exogenous) - > PI (endogenous)

During the CFA, the model fit is very good (SRMS 0.03). When doing SEM, to have a model fit, I needed to correlate the error variances for the brand equity constructs; otherwise, the model would not have an appropriate fit.

If everything goes right, I intend to send this research to a peer-reviewed journal. If your permission, I would be very pleased to mention you on the acknowledgements session of the paper.

Bes regards and happy holidays!

Bruno Schivinski, MA
Department of Marketing
Faculty of Management and Economics
Gdańsk University of Technology
ul. Narutowicza 11/12
80-233 Gdańsk

http://www.zie.pg.gda.pl/web/english
YES about the BE constructs. As for support for covarying error terms, you can cite Dave Kenny's website: http://davidakenny.net/cm/respec.htm

Thanks for the acknowledgements in the paper. My current affiliation is with Brigham Young University in the Information Systems Department.

James

-----Original Message-----
From: bschivinsk@zie.pg.gda.pl [mailto:bschivinsk@zie.pg.gda.pl]
Sent: Sunday, December 23, 2012 1:21 PM
To: James Gaskin
Subject: RE: T values with AMOS

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Bes regards and happy holidays!

Bruno Schivinski, MA
Department of Marketing
Faculty of Management and Economics
Gdańsk University of Technology
ul. Narutowicza 11/12
Thank you James! I was getting some white Hair with that (if you know what I mean!) =]

I wish you and your family a happy 2013!

Best regards,
Bruno Schivinski
From: bschivinsk@zie.pg.gda.pl
To: James Gaskin
Subject: RE: T values with AMOS
Date: Friday, December 14, 2012 11:12:19 AM

Thank you James!

Best regards,
Bruno

> Yes. The CR column in the regression weights table of the estimates
> section is a critical ratio (essentially a z-score or t-value). If you are
> using a different table to test your hypothesis, then you can calculate
> the t-value by dividing the estimate by the standard error (SE).
> Hope this helps.
> James
> ---
> -----Original Message-----
> From: bschivinsk@zie.pg.gda.pl [mailto:bschivinsk@zie.pg.gda.pl]
> Sent: Friday, December 14, 2012 5:28 AM
> To: james.eric.gaskin@gmail.com
> Subject: T values with AMOS
> >
> > Hello James,
> >
> > I am a Ph.D. student in Poland. I have been watching your videos on
> > Statwiki and learning AMOS from them. If possible I would like to ask you
> > a question.
> > I am testing my hypotheses and I got stuck with t values. Is it possible
> > to get t values from AMOS or I need to use some other package?
> >
> > Thank you very much for the great material you are making available
> > online.
> >
> > Best regards from Poland,
> >
> > Bruno Schivinski, MA
> > Department of Marketing
> > Faculty of Management and Economics
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> > http://www.zie.pg.gda.pl/web/english
> >
Dear James

Thanks a lot! We really appreciate this! We are now officially Gaskin groupies!

Best regards
Francois

Martin and Hafer 1995 used moderated regression analysis instead of ANOVAs.  
Braumoeller 2004 discusses some of the issues around interaction in multiple regression  
Rigdon et al. 1998 discuss interaction in SEM  
Ng et al. 2008 also provides an example of interaction in multiple regression  
This website by Preacher provides tools and literature on interaction in multiple regression:  
http://quantpsy.org/interact/index.html  
Hope this helps!

James

I am a doctoral student at the University of Johannesburg, while working in Dubai.  I’m sure Adam Martin, my brave stats consultant contacted you before.  (He may do so again, so please ignore my appeal if you received clearer communication from Adam recently.)

Firstly, thank you very much for statwiki and the work you shared on youtube.  It gave us clear direction to test the moderation by control variables on a model of work identity.  Your sterling work and sharing approach is laudable... and I am not saying this just because the flowery language habits of the Middle East affected me!  Secondly, however, my examiners are a little but jittery about the method.  They think that testing moderation effects in SEM is complex and should be avoided.  They recommend that I revert to two-way ANOVA.  (I also think that they displayed some old-school thinking when they saw my references to your work!)  On the other hand, my solution is not to change technique, but to “market” your method better.  (Your technique was really useful and it explained exactly what I wanted to see - overall impact on the model and specific paths.)  For that reason I went back to statwiki and I’m sure my presentation will improve with the info.
provided there. The second part of the marketing effort is to find publications. I see that you have a published article and several on their way (wow!). I also looked at the studies available in your uni library’s digital case search facility and searched Google Scholar for any references. Not much there... yet. You’re obviously the next big thing that is about to burst onto the scene and I am very thankful for Adam who found you! (By the way, all the best! Your work make SEM accessible to people like me and I’m sure that is a great differentiation advantage which must be good for your career - and service to mankind!) So, the question is: Are you aware of any studies that used your SEM-related interaction analysis technique that I can use as references? If so, could you give any references or contacts?!

Thanks in advance and all the best for the future!

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Francois Bester
College of Business Sciences
Zayed University
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Please forgive me for bothering you with this. If you have an answer right away, fine! If not, don’t spend any time on it.

Thank you!

Raymond Zaal

-----Original Message-----
From: James Gaskin [mailto:james.eric.gaskin@gmail.com]
Sent: woensdag 16 november 2011 15:26
To: Zaal, Raymond
Subject: RE: Thank you and a question

Hi Raymond,
I’m glad you have found my videos useful. I hope you will also find my wiki useful: http://statwiki.kolobkreations.com
I’m planning on rewriting the stats tools excel sheet soon, but haven’t gotten to it yet... Running it on a Mac is problematic because Excel 2008 and 2011 for Mac don’t support all of the macro stuff. The best way to run this is in parallels or boot camp, or some virtual machine that runs Windows, and then run it in Excel 2010. As for a reference for the validity stuff, you can use the following:
Hope this helps! Good luck with your Dissertation. I’m just finishing up writing mine this week.
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From: Zaal, Raymond [mailto:R.Zaal@nyenrode.nl]
Sent: Wednesday, November 16, 2011 6:25 AM
To: james.eric.gaskin@gmail.com
Subject: Thank you and a question

Dear James,

I am writing you from a sunny and chilly Amsterdam, The Netherlands. Let me first start to thank you for your work on youtube tutorials on AMOS analysis. I am currently working on my PhD and use AMOS intensively for my large models. Although I have tried to master this subject over the past 8
months or so, I even went to summerschool on SEM in Lugano, Switzerland, your instructions were most helpfull! Might you ever come to our country, you will be treated as a hero, as many people have used your material, also in this country.
Anyway, I have a few relatively easy questions I hope you can help me with.

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I like the stat tools a lot. However, I use a Mac and have difficulties in getting the Excel macro's to function. Seems as if there is some protection. Maybe you have someting less severely protected that I can use? (I am not very much an excel expert...)

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I'm planning on rewriting the stats tools excel sheet soon, but haven't gotten to it yet... Running it on a Mac is problematic because Excel 2008 and 2011 for Mac don't support all of the macro stuff. The best way to run this is in parallels or boot camp, or some virtual machine that runs Windows, and then run it in Excel 2010. As for a reference for the validity stuff, you can use the following:


Hope this helps! Good luck with your Dissertation. I'm just finishing up writing mine this week.

James

-----Original Message-----
From: Zaal, Raymond [mailto:R.Zaal@nyenrode.nl]
Sent: Wednesday, November 16, 2011 6:25 AM
To: james.eric.gaskin@gmail.com
Subject: Thank you and a question

Dear James,

I am writing you from a sunny and chilly Amsterdam, The Netherlands. Let me first start to thank you for your work on youtube tutorials on AMOS analysis. I am currently working on my PhD and use AMOS intensively for my large models. Although I have tried to master this subject over the past 8 months or so, I even went to summerschool on SEM in Lugano, Switzerland, your instructions were most helpful! Might you ever come to our country, you will be treated as a hero, as many people have used your material, also in this country.

Anyway, I have a few relatively easy questions I hope you can help me with.

In order to check for discriminant validity, you use in the excel worksheet
an MSV and an ASV indicator. I understand the logic of these indicators, and am curious if you have a relevant literature source for me so I can use these indicators also in my thesis with the correct references.

I like the stat tools a lot. However, I use a Mac and have difficulties in getting the Excel macro's to function. Seems as if there is some protection. Maybe you have something less severely protected that I can use? (I am not very much an excel expert...)

Thanks again for everything you do for the AMOS community!

Kind regards,

Raymond Zaal=
Hi James,

Just recently, you were so kind to help me with a question. Maybe, you could help me with another issue.

In my AMOS models, I apply bootstrapping to overcome nonnormality issues. Nice results, no problems so far.
However, I am not sure how to report my results. Talking to different people just leaves me with very different opinions.
Do you have an example or a reference on how to report bootstrapping results?

Please forgive me for bothering you with this. If you have an answer right away, fine! If not, don't spend any time on it.

Thank you!

Raymond Zaal

-----Original Message-----
From: James Gaskin [mailto:james.eric.gaskin@gmail.com]
Sent: woensdag 16 november 2011 15:26
To: Zaal, Raymond
Subject: RE: Thank you and a question

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Dear James,

Thank you so much for your new videos.

I am now using AMOS 19 to analyze my data, but I get stuck by AMOS errors. The most frequent error is that AMOS 19 always mistakes observed and latent variables. It often tells me that I use an ellipse to represent the observed variable in the path diagram, however, the variable is in fact the latent variable. When I test the measurement model, AMOS 19 tells me that the latent variable should be represented by a rectangle. Another error is that AMOS 19 even does not recognise error terms sometimes, and tells me that ‘The observed variable, e1, is represented by an ellipse in the path diagram’, but e1 is the error term.

I do not know why AMOS shows these error messages. You are an AMOS expert, do you have any ideas regarding such errors? Sorry for disturbing you, I try every method but cannot fix it.

Thank you so much for your kind assistance.

Best regards,
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Best regards,

Mike
Dr. Gaskin

Also, maybe we can collaborate on a few research projects in the future, since you seem to be a guru on SEM, AMOS etc. I might send a few of my students to your way as well. I see you are working on your tenure; extra publications would not hurt. I found the excel find for computing reliability coefficients very useful as well.

Quick question what do you do if you have matrix outcome like this below? Validity issues

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<th>AVE</th>
<th>MSV</th>
<th>ASV</th>
<th>EnvBehav</th>
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<th>Equality</th>
<th>SusCho</th>
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<td>0.667</td>
<td>0.808</td>
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<tr>
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<td>0.467</td>
<td>0.241</td>
<td>0.565</td>
<td>0.812</td>
</tr>
</tbody>
</table>

**VALIDITY CONCERNS**

Discriminant Validity: the square root of the AVE for EnvBehavior is less than one the absolute value of the correlations with another factor.

Discriminant Validity: the square root of the AVE for RecycleBehv is less than one the absolute value of the correlations with another factor.

Discriminant Validity: the AVE for EnvBehavior is less than the MSV.

Discriminant Validity: the AVE for RecycleBehv is less than the MSV.

Prof. Dr. E. Sirakaya-Turk
Associate Dean for Research, Grants and Graduate programs
The University of South Carolina
The College of Hospitality, Retail and Sport Management
1010C Carolina Coliseum
Columbia, SC
USA

Tel: 803-777-3327

---

**From:** James Gaskin [mailto:james.eric.gaskin@gmail.com]
**Sent:** Friday, January 04, 2013 6:14 PM
**To:** TURK, ERCAN
**Subject:** RE: thanks you for your youtube presentations of AMOS

Wow! That’s very nice of you. I don’t really have a “donate” button on my youtube channel or wiki. I just do this to help out so that others don’t have to suffer like I had to suffer. So I have never asked for financial contributions. I kind of feel awkward about accepting financial gifts for something I’ve done as a public service. I certainly don’t expect it, but my mother told me to never turn away a good gift, as it blesses the giver to give just as much as it blesses the receiver to receive. My paypal account is kolobkreations@gmail.com. I have several more videos I’d like to develop. Perhaps this will spur me to action.

Possibly more valuable than a financial contribution though, would be an email or letter from you to my dean. Just a short note to let him know these resources have been useful to you and/or your
colleagues. This is his contact info:

Gary Cornia  
Marriott School of Management  
Dean’s Office  
Brigham Young University  
730 TNRB  
Provo, UT 84602  
His email is: gary_cornia@byu.edu

Thank you very much. It’s good to know these resources are helping someone.  
James

From: TURK, ERCAN [mailto:ERCAN@hrsm.sc.edu]  
Sent: Friday, January 04, 2013 3:42 PM  
To: james.gaskin@byu.edu  
Subject: thanks you for your youtube presentations of AMOS

Dear Mr. Gaskin  
Thank you so much for your public service for teaching us AMOS and everything else associated with it. If there is anything I can do to contribute –financially for example, please let me know I would do my fair share.  
Thanks

Prof. Dr. E. Sirakaya-Turk  
Associate Dean for Research, Grants and Graduate programs  
The University of South Carolina  
The College of Hospitality, Retail and Sport Management  
1010C Carolina Coliseum  
Columbia, SC  
USA

Tel: 803-777-3327
I certainly will. Many thanks. Thanks again. I put it on my to-do list for Monday.

Prof. Dr. E. Sirakaya-Turk  
Associate Dean for Research, Grants and Graduate programs  
The University of South Carolina  
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Columbia, SC  
USA  

Tel: 803-777-3327
Dear James,

Thanks a lot for your kind advice and support.

Regards,

Joy

On Thu, Feb 21, 2013 at 11:25 PM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

These t-values are all significant. Any t-value greater than 1.96 is significant at the 95% confidence level.

Dear James,

I have a question regarding on t-value statistically data. Once I performed the SEM analysis, I did calculate t-value. However, I am not so sure whether my understanding is corrected.

From my perspective, t-value refers to the statistically hypothesis test if the null hypothesis is supported and determines if two sets of data are significantly different from each other.

Example, I have t-value for hypotheses testing calculated from estimate/std error as below:

H1: 2.78
H2: 4.38
H3: 2.23
Do these above numbers indicate only significant statement? Or it can imply something else. Please kindly guide me through. Thanks a lot in advance.

Regards,

Joy
Hi James.

Thanks for the response. Your help is much appreciated.

What is the most important success criteria for a good cluster solution? The silhouette coefficient or predictor importance of the variables?

We have attached the predictor importance for our solution. You talk about the swamping variable, and it seems like we have one. Should we exclude that one? The cluster solution is however based on the other variables to some extend. Is there a threshold of how much importance the variables should have? Eg. 50 % of the variables should be above the 0,40?

As you see in the other output the variable called G_USP is the variable that more or less decides what cluster cases belong to, though it is not 100 %, and therefore not swamping? Or is it?

Kind regards
Jacob & Tina

---

Den 03/08/2012 kl. 19.24 skrev "James Gaskin" <james.eric.gaskin@gmail.com>:

For cluster analysis, you want to include variables (whether categorical or continuous) that have sufficient variance. A good example is age in a community. A bad example is age in a preschool. Variables in the cluster analysis do not need to correlate with the dependent variable. The motivation for cluster analysis is that there is some latent profile that does correlate with differences in a dependent variable (even if the individual predictor variables do not correlate with the dependent variable).

Hope this helps.

James
We have seen your video on youtube regarding two step cluster analysis in SPSS, and have found it very helpful and it seems like you know a lot about this method.

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We have observed and gathered 161 variables (continuous and categorical) from 423 webshops.

Does it make sense to include variables which don't correlate (continuous and categorical) with the dependent variable or show any differences among groups (categorical) in regards to the dependent variable?

Only 36 of our variables either correlate or show differences among groups.

Kind regards,

Jacob and Tina.
Yes, the variable is binary :)

By examining the output in clusters.jpg it shows that only 69.6% in cluster 1 is a 0 in that variable and 84.4% in cluster 2 is a 1. So that means that the variable is not swamping and the other variables contribute to the clustering, right?

The variable is important to include, but the research is exploratory, so we have no clue how many clusters we should expect, like you have in the video on youtube, with high-low, low-low, high-high, low-high. So is their a rule of thumb we can rely on as to how many cluster we should force it to make? Maybe based on the fact that we have 17 variables and 423 cases...

/Jacob

2012/8/15 James Gaskin <james.eric.gaskin@gmail.com>

It depends. :)

For example, Gender is a swamping variable, and you will nearly always end up with only two clusters if you leave it unconstrained (Male and Female). But if gender is an important variable to include, then you should include it, but try to force more clusters than two. For your data, it looks like G_USP is binary (0,1), and that the data is splitting perfectly along it. If this is an important variable, then retain it, but do force more clusters so that the other variables do drive the clusters a bit. Although the predictor importance says that others are important, they really are not because you have all the G_USP = 0 in one cluster, and all the =1 in another cluster.

Hope this helps.

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Oops, we attached the wrong files. These are the right ones :)
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Med venlig hilsen
Jacob Worsøe

--

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Hi James

That helps a lot, thanks!

We are still a bit confused about the predictor importance chart. What does a value of 1.0 represent versus a value of 0.4? Is it that number of cases that was clustered based on that variable?

Do you know the formula to derive this value?

/Jacob

2012/8/16 James Gaskin <james.eric.gaskin@gmail.com> 

Oops. Sorry. I read that wrong. (Just got back from a long golfing trip and I’m pretty tired.) As a rule of thumb for exploratory clustering, I like to try 3, 4, and 5 clusters. Then, you can choose whichever one is best for you (also taking into account the fit metric). Usually 2 is too few because you just end up with a high and a low group. Three is also often too few because you end up with a high, medium, low (if you only have a couple variables – although, since you have so many, 3 clusters is probably okay). Four is a good number for interesting groups (but you have to have the numbers to support it – clusters with minimum of 60 would be ideal if you are going to follow this up with a moderated regression analysis). Anything over 5 clusters starts to get difficult to interpret.

Hope this helps.

James

From: Jacob Worsøe [mailto:jacobworsoe@gmail.com]
Sent: Wednesday, August 15, 2012 3:45 PM

To: James Gaskin
Subject: Re: Two-step cluster

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Med venlig hilsen
Jacob Worsøe
Dear James,

The following table is outer model for my latent variables. (1) Actors role is my independent variable (first order). Its communality is good.

(2) SLAOut is the dependent variables (First order). Its communality is good.

(3) Success Factors is my mediator/moderator variables (First order /Second Order) the problem is that: success factors for first order for each latent variable is good but the second order for all variables together is very bad.

Through your video you said communality of 5 and above is good but you did not speak about second order's communality.

Is there any solution?

Many thanks and best regards.

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<th>Loading</th>
<th>Location</th>
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COMMUNIC outward
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James
Dear James

Could you please help me getting a new licence of PLS-Graph, because only 6 days remain and after that the license you gave me will be expired.

After three month analysing my data (using AMOS and PLS-Grapg), I am now sure that PLS-Graph is the suitable for my data (That is for many reasons, i.e. there is no normality in my data and multicollinearity).

Best Regards and best wishes
Ahmed Elbaz
PhD Researcher (Tourism Organisations)
School of Tourism & Hospitality
Plymouth Business School
Room 510, Cookworthy Building,
University of Plymouth.
England, United Kingdom
PL6 4AA
Tel: 07578605487

Typically we standardize, or mean center, variables before computing product terms. This is supposed to remove the multicollinearity that is bound to result from uncentered product terms. In SPSS you can do this by going to analyze, descriptives, descriptives, and then choose to "Save Standardized Variables" (check box at bottom left of window).

James

My question is: which one of the previous methods is suitable and why?

Thank you very much for your help in advance and Best Regards

Ahmed Elbaz
PhD Researcher (Tourism Organisations)
School of Tourism & Hospitality
Hi Ahmed,

Negative loadings during a factor analysis are because the observed variable with the negative loading is "negatively correlated" with the latent variable. This means that it consistently moves in the opposite direction of the other observed variables loading positively on that latent variable. So, either these are reverse-coded variables, or they are simply systematically negatively correlated.

For example, if I have three variables F1-F3:
F1: I like ice cream
F2: I enjoy ice cream
F3: I dislike ice cream

F3 will load negatively on the same latent factor as F1 and F2 load positively.

Hope this helps.

James

-----Original Message-----
From: Ahmed Elbaz [mailto:ahmed.elbaz@plymouth.ac.uk]
Sent: Sunday, December 11, 2011 8:34 AM
To: james.eric.gaskin@gmail.com
Subject: Using ML in Factor Analysis

Dearest James

I hope that everything is going well with you. I used Maximum likelihood (Extraction and Direct Oblimin (Rotation). I found that the loading of some latent variables are negative. What does it mean?

Thanks you so much and Best Regards
Ahmed Elbaz
PhD Researcher (Tourism Organisations)
School of Tourism & Hospitality
Plymouth Business School
Room 510, Cookworthy Building,
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Tel: 07578605487
Dear James

The following table is outer model for my latent variables. (1) Actors role is my independent variable (first order). its communality is good

(2) SLAOut is the dependent variables (First order). its communality is good

(3) Success Factors is my mediator/moderator variables (First order /Second Order) the problem is that: success factors for first order for each latent variable is good but the second order for all variables together is very bad.

Through your video you said communality of 5 and above is good but you did not speak about second order's communality.

Is there any solution

Many thanks and best regards

---

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James

Ahmed Elbaz
PhD Researcher (Tourism Organisations)
School of Tourism & Hospitality
Plymouth Business School
Room 510, Cookworthy Building,
University of Plymouth.
England, United Kingdom
PL6 4AA
Tel: 07578605487
-----Original Message-----
From: Ahmed Elbaz [mailto:ahmed.elbaz@plymouth.ac.uk]
Sent: Friday, December 23, 2011 7:07 AM
To: James Gaskin
Subject: RE: Using ML in Factor Analysis

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From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 12 December 2011 18:31
To: Ahmed Elbaz
Subject: RE: Using ML in Factor Analysis

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-----Original Message-----
From: Ahmed Elbaz [mailto:ahmed.elbaz@plymouth.ac.uk]
Sent: Monday, December 12, 2011 12:40 PM
To: James Gaskin
Subject: RE: Using ML in Factor Analysis

Dear James

Thank you so much for your email. I have another question. To create interaction moderation, there are three methods to do that, (1) is take Residual value of indicator before multiplying
(2) is take the central mean value of indicators before multiplying
(3) is to take the original one value of indicators before multiplying

My question is: which one of the previous methods is suitable and why?

Thank you very much for your help in advance and Best Regards

Ahmed Elbaz
PhD Researcher (Tourism Organisations)
School of Tourism & Hospitality
From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 11 December 2011 17:57
To: Ahmed Elbaz
Subject: RE: Using ML in Factor Analysis

Hi Ahmed,
Negative loadings during a factor analysis are because the observed variable with the negative loading is "negatively correlated" with the latent variable. This means that it consistently moves in the opposite direction of the other observed variables loading positively on that latent variable. So, either these are reverse-coded variables, or they are simply systematically negatively correlated.
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I guess if I’m able to run a t-test, I could really run an ANOVA in order to reduce Type I error. But are we allowed to calculate t-test or ANOVA’s since the rank-order design is ordinal in nature. That is, it is not equidistant (e.g. the actual difference between one person’s first and second rank are not equal). I’m calculating a mean for descriptive purposes, but can that mean really be used for significance testing?

There is probably a better way to do this, but this method works. First, run some descriptive statistics on your brand variables in order to get their means. Then, run a one-sample t test.

Instead of testing the variables against zero, use the mean of one of the brands. You can do this for several at a time. See below. 1.92 is the mean of Brand D.

Then, from the output, we can see that Brands A-C are significantly different from Brand D. We can run this again for each of the other brands against each other by simply swapping out D for A, etc.
One-Sample Test

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<td>85</td>
<td>.000</td>
<td>1.045</td>
<td>.80 to 1.29</td>
</tr>
</tbody>
</table>

Hope this helps!

James

---

From: Eric Rhiney [mailto:rhineeri@webster.edu]
Sent: Monday, January 09, 2012 3:01 PM
To: 'James Gaskin'
Subject: RE: Variable and Factor Analysis PPT Slides

OK, I found the slides.

Let me clarify my question. I want to look at an item that uses rank order. For instance, if I have
the following item:

Please rank in order the following brands from 1-4, where “1” is your least favorite brand and “4”
is your most favorite brand. You can only use each number (e.g. 1, 2, 3, 4) once and you must use
all four numbers:

___ Brand A
___ Brand B
___ Brand C
___ Brand D

I will take a mean-sum of all respondents to determine a score for each brand which I can then use
to determine the overall rank order. However, I’m not aware of any statistic analysis I can use to
determine if there is a significant difference between each score.

Sorry my previous explanation was not clearer. Hopefully this elucidates my problem.

Thanks again.

From: James Gaskin [mailto:James.Eric.Gaskin@gmail.com]
Sent: Monday, January 09, 2012 10:29 AM
To: 'Eric Rhiney'
Subject: RE: Variable and Factor Analysis PPT Slides
The slides are littered throughout the wiki, but they are clearly marked with this image: 🏷️

I’m not sure I understand your question. It sounds like you’re just using a scale from most to least favorite. What would you like to do with that scale? If you are trying to compare responses from different groups, then ANOVA or t-test would work fine. If you are trying to see how responses to that variable affect another variable, then you would use regression.

James

From: Eric Rhiney [mailto:rhineeri@webster.edu]
Sent: Monday, January 09, 2012 11:07 AM
To: James Gaskin
Subject: RE: Variable and Factor Analysis PPT Slides

Your wiki is awesome. I know it will be extremely useful for me. Are your PPT slides from youtube available on your wiki? If so, can you point me in the right direction? I will take a look at your recommended textbook as well.

One more question for you. What would be a useful statistical procedure for a ranking scale (e.g. rank from 1-4 with “1” being your most favorite and “4” being your least favorite the following brands...). In the past, I've created a mean through a summative approach and then compared which one received the highest to the lowest ranking. I know since these are not equidistant, I am not able to do any mean based analysis (i.e. t-test, ANOVA). But is there any other analysis that can be done to determine if there is a significant difference between the scores?

Thanks for your assistance.

Eric

From: James Gaskin [mailto:james.eric.gaskin@gmail.com]
Sent: Monday, January 09, 2012 9:55 AM
To: ‘Eric Rhiney’
Subject: RE: Variable and Factor Analysis PPT Slides

Glad you have found them useful. Feel free to use my wiki as well. It has more slides.

http://statwiki.kolobkreations.com

As for scale development texts, this is a good one:
DeVellis, R.F. Scale Development: Theory and Applications. SAGE.

James

From: Eric Rhiney [mailto:rhineeri@webster.edu]
Sent: Monday, January 09, 2012 10:16 AM
To: james.eric.gaskin@gmail.com
Subject: RE: Variable and Factor Analysis PPT Slides

You’re youtube presentation on variables and factor analysis is superb. I will be teaching my first doctorate topics class on survey design and would love to use some of your slides, if that is OK with you. By the way, do you know of a good textbook or journal article that outlines the process for developing a scale?
Thanks,

Eric Rhiney, Ph.D.

Webster University
Herbert Walker School of Business & Technology
Department of Management
I just noticed the year didn’t copy over in that reference. It is from 2011.

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Hope this helps!

James

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From: Eric Rhiney [mailto:rhineeri@webster.edu]
Sent: Monday, January 09, 2012 3:01 PM
To: 'James Gaskin'
Subject: RE: Variable and Factor Analysis PPT Slides

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Thanks again.

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From: James Gaskin [mailto: james.eric.gaskin@gmail.com] Sent: Monday, January 09, 2012 10:29 AM 
To: 'Eric Rhiney'
Subject: RE: Variable and Factor Analysis PPT Slides

One-Sample Test

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>95% Confidence Interval of the Difference</th>
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<td></td>
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<td>Upper</td>
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</tr>
<tr>
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<td>BrandC</td>
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<td>1.29</td>
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<td></td>
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</tr>
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James

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<td>7.210</td>
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<td>.766</td>
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<tr>
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<td>85</td>
<td>.000</td>
<td>.510</td>
<td>.28 to .74</td>
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<tr>
<td>BrandC</td>
<td>8.485</td>
<td>85</td>
<td>.000</td>
<td>1.045</td>
<td>.80 to 1.29</td>
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From: James Gaskin [mailto:james.eric.gaskin@gmail.com]
Sent: Wednesday, May 09, 2012 7:48 PM
To: Jeon Small
Subject: RE: Where do I find the stats tool

You can find it on my wiki: http://statwiki.kolobkreations.com. I’ve also attached it.

Good luck!
James

From: Jeon Small [mailto:jsmall@PREV.org]
Sent: Wednesday, May 09, 2012 8:56 PM
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Cc: gaskin@gmail.com
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Thanks again, and I promise not to keep bothering you with questions. I really appreciate it.

Kelly

From: james.eric.gaskin@gmail.com
To: kelly_weidner@hotmail.com
Subject: RE: your Excel validity tool
Date: Wed, 23 May 2012 09:38:47 -0400

Hi Kelly,

Glad to be of help. I think you will find my wiki useful: http://statwiki.kolobkreations.com
I've also attached that excel tool, and I've attached a recent example analysis of moderation, mediation, interaction, handling controls, forming hypotheses, data screening etc. I hope this helps.

James

From: Kelly Weidner [mailto:kelly_weidner@hotmail.com]
Sent: Wednesday, May 23, 2012 1:09 AM
To: james.eric.gaskin@gmail.com
Subject: your Excel validity tool

Hello,

I found your helpful AMOS videos on youtube and hope you don't mind the email (your email address is in one of the comments). I'm buried in my dissertation analysis and I'm pretty much learning how to do it via your videos (so, thank you).

I was wondering if your excel tools are available anywhere online? I'm referring specifically to the ones used to create validity and reliability tables.

I was also wondering if you've created a video about how to run a regression model in amos - preferably with the ability to test for a moderator effect (the moderator is also a latent variable). I have no idea where to get started on that one.

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I've also attached that excel tool, and I've attached a recent example analysis of moderation, mediation, interaction, handling controls, forming hypotheses, data screening etc. I hope this helps.

James

---

From: Kelly Weidner [mailto:kelly_weidner@hotmail.com]
Sent: Wednesday, May 23, 2012 1:09 AM
To: james.eric.gaskin@gmail.com
Subject: your Excel validity tool

Hello,

I found your helpful AMOS videos on youtube and hope you don't mind the email (your email address is in one of the comments). I'm buried in my dissertation analysis and I'm pretty much learning how to do it via your videos (so, thank you).

I was wondering if your excel tools are available anywhere online? I'm referring specifically to the ones used to create validity and reliability tables.

I was also wondering if you've created a video about how to run a regression model in amos - preferably with the ability to test for a moderator effect (the moderator is also a latent variable). I have no idea where to get started on that one.

Thanks again for your helpful videos...they've been a lifesaver.
Kelly
Also Sir, plz let me know that with these z scores can I do my final analysis of comparing groups - whether there is a significant difference or not, taking z scores as base?

On Tue, Mar 12, 2013 at 10:52 AM, Puja Sareen wrote:

Sir

I have split the file. Still facing the same error.

I think the final z scores in the table are same as in critical ratios table -- par 1 (group 1) corresponding to par 14) group 2. If I am not able to run excel tool then can I manually make the table taking z score as critical ratios for differences given in amos. As values in z score in the final table you have sent me our same.

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![Image of data selection screen]

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### Regression Weights: (indian - Default model)

<table>
<thead>
<tr>
<th></th>
<th>Operational_Efficiency</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Operational_Efficiency</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A3</td>
<td>Operational_Efficiency</td>
<td>.559</td>
<td>.144</td>
<td>3.874</td>
<td>***</td>
<td>par_1</td>
</tr>
<tr>
<td>A4</td>
<td>Operational_Efficiency</td>
<td>.723</td>
<td>.168</td>
<td>4.290</td>
<td>***</td>
<td>par_2</td>
</tr>
<tr>
<td>A6</td>
<td>Operational_Efficiency</td>
<td>.886</td>
<td>.134</td>
<td>6.603</td>
<td>***</td>
<td>par_3</td>
</tr>
<tr>
<td>A7</td>
<td>Operational_Efficiency</td>
<td>.984</td>
<td>.143</td>
<td>6.874</td>
<td>***</td>
<td>par_4</td>
</tr>
<tr>
<td>A5</td>
<td>Operational_Efficiency</td>
<td>.604</td>
<td>.140</td>
<td>4.317</td>
<td>***</td>
<td>par_5</td>
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<tr>
<td>A2</td>
<td>Operational_Efficiency</td>
<td>.559</td>
<td>.144</td>
<td>3.873</td>
<td>***</td>
<td>par_6</td>
</tr>
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</table>

### Regression Weights: (mnc - Default model)

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<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
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<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>A3</td>
<td>Operational_Efficiency</td>
<td>1.475</td>
<td>.483</td>
<td>3.052</td>
<td>.002</td>
<td>par_14</td>
</tr>
<tr>
<td>A4</td>
<td>Operational_Efficiency</td>
<td>1.157</td>
<td>.396</td>
<td>2.920</td>
<td>.004</td>
<td>par_15</td>
</tr>
<tr>
<td>A6</td>
<td>Operational_Efficiency</td>
<td>1.037</td>
<td>.397</td>
<td>2.610</td>
<td>.009</td>
<td>par_16</td>
</tr>
<tr>
<td>A7</td>
<td>Operational_Efficiency</td>
<td>.679</td>
<td>.259</td>
<td>2.629</td>
<td>.009</td>
<td>par_17</td>
</tr>
<tr>
<td>A5</td>
<td>Operational_Efficiency</td>
<td>1.500</td>
<td>.492</td>
<td>3.049</td>
<td>.002</td>
<td>par_18</td>
</tr>
<tr>
<td>A2</td>
<td>Operational_Efficiency</td>
<td>1.353</td>
<td>.416</td>
<td>3.250</td>
<td>.001</td>
<td>par_19</td>
</tr>
</tbody>
</table>

And your Comparison will look like this:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
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<td>mnc</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>A3</td>
<td>Operational_Efficiency</td>
</tr>
<tr>
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<td>Operational_Efficiency</td>
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<tr>
<td>A6</td>
<td>Operational_Efficiency</td>
</tr>
<tr>
<td>A7</td>
<td>Operational_Efficiency</td>
</tr>
<tr>
<td>A5</td>
<td>Operational_Efficiency</td>
</tr>
<tr>
<td>A2</td>
<td>Operational_Efficiency</td>
</tr>
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</table>

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Hope this helps.

James

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From: Puja Sareen [mailto:puja.sareen@aitgurgaon.org]
Sent: Monday, March 11, 2013 10:37 PM
To: James Gaskin
Subject: Re: Your help needed

Sir

Thanks for the reply. But I am taking data from a merged file made in two groups- Indian and MNC. I am sending you the excel file in which I am facing a problem...... runtime error is 1004.(application defined or object defined error).

Plz help me do it. I am sending the amos file and data file as well.

Really need your help sir.
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Please watch the first 70 seconds of my older video on multigroup moderation for how to do this. Here is a link: http://www.youtube.com/watch?v=mirI5ETQRTA

James

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Sent: Monday, March 11, 2013 10:42 AM
To: James Gaskin
Subject: Fwd: Your help needed

---------- Forwarded message ----------
From: James Gaskin <james.eric.gaskin@gmail.com>
Date: Fri, Mar 8, 2013 at 10:17 PM
Subject: RE: Your help needed
To: Puja Sareen <puja.sareen@aitgurgaon.org>

Hi Puja,

I am not at all surprised to receive an email from a complete stranger. I get about 10-20 per day asking about statistics advice. Your data wouldn’t run for a couple reasons:

1. The first relationship in both tables did not have a label in the label column (this is stated explicitly on the button as a prerequisite).
2. The two tables you are using are identical (both for the same group).
3. You have removed the table titles which my code uses to identify the tables and navigate.

I have attached your tables the way they should look (except that they are both still identical). This will run if you click the button. Notice that I have removed the first relationship and I have added back some table titles.

Best of luck.

James

From: Puja Sareen [mailto:puja.sareen@aitgurgaon.org]
Sent: Friday, March 08, 2013 7:16 AM
To: james.eric.gaskin@gmail.com  
Subject: Your help needed  

Dear Mr. Gaskin,

A very good morning to you!

You might be surprised upon receiving an email from an unknown person, so let me first introduce myself. I am Puja Sareen, working as a lecturer in Ansal university, India & pursuing my doctorate in HR. I was thoroughly impressed by not only the enormous amount of work you have done in various research area’s & published so many books and journals. But more importantly, what gave me the courage to reach out to you directly was that you have been open to sharing your learning & experience with anyone who wants without anybody requesting you for help. Truly appreciate your openness.

As I mentioned, I a currently working on my thesis & my research work involves a comparative study of Indian and Multinational companies with respect to the e-HRM systems being used by them. It is a perception study on a 5 point Likert scale. I have been going through your video’s on web and your blog and have learnt quite a bit. After I completed my CFA in AMOS 18, I am stuck & unable to move ahead due to an error which comes up when I try to use one of your tools, "The Statistical Tools package" in excel. I have been trying to find group differences for Indian and multinational companies but after feeding the data at correct places (from your video) I encounter an error "Runtime Error". I am attaching the screen shot of the error message for your kind reference along with the statistical tools file where I have tried to paste the data but getting that error. I am also sending along with these the amos output file which has regression tables for both the groups (Indian & MNC). I would be highly obliged if you could help me determine the cause of this error and what can be done to get out of my situation. This is the only option which I know for group comparison & if this doesn't work, it will be a big setback for me.

Thanks in advance for your kind assistance

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91 0 9911574469

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Sr. Lecturer

--
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Sr. Lecturer

--
Regards
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Sr. Lecturer
Sir

Thanks a ton. Tried first saving in a word document and then copying in your stats tool. It worked. But I observation: critical ratios are the z scores only. Am I right sir?

Thanks again.

On Tue, Mar 12, 2013 at 10:52 AM, Puja Sareen <puja.sareen@aitgurgaon.org> wrote:

Sir

I have split the file. Still facing the same error.

I think the final z scores in the table are same as in critical ratios table--par 1 (group 1) corresponding to par 14)group 2. If I am not able to run excel tool then can I manually make the table taking z score as critical ratios for differences given in amos. As values in z score in the final table you have sent me our same.

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![Data Files window](image1)

And then your tables will look like this:

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<table>
<thead>
<tr>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A3</td>
<td>.559</td>
<td>.144</td>
<td>3.874</td>
<td>*** par_1</td>
</tr>
<tr>
<td>A4</td>
<td>.723</td>
<td>.168</td>
<td>4.290</td>
<td>*** par_2</td>
</tr>
<tr>
<td>A6</td>
<td>.886</td>
<td>.134</td>
<td>6.603</td>
<td>*** par_3</td>
</tr>
<tr>
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</tr>
<tr>
<td>A5</td>
<td>.604</td>
<td>.140</td>
<td>4.317</td>
<td>*** par_5</td>
</tr>
</tbody>
</table>
Regression Weights: (mnc - Default model)

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 &lt;- Operational_Efficiency</td>
<td>1.000</td>
<td></td>
<td></td>
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<td>A3 &lt;- Operational_Efficiency</td>
<td>1.475</td>
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<tr>
<td>A2 &lt;- Operational_Efficiency</td>
<td>1.353</td>
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<td>par_19</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th></th>
<th>Indian</th>
<th>mnc</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimate</td>
<td>P</td>
</tr>
<tr>
<td>A3 &lt;- Operational_Efficiency</td>
<td>0.559</td>
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</table>

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<tr>
<td></td>
<td></td>
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<td>Operational_Efficiency</td>
</tr>
<tr>
<td>A7</td>
<td>&lt;--</td>
<td>Operational_Efficiency</td>
</tr>
<tr>
<td>A5</td>
<td>&lt;--</td>
<td>Operational_Efficiency</td>
</tr>
<tr>
<td>A2</td>
<td>&lt;--</td>
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To: James Gaskin  
Subject: Fwd: Your help needed

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Best of luck.

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Thanks in advance for your kind assistance

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Sr. Lecturer
91 0 9911574469

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Regards
Pujå Sareen
Sr. Lecturer

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Regards
Pujå Sareen
Sr. Lecturer

--
Regards
Pujå Sareen
Sr. Lecturer
Sir

I have split the files. Sir if I

On Tue, Mar 12, 2013 at 10:26 AM, James Gaskin <james.eric.gaskin@gmail.com> wrote:

Yes, so right now you haven’t split the data. Your data selection screen looks like this:

![Data Files](image001.png)

But if you watch the video I sent, you’ll see that it should look like this:
And then your tables will look like this:

**Regression Weights: (indian - Default model)**

<table>
<thead>
<tr>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 &lt;---- Operaqntional_Efficiency</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A3 &lt;---- Operaqntional_Efficiency</td>
<td>.559</td>
<td>.144</td>
<td>3.874</td>
<td>***</td>
</tr>
<tr>
<td>A4 &lt;---- Operaqntional_Efficiency</td>
<td>.723</td>
<td>.168</td>
<td>4.290</td>
<td>***</td>
</tr>
<tr>
<td>A6 &lt;---- Operaqntional_Efficiency</td>
<td>.886</td>
<td>.134</td>
<td>6.603</td>
<td>***</td>
</tr>
<tr>
<td>A7 &lt;---- Operaqntional_Efficiency</td>
<td>.984</td>
<td>.143</td>
<td>6.874</td>
<td>***</td>
</tr>
<tr>
<td>A5 &lt;---- Operaqntional_Efficiency</td>
<td>.604</td>
<td>.140</td>
<td>4.317</td>
<td>***</td>
</tr>
<tr>
<td>A2 &lt;---- Operaqntional_Efficiency</td>
<td>.559</td>
<td>.144</td>
<td>3.873</td>
<td>***</td>
</tr>
</tbody>
</table>

**Regression Weights: (mnc - Default model)**

<table>
<thead>
<tr>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 &lt;---- Operaqntional_Efficiency</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A3 &lt;---- Operaqntional_Efficiency</td>
<td>1.475</td>
<td>.483</td>
<td>3.052</td>
<td>.002</td>
</tr>
<tr>
<td>A4 &lt;---- Operaqntional_Efficiency</td>
<td>1.157</td>
<td>.396</td>
<td>2.920</td>
<td>.004</td>
</tr>
<tr>
<td>A6 &lt;---- Operaqntional_Efficiency</td>
<td>1.037</td>
<td>.397</td>
<td>2.610</td>
<td>.009</td>
</tr>
<tr>
<td>A7 &lt;---- Operaqntional_Efficiency</td>
<td>.679</td>
<td>.259</td>
<td>2.629</td>
<td>.009</td>
</tr>
<tr>
<td>A5 &lt;---- Operaqntional_Efficiency</td>
<td>1.500</td>
<td>.492</td>
<td>3.049</td>
<td>.002</td>
</tr>
<tr>
<td>A2 &lt;---- Operaqntional_Efficiency</td>
<td>1.353</td>
<td>.416</td>
<td>3.250</td>
<td>.001</td>
</tr>
</tbody>
</table>

And your Comparison will look like this:

<table>
<thead>
<tr>
<th></th>
<th>indian</th>
<th>mnc</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
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Many thanks!
Best regards,
Susan

Yinghong (Susan) Wei, PhD
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Oklahoma State University
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Hi James,

How are you? I hope this note finds you and your family well. I’m still futzing with my model, trying to get the one that works best and makes good theoretical sense. Anyway, I continue to have challenges associated with CMB. Gary Hunter is working with me on this and isn’t married to any one way of testing, but thought I should compare a Chi Square Difference test result with your recommendation to compare the delta in standardized regressions (with CLF and without). Using the Chi Square Threshold tester in your stats tool file, I do not achieve invariance (not sure I’ve done it right anyway) for the 2 models on the whole. When I compare regression weights, I only have 2 of 20 items that are greater than 0.2. Given that result (along with the references you suggested before about CMB perhaps not being a solid test), I would think I could move forward without the CLF for my SEM. I think Gary will support this, but he has asked about the reference that would support it. Do you have a reference that supports the use of 0.2 (or even some other number close to that)? Is it someplace in the Podsakoff article?

Thanks for any direction on citations you can provide.

Best regards,
Heather
Sir

I have data from both Inian and MNC group. Since the study is to compare perceptions of these groups, should I do factor analysis on entire combined data to come up with common factors for both groups and then do anova or ttest to see the levels of difference for the common factors? Is this approach ok?

Because when I am doing a separate EFA for both groups, I am getting different factors and can't have similar hypothesis...

--

Regards
Puja Sareen
Sr. Lecturer
Dear Dr. James Gaskin,

First of all I want to express my sincere thanks for sharing your expertise through videos in youtube. Those videos benefited me a lot.

In your video 'validity during CFA made easy' it seems that you are using the package "stats tools package 2.0 xls".

I am having a stats package "XLSTAT". But unable to do validity test using "XLSTAT" package. Please help me by giving instructions to work with "XLSTAT" or tell me how can I obtain the "stats tools package 2.0 xls" which you are using in your video.

With Regards
Dr. B Sankara Rao
Assistant Professor
Department of Mathematics
Adikavi Nannaya University
Rajahmundry, A.P
Hi James,

I’m so glad you had replied to me.

Please find attached the model & at the moment I’m working with the mean of observable variables of the constructs and see if there is a difference.

I had noticed that you used observable rather than latent variables in your models to explain models. especially the CS, trust & Loy model. I also noticed that what I call it residual in a latent variable you call it error in your explanation of basic analysis in AMOS.

I know it is complicated to perform this having a categorical variables but consumers need to have a choice.

Now, I’m measuring the influence of consumption occasion on consumer brand choice decisions, according to interpersonal ans self concept on the desidered benefits.

SNI is the relationship with self and others
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Then we have the benefits:
Social
Quality
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My dependent variable is brand choice and I have 12 brands to look at within 3 different scenarios: Self, Gift & Host.

Thank you very much for taking an interest and I hope you can understand what I’m trying to do as I’m not an expert on this stuff. Everytime that I’m sure of doing something there is always something else to learn and try to figure out. Challenging but frustrating

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Dear sir,

I am a PhD student at the University of New England, Australia and developing a model (instrument) for Memorable Tourism Experiences (MTEs) construct as a part of my PhD project. While I was trying to find how to calculate convergent and discriminant validity, I found your video tutorial from Stat Wiki web site. Then I downloaded 'Stats Tools Package' and followed your instructions but there was an error message saying "cannot run the macro "Stats Tolls Package.slxm Master validity". The macro may not be available in this workbook or all macros may be disabled". Then I enabled macros in excel but still I am getting the same message. Could you please let me know how I can solve this problem?

Thanking you
Lalith

Lalith Chandralal
PhD Student
University of New England
Armidale'
NSW 2358

+61 267732728
+61 4 14279241
Hello James,

Thanks for Stat Wiki and all the people who have developed it.

I am Suresh B P pursuing Fellow Programme in Rural Management at Institute of Rural Management Anand, Gujarat, India (www.irma.ac.in)

I am writing this mail with a request for the problem I was facing. I am working in marketing area and trying a build a scale for measuring consumer based brand equity with an added dimension of social responsibility.

I am unable to test the model for validity and reliability even after following the tutorial and using your excel file. Hence thought of taking your help.

Please find attached the model built in Amos and the SPSS data file. Can you please help me out in testing the models validity and reliability.

I would be grateful if you could respond early at your convenience.

Thanks and Regards
Suresh B.P

Research scholar,
Institute of Rural Management Anand, Anand, Gujarat-388001, India.
e-mail: f064@irma.ac.in, bipis2000@gmail.com
Mob: +91 9428437558
Hello James,

This is my second request for your help.

I am Suresh B P pursuing Fellow Programme in Rural Management at Institute of Rural Management Anand, Gujarat, India (www.irma.ac.in). I am working in marketing area and trying to build a scale for measuring consumer based brand equity with an added dimension of social responsibility.

I am writing this mail with a request for solution for the problems I am facing. I have finalised the model and now checking for mediation and moderation.

Problem 1: When checked for moderation, using the procedures you have conveyed in your video. I am unable to get the complete Z scores in the Excel file. Problem 2: I am not able to appreciate the interpretation of mediation analysis.

Please find attached 1) the model built in Amos used to check moderation, 2) the mediation model and 3) the SPSS data file. Can you please help me in solving these two problems.

I would be really grateful for your help.

Thanks and Regards

Suresh B.P

Fellow Participant,
Institute of Rural Management Anand,
Anand, Gujarat-388001,
India.
e-mail: f064@irma.ac.in, bipis2000@gmail.com
Mob: +91 9428437558
Dear James Gaskin,

I am Rodina (Rody2013) who talk to you in you tube. Actually, i am a project to talk with Confirmatory factor analysis and I have to got an example to illustrate the example. So i take an example (with the data ) from the book Confirmatory Factor Analysis for Applied Research (Timothy A. Brown) the example in chapter 4 figure (4.3) : CFA with Single Indicators: Health S

This is the web site: http://people.bu.edu/tabrown/cfabook.html

no one in my department work with the program.

Thank you so much for helping me.

Many Regard's

Rodina
Hello Dr. Gaskin,

I have been learning all the SPSS and AMOS tricks from your statwiki website. Thank you my great Guru of stats.

I have a problem with the above example. I tried to run model fit for the EMS Structural model but failed. I tried to check for multicollinearity issues and also even-distribution issues but the data looks OK.

Appreciate if you can suggest some solutions to my problem. I just want the AMOS to be able to run and tell me how the model fit.

Thanks in advance.

stchong
helo sir
I am student of MS management in Pakistan. I found your videos on utube but could not watch it coz of utube ban in our country. But the response which you wrote in comments was impressive and informative.
I beginner in research plz inform me about basic functions of AMOS output and its interpretation, so that i can mention it in my research proposal. I am doing explanatory research which is survey based. what can be relevence and role of AMOS outputs in my research.

I am waiting for your responce

regards
Azmat Ali Shah
Pakistan
Hello James,

I am Ananda, a researcher from Lincoln University New Zealand. I am learning about multi group comparison with AMOS. It is more interesting than using PLS (XLStat/OTG permutation). I come to your WIKI stat and downloaded the excel template from that website. However, when I am using that template to calculate the the group difference, the excel file seems not working. I am not sure the problem is with my laptop or with the template itself. Every time I run the group difference, it is always fail to generate the Z-score. The Debug command always appears in my screen. Please advise me how to solve this problem.

In addition, could you advise me the reference used to calculate the critical ratio/Z-score for this multigroup comparison. I can easily use your template to calculate the group difference, however, I think I am also interested to know the way behind that calculation.

I am looking forward to hear from you.

Kind Regards,

--

Ananda Sabil Hussein,
Ph.D Candidate in Marketing
Faculty of Commerce
Lincoln University Canterbury - New Zealand

Lecturer
School of Management
Faculty of Economics and Business
University of Brawijaya Malang - Indonesia
Hi

I am doing a course in Consumer behavior and applied statistics. I have a problem with answering question 1 in the attached files.
I came across your wiki page and looked through your videos, but I can’t seem to relate the interaction video directly to my problem.
After many hours searching online, I still can’t find any tutorial on how to identify missphecifications in a SEM AMOS (interaction) model.

I don’t expect you to answer the question for me, but if you have time I hope you could write me back and take a fast look at the AMOS model on page 2 and write what you believe is wrong in the model. (E.g if there is any paths missing or wrongly specified paths). From what I can see the interaction effect is not shown in the AMOS model, but I can’t figure out how it should look like if it was shown.

I am desperate at this point (I did not attend the session where the lecturer went through this topic)

Best
Espen
Hello - I have been viewing some of your YouTube Videos on SEM, AMOS, SPSS, etc. and find them extremely useful. I am currently working on secondary analysis with an existing national dataset for my PhD dissertation and am stuck on how to deal with the missing data as well as using variables that have different units of measurement. Some are measured with likert scales, some yes/no....can you point me in the right direction on data cleaning, dealing with large amounts of missing data in AMOS (I am thinking of using FIML but my knowledge is limited) and how to use differently-coded/measured variables as indicators for a common latent variable.

I took an advanced Quantitative Analysis course three years ago, and now that I am in the data analysis stage of my dissertation, I realize my knowledge is rusty and things have changed a bit in three years in terms of what the newer software has to offer in missing data estimation as well as what current literature recommends. I have a couple of good textbooks but they don't seem to be enough. Your videos which show step-by-step examples and explanations are fantastic!

Thanks so much,

Irene Garrick, PhD-C, M.S., MBA
University of Rochester
Hello - I have been viewing some of your YouTube Videos on SEM, AMOS, SPSS, etc. and find them extremely useful. I am currently working on secondary analysis with an existing national dataset for my PhD dissertation and am stuck on how to deal with the missing data as well as using variables that have different units of measurement. Some are measured with likert scales, some yes/no...can you point me in the right direction on data cleaning, dealing with large amounts of missing data in AMOS (I am thinking of using FIML but my knowledge is limited) and how to use differently-coded/measured variables as indicators for a common latent variable.

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Thanks so much,

Irene Garrick, PhD-C, M.S., MBA
University of Rochester
Dear Mr. Gaskin,

First of all thanks a million for the great resources you've put online on youtube and the statwiki.

I am trying to follow the order you suggest in going through the data cleaning first, then EFA, CFA, etc., but I am clueless on whether to use a measurement model or a structural model during the assumption tests. There is a world of difference between the two in terms of skewness/kurtosis and the overall Mardia multivariate normality values in my data set, which may be a result of having my multi-item moderators in the measurement model but not in the structural model (since I want to test its moderating effect through two-groups)... but I just don't know how to proceed.

If I choose to base any decisions on the measurement model, which has poor normality indices currently, I have to remove a serious number of (mahalanobis) outliers from my rather limited data set (N=118), whereas if I immediately set out with my structural model, my indices are good to go. Please find attached two small images for a bit more clarification. Which should I use as the foundation of my assumption analyses?

Also, I get rather confused by the iterative nature of the task and the abundance of cut-off points suggested in literature, what would you suggest me to look for regarding data normality? Below a few of the varying and seemingly contradictory indications in extant literature:

- Bentler (2005) has suggested that values > 5 for multivariate normality are indicative of data that are nonnormally distributed, but
- Kline (2005): (skewness or kurtosis value / SD) > 1.96 is indicative of univariate nonnormality
- Cut-off values of 2 for univariate skewness, 7 for univariate kurtosis, and 3 for multivariate kurtosis are most frequently employed (Byrne, 2010; Finney and DiStefano, 2006; Mîndrilă, 2010)

I tried to find a Youtube tutorial to learn how to go through the assumptions in AMOS and the subsequent EFA, but I can hardly find any concrete information. Maybe an idea ;)?

Thank you in advance!

King regard,

Ruud Peters
Hello - I have been viewing some of your YouTube Videos on SEM, AMOS, SPSS, etc. and find them extremely useful. I am currently working on secondary analysis with an existing national dataset for my PhD dissertation and am stuck on how to deal with the missing data as well as using variables that have different units of measurement. Some are measured with likert scales, some yes/no...can you point me in the right direction on data cleaning, dealing with large amounts of missing data in AMOS (I am thinking of using FIML but my knowledge is limited) and how to use differently-coded/measured variables as indicators for a common latent variable.

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Hi James,

First, many thanks for all of your useful tutorials published on YouTube! They have been very instrumental in teaching me how to use AMOS (I learned SEM using Mplus).

I have a question regarding your video “Validity during CFA made easy.” I'm wondering whether you know why the AVE scores calculated in your Excel file differ from AVE scores yielded in PLS software. I've used both WarpPLS and SmartPLS and the AVE calculations are virtually identical between the two. But they are a good bit lower when I use your Excel file. I’d appreciate any feedback you could offer on this.

In trying to find your email address online, I came across your CV. I noticed that you have worked with Nick Berente in the past. I recently earned my PhD in MIS at the University of Georgia and had the pleasure of meeting and working with Nick during his first year as an Assistant Professor at UGA. Small world!

Hope you are doing well in the new year.

Best regards,
Christina

--
Christina I. Serrano
Assistant Professor of Information Systems
Sam M. Walton College of Business
Business Building, Office 227
University of Arkansas
Fayetteville, AR 72701
Email: cserrano@walton.uark.edu
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Sam M. Walton College of Business
Business Building, Office 227
University of Arkansas
Fayetteville, AR 72701
Email: cserrano@walton.uark.edu
Ph: +1 479.575.5929
Dear James,

I have a question regarding on t-value statistically data. Once I performed the SEM analysis, I did calculate t-value. However, I am not so sure whether my understanding is corrected.

From my perspective, t-value refers to the statistically hypothesis test if the null hypothesis is supported and determines if two sets of data are significantly different from each other.

Example, I have t-value for hypotheses testing calculated from estimate/std error as below:

H1: 2.78  
H2: 4.38  
H3: 2.23  
H4: 9.36  
H5: 2.89  

Do these above numbers indicate only significant statement? Or it can imply something else. Please kindly guide me through. Thanks a lot in advance.

Regards,

Joy
Dear James,

Hope you are well.

I was wondering if you were able to help me interpret the table attached in terms of the P values, I have ran my model as first order factor and second order factor. When running the model as first order factor - what I noticed is that I have more P values above 0.05. Please may I ask you to have a look at the table attached and am I right in concluding that values highlighted in yellow are not significant therefore they should be removed from the analysis?

your time and consideration is very much appreciated

Amara
James;

I attach my skewness and kurtosis worksheet. SitEff variables are all skewed. Others are hit and miss. On Kurtosis the Ten variable (tension) is showing kurtosis but in reality the data includes a 6th scale option we included in the survey called "Sole Practitioner”. We did that because for my Tension questions, I had questions like: "you feel bothered by not knowing the expectations of your supervisor". A sole practitioner would not have that situation. So kurtosis in my view doesn't exist for tension.

Do I just report this as a limitation of my study or should I look to omit some extreme variables?

Thanks Dave

--
David (Dave) E. Jones, CPA
Visiting Associate Professor
Taxation and Accounting
Weatherhead School of Management
10900 Euclid Avenue
422 PBL Building
Cleveland Ohio 44106-7232
(O)+1 (216) 368-1057
Hi James,

I just now saw your video on "SmartPLS Factor Analysis" in YouTube. 
: http://www.youtube.com/watch?v=7bqcG0GcgQ8

It was great and very useful!

I just wanted to check, whether you have ever used the output from this (and from Quality Criteria -> Cross Loadings) to report the factor loading in your research? Because, in general we use SPSS to do a varimax with a PCA to get the factor structure.

Also, what would you recommend in case there is a very high cross loading even in using very well validated constructs? The path loadings on SmartPLS themselves are very neat with all items having > .7. But, there is a very high cross loading.

Thanks
Sankar
Dear Dr.
Many thanks for your clear and very useful AMOS presentation in youtube. I want to test the
- Convergent validity
- Discriminant validity
But the excel sheet did not include the worksheet that we should use to do test for Convergent and Discriminant validity, I think it is the old one. I wonder is it possible to email me the new excel sheet that you use in the presentation.

- Warm Regards
==================================
Abdel Latef Anouze
Dear Dr.
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- **Convergent validity**
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But the excel sheet did not include the worksheet that we should use to do test for Convergent and Discriminant validity, I think it is the old one. I wonder is it possible to email me the new excel sheet that you use in the presentation.

- 

Warm Regards

Abdel Latef Anouze
James:

when you have 10 minutes could you please read the attachment and if you have a suggestion please let me know. I am stuck on a "not positive definite" issue. I promise I have been following the "Capstone" methodology and I have researched this issue but my research is suggesting solutions I haven't encountered before thus the reason for my questions.

Thanks Dave

--
David (Dave) E. Jones, CPA
Visiting Associate Professor
Taxation and Accounting
Weatherhead School of Management
10900 Euclid Avenue
422 PBL Building
Cleveland Ohio 44106-7232
(O)+1 (216) 368-1057
Hi James,

what are standardized n standardized estimates in AMOS?

how to interpret unstandardized estimates?

Actually my case is I got good mediating > 0.08 if i use unstandardized but it is otherwise when i'm using standardized estimates.

My mediator is dichotomous while my other variables are likert scale of 7, is this can be considered as unstandardized (1 dichotomous, the rest likert scale) ? and when interpret with unstandardized estimates I got good mediator.

Thank you very much James. Really appreciate and need your help.

Thanks

SAH
Dear James,

Thank you so much for the statwiki website. I am currently working on my PhD thesis in marketing and the wiki helped me a lot.

Now, I would like to perform a multiple group analysis by using Excel Stat Tools package with the easy method. However, the macro stops responding after two seconds and gives an error. I have attached the error message and the Excel file I have used. I am using Microsoft Office 2010 for Windows.

I would appreciate if you can help on this issue. It would be so great to overcome the issue and use your Excel file as it will make my life much easier.

Thanks very much for all your efforts and wish you success.
Best,
Oguzhan
Sir,

Do you have any videos on using SmartPLS to check for Common Method Variance?

Your videos are very helpful - please keep up with the good work.

Thanks
Sankar
Hey James,

I hope everything is going well for you. I had a question maybe you could answer. Is there a program where you can design a form where data can be entered in a convenient way, but then it can be loaded into spss and read the way it needs to be to process the stats? One of my thesis committee members mentioned a program (snap?) that she thinks could do this. I was hoping you might now of one.

Thanks for any help you can give me.

Braden

PS. Congrats on the new little one
Hi James:

Thanks for your response regarding my doubt about the AVE. Here is my email address where you can send me the file. Do you still have the old video? Thanks again for your help. Kind regards and many blessings, Ramón

--
Ramón Rodríguez Montalbán
WoNT Research Team
Social Psychology Department
Universitat Jaume I
Campus Riu Sec s/n, 12071 Castellón, Spain

Telephone 34 964 72 9571
Fax 34 964 72 9262
Skype: ramonmontalban
http://www.wont.uji.es

“When you do things right, people won’t be sure you’ve done anything at all.”
God in an episode of Futurama
Hi,

Many thanks for your excellent spreadsheet package.

I am getting the following error message when I try to run the Variance Master:

```
Correlations: (Group number 1 - Default model)

<table>
<thead>
<tr>
<th>Paranormal</th>
<th>Religious beliefs</th>
<th>Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>s</td>
<td>Religious</td>
<td>0.427</td>
</tr>
<tr>
<td>e30</td>
<td>e31</td>
<td>0.609</td>
</tr>
<tr>
<td>e11</td>
<td>e14</td>
<td>0.413</td>
</tr>
</tbody>
</table>

Microsoft Visual Basic

Run-time error '1004:
Application defined or object-defined error
```

Do you have any idea what my problem might be?

Best wishes,

Tony

---

Anthony Marks PhD MAPS
Senior Lecturer in Psychology and First Year Coordinator
School of Behavioural, Cognitive and Social Sciences
University of New England
Armidale NSW 2351
AUSTRALIA
Phone: 0409 398 591
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![Error Message]

Do you have any idea what my problem might be?

Best wishes,

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--
Anthony Marks PhD MAPS
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School of Behavioural, Cognitive and Social Sciences
University of New England
Armidale NSW 2351
AUSTRALIA
Phone: 0409 398 591
Hi James,

I am a Ph.D. student in Germany and have been using your statstool for some of my analyses in SPSS/AMOS: its awesome. However, I have implemented some of my analyses in Stata 12 now and was wondering about the calculation of the composite reliability in the tab "ValidityMaster".

You calculated the CR in your VBA code as CR = SSLS / (SSLS + SumErr). For the sum of the error variance terms you used SumErr = SumErr + (1 - estimate ^ 2).

I was wondering why you did not use the error terms that are provided by the AMOS calculation (Variances table estimates). In fact, this produces different results. Assuming SumErr = SumErr + (1 - estimate ^ 2) leads to a "CR" that is identical to Cronbach's Alpha. Is it by chance that for my data equal Cronbach's Alpha and is it different for your analyses?

You could really help me out of confusion by giving me some hint if I make any error in reasoning.

Best regards
Daniel
Hi James,

how are you? Hope you are fine.

James, how if our SV larger than AVE. What we should do?

thanks very much.
Hi James
Thanks a lot, I will do a bootstrap as you recommend,
Very kind of you
Have a great day

Best,

Sune

Bedste hilsner

Sune Bo Hansen
Cand. psych., aut. og Ph.d.-studerende
Retspsykiatrisk Kompetencecenter, Slagelse
Tlf.: 21 64 62 98
e-mail: subh@regionsjaelland.dk

-----Original Message-----
From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: 18. november 2011 15:51
Til: Sune Bo Hansen
Emne: RE: A question from Denmark

Hi Sune,
Why not do a bootstrap? This should be a simple procedure. Bootstrapping is currently the "best practice" for testing mediation. You can also use the sobel test, which is what I think you must be referring to in your email. However, this test is sensitive to large sample sizes and non-normal data.
James

-----Original Message-----
From: Sune Bo Hansen [mailto:subh@regionsjaelland.dk]
Sent: Friday, November 18, 2011 4:44 AM
To: James Gaskin
Subject: SV: A question from Denmark

Dear Professor James Gaskin

I wrote you a while ago regarding questions related to mediation-analysis with a dichotomous variable, and you were very kind to help me, and I am very grateful for that. I have done my mediation-analysis in Mplus (SEM), with the mediator as a dichotomous variable (X=continuous, Y=dichotomous).

Now, I am in doubt if I should also do a bootstrap analysis to test for significance or if I can report the various effect-sizes (total, indirect and direct) with the EST./S.E values as proof of significance. I have been told that EST./S.E is equal to a z-score (with a large sample) and that values of 'EST./S.E'>1.96 means that the effect-size is significant (p<0.05). Therefore I don’t have to do bootstrapping analysis to investigate whether there is significance, is that a correct understanding of the
Because you only have 0 and 5 participants in the first two categories, you'll need to exclude them. However, you can give some descriptive analysis and explanation of the 5. Then you have only the two values for the categorical variable: cognitive and not cognitive (emotional is not part of this because it is absent in both groups). With this variable you can do mediation. Recode the variable to the following: Cognitive = 1, not cognitive = 0. (Ideally, you would have actual likert scale data and then just use a scaled value to indicate degree of cognitive, rather than breaking it up into two values.) Then, when you include it as a mediator, just realize that an increase in the cognitive variable means "has cognitive skill". Or, since you have about 50 in each group, you can now do moderation pretty easily with sufficient power. I still think having a dichotomous mediator is kind of funny, since what we are trying to do is explain indirect effects through a mediator, which would ideally have adequate inner variance (not just two values). Hope this helps.

James

-----Original Message-----
From: Sune Bo Hansen [mailto:subh@regionsjaelland.dk]
Sent: Thursday, October 13, 2011 6:31 AM
To: James Gaskin
Subject: SV: A question from Denmark

Dear James

Thanks again for your help, and one final question:
You are right 25 in each group is not very much, but after I have counted the participants in each group I found the following, the four groups in the categorical variable are distributed as follow: 1) +emotional and +cognitive = 0 participants, 2) +emotional and -cognitive = 5 participants, 3) -emotional and + cognitive = 49 participants, 4) -emotional and -cognitive = 46 participants.

Does that make any difference in relation to power and the significance I might find?

But if moderation is not possible due to low power, is it then possible to
conduct a mediation analysis with a categorical variable at all? Is a possibility to do dummy coding for the proposed mediating variable?

The thing is, that in the literature there is a clear relation between psychopathy and violence, but I would love to display that this relation is explained by a mediation variable (i.e empathy grouped in 4 categories). Since the concept of psychopathy is rather static, the concept of empathy refers to a concrete psychological function amenable to change and development. Many empirical studies, have delineated that people engaging in violence has deficits in the ability to feel empathy, and one of the 20 items defining psychopathy is named lack of empathy, but this item does make a distinction between the "cognitive" and "emotional" aspects of empathy, which is essential.

Sorry for bothering you with all these questions, but I hope you can give me an advice on this last issue?

Thanks again James for your help and have a great day

Cheers,

Sune

Bedste hilsner

Sune Bo Hansen
Cand.psy.ch., aut. og Ph.d.-studerende
Retpsykiatrisk Kompetencecenter, Slagelse Tlf. : 21 64 62 98
email: subh@regionsjaelland.dk

-----Original Message-----
From: Sune Bo Hansen [mailto:subh@regionsjaelland.dk]
Sent: Wednesday, October 12, 2011 2:10 AM
To: James Gaskin
Subject: SV: A question from Denmark

Yes, that is the correct url. I do recommend moderation, but you will have low statistical power. 100 is not a very large sample when you have four groups. That means you have 25 per group if the groups are evenly distributed. This just means that you will have trouble finding significant relationships, even if they do exist.

----- Original Message-----
From: Sune Bo Hansen [mailto:subh@regionsjaelland.dk]
Sent: Wednesday, October 12, 2011 2:10 AM
To: James Gaskin
Subject: SV: A question from Denmark

Dear James

Thanks for your comments and helpful tips, that was very useful James!

My sample size is 100, is that enough for doing moderation analysis?

I have watched your tutorials regarding moderation analysis with great pleasure. The program that you made and that you refer to in the video, is that for free download on: http://statwiki.kolobkreations.com?

So you will recommend doing moderation instead of mediation analysis?
I am very pleased that you will look into these things. By the way have a
great travel

Best,

Sune

Bedste hilsner

Sune Bo Hansen
Cand.psych., aut. og Ph.d.-studerende
Retpsykiatrisk Kompetencecenter, Slagelse Tlf. : 21 64 62 98
email: subh@regionsjaelland.dk

Fra: James Gaskin [james.eric.gaskin@gmail.com]
Sendt: 11. oktober 2011 03:05
Til: Sune Bo Hansen
Emne: RE: A question from Denmark

The easiest is probably multigroup moderation, but this requires a high
sample size. By the way, what is your sample size? You can do this in AMOS
if you like, but if there are only two variables in your model, plus the
moderator, then you can just as easily do it in SPSS. For AMOS, just follow
my multigroup moderation video for the setup, and then follow the
"moderation made easy" video for the analysis. For SPSS you can split the
data (using the compare function) and then run a linear regression. However,
this will not show you the significance of the different between the groups.
Let me know if you have more questions. I will have sporadic internet access
this week, but will try to respond quickly.

James

-----Original Message-----
From: Sune Bo Hansen [mailto:subh@regionsjaelland.dk]
Sent: Monday, October 10, 2011 2:22 AM
To: James Gaskin
Subject: SV: A question from Denmark

Dear Professor James

Thanks for your fast response and helpful commentaries. I have seen the
wiki: http://statwiki.kolobkreations.com, and I find it very helpful as
well...But please keep uploading your videos, since they are the best ;-) 

You are rigth about the mediator variable (empathy), it is measured in 4
different categories: 1) +emotional and -cognitive, 2) -emotional and
-cognitive, 3) +emotional and +cognitive, 4) -emotional and +cognitive. Here
the + means that the ability is present and - that the person is lacking
this ability.
(There seems to be a difference in empathy-profiles for psychopaths compared
to non-psychopaths, they are able to or even superior in "cognitive"
empathy, they can figure out how the world functions in a rationale way,
making them able to manipulate and engage in cunning, whereas they have a
deficit in the emotional empathy...That is why the empathy construct is
differentiated in 4 separate groups. The outcome measure is violence, which
can be distinguished as either 1) reactive (emotional-driven and impulsive)
or 2) Instrumental (planned, cold-hearted without affect).

The hypothesis is that psychopathy predicts instrumental violence (the
higher the psychopathy score the greater the chance for engaging in instrumental violence), this relation is mediated by empathy, where I think, grounded in theory, that a empathy-profile of +cognitive and -emotional will explain the process on the relation between psychopathy and instrumental violence, compared to the 3 other empathy profiles.

So, do you still think I should turn to moderater analysis?? And do you think I will be able to do it in AMOS instead of a 3 step regression analysis??

Well, James sorry for the long email, but I really hope you can help me on this one, seems there a no one in my country that have had the experience with mediation/moderation analysis...(I owe you a beer, if you come to Denmark ;-) )

Have a great day

Cheers,
Sune

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Fra: James Gaskin [james.eric.gaskin@gmail.com]
Sendt: 10. oktober 2011 03:42
Til: Sune Bo Hansen
Emne: RE: A question from Denmark

Hi Sune,
Using a categorical variable as a mediator is kind of funny. I would recommend looking into using it as a moderator instead - if it is conducive to the theory you are pursuing. If not, let me know, and we can figure this out together. I have honestly never used a categorical variable as a mediator. I assume the mediator, empathy, is categorical because it is different types of empathy. If this is the case, then I would definitely just use it as a moderator. That would greatly simplify things. Glad you like the videos. I hope you have also found the wiki:
http://statwiki.kolobkreations.com
James

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From: Sune Bo Hansen [mailto:subh@regionsjaelland.dk]
Sent: Sunday, October 09, 2011 11:22 AM
To: james.eric.gaskin@gmail.com
Subject: A question from Denmark

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I am writing you since I have watched a lot of your tutorials on the Internet with great pleasure, regarding regression-analyses, SEM with AMOS
and mediation analyses with AMOS. It is really useful and is being watched among my fellow students as well!

I am undertaking a study (cross-sectional, investigating the role of psychopathy on violence with empathy as mediating variable) where I want to do mediation-analyses and have come across a problem:

The independent variable (A) is continuous, the dependent variable (C) is categorical with 2 categories and the mediating variable (M) is categorical with 4 categories.

I have read that when doing mediation-analyses in line with the 3-steps criteria form Baron and Kenny (1986), first I have do to a regression analyses where I predict the dependent variable (C) from the independent variable (A), conducting a logistic regression (since the dependent is categorical). Second, I have to predict the mediating variable (M) from the independent variable (A) doing a multinomial logistic regression (since the dependent variable in this case has 4 categories). Third, Simultaneously predict the value of the dependent variable (C) from both the independent variable (A) and the mediating variable (M).

Well, I don´t know which analysis to perform here, since I have both a categorical (4 categories) and a continuous variable predicting a categorical (two categories) variable.

Can you help on that one???

Further, would it be possible to draw a mediation model in AMOS with these kind of variables and doing the analyses simultaneously?

I know you are a busy man, but I hope you can help me with this problem

Cheers,

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Retpsykiatrisk Kompetencecenter, Slagelse Tlf. : 21 64 62 98
email: subh@regionsjaelland.dk=
Hi James
Thanks a lot, I will do a bootstrap as you recommend,
Very kind of you
Have a great day

Best,

Sune

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Sune Bo Hansen
Cand. psych., aut. og Ph.d.-studerende
Retspsykiatrisk Kompetencecenter, Slagelse
Tlf.: 21 64 62 98
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-----Original Message-----
From: Sune Bo Hansen [mailto:subh@regionsjaelland.dk]
Sent: Friday, November 18, 2011 4:44 AM
To: James Gaskin
Subject: SV: A question from Denmark

Dear Professor James Gaskin

I wrote you a while ago regarding questions related to mediation-analysis with a dichotomous variable, and you were very kind to help me, and I am very grateful for that. I have done my mediation-analysis in Mplus (SEM), with the mediator as a dichotomous variable (X=continuous, Y=dichotomous).

Now, I am in doubt if I should also do a bootstrap analysis to test for significance or if I can report the various effect-sizes (total, indirect and direct) with the EST./S.E values as proof of significance. I have been told that EST./S.E is equal to a z-score (with a large sample) and that values of ‘EST./S.E’>1.96 means that the effect-size is significant (p<0.05). Therefore I don´t have to do bootstrapping analysis to investigate whether there is significance, is that a correct understanding of the
Because you only have 0 and 5 participants in the first two categories, you'll need to exclude them. However you can give some descriptive analysis and explanation of the 5. Then you have only the two values for the categorical variable: cognitive and not cognitive (emotional is not part of this because it is absent in both groups). With this variable you can do mediation. Recode the variable to the following: Cognitive = 1, not cognitive = 0. (Ideally, you would have actual likert scale data and then just use a scaled value to indicate degree of cognitive, rather than breaking it up into two values.) Then, when you include it as a mediator, just realize that an increase in the cognitive variable means “has cognitive skill”. Or, since you have about 50 in each group, you can now do moderation pretty easily with sufficient power. I still think having a dichotomous mediator is kind of funny, since what we are trying to do is explain indirect effects through a mediator, which would ideally have adequate inner variance (not just two values). Hope this helps.

James

-----Original Message-----
From: Sune Bo Hansen [mailto:subh@regionsjaelland.dk]
Sent: Thursday, October 13, 2011 6:31 AM
To: James Gaskin
Subject: SV: A question from Denmark

Dear James

Thanks again for your help, and one final question:
You are right 25 in each group is not very much, but after I have counted the participants in each group I found the following, the four groups in the categorical variable are distributed as follow: 1) +emotional and +cognitive = 0 participants, 2) +emotional and -cognitive = 5 participants, 3) -emotional and + cognitive = 49 participants, 4) -emotional and -cognitive = 46 participants.

Does that make any difference in relation to power and the significance I might find?

But if moderation is not possible due to low power, is it then possible to
conduct a mediation analysis with a categorical variable at all? Is a possibility to do dummy coding for the proposed mediating variable?

The thing is, that in the literature there is a clear relation between psychopathy and violence, but I would love to display that this relation is explained by a mediation variable (i.e empathy grouped in 4 categories). Since the concept of psychopathy is rather static, the concept of empathy refers to a concrete psychological function amenable to chance and development. Many empirical studies, have delineated that people engaging in violence has deficits in the ability to feel empathy, and one of the 20 items defining psychopathy is named lack of empathy, but this item does make a distinction between the "cognitive" and "emotional" aspects of empathy, which is essential.

Sorry for bothering you with all these questions, but I hope you can give me an advice on this last issue?

Thanks again James for your help and have a great day

Cheers,

Sune

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Fra: James Gaskin [james.eric.gaskin@gmail.com]
Sendt: 12. oktober 2011 14:56
Til: Sune Bo Hansen
Emne: RE: A question from Denmark

Yes, that is the correct url. I do recommend moderation, but you will have low statistical power. 100 is not a very large sample when you have four groups. That means you have 25 per group if the groups are evenly distributed. This just means that you will have trouble finding significant relationships, even if they do exist.

-----Original Message-----
From: Sune Bo Hansen [mailto:subh@regionsjaelland.dk]
Sent: Wednesday, October 12, 2011 2:10 AM
To: James Gaskin
Subject: SV: A question from Denmark

Dear James

Thanks for your comments and helpful tips, that was very useful James!

My sample size is 100, is that enough for doing moderation analysis?

I have watched your tutorials regarding moderation analysis with great pleasure. The program that you made and that you refer to in the video, is that for free download on: http://statwiki.kolobkreations.com?

So you will recommend doing moderation instead of mediation analysis?
I am very pleased that you will look into these things. By the way have a great travel

Best,

Sune

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Retspsykiatrisk Kompetencecenter, Slagelse Tlf. : 21 64 62 98
e-mail: subh@regionsjaelland.dk=
Dear James,

ROA10_res and ZESO_MM_TOP are not items of a latent variable but both observed variables.

Best,
Simon

For the stats tools package validity test, why are ROA10_res and ZESO_MM_TOP correlated? They are both part of the same latent factor. These should not be correlated. Perhaps you can cowa their error terms instead. As for the moderated mediation, there are a few things that could be causing the issue. My recommendation would be to try to do this with composite variables instead of latents.

James

I get the following error when I try to calculate AVE and CR in your excel spreadsheet:

Can you see where the error is?

I have also had some problems in doing moderated mediation in AMOS. In the few sources I've read, (if either AMOS can't do it, or you standardize the items in SPSS, multiply these standardized items and create a new latent/mediation variable)
Do you know if that is the right approach? I hope that you can help me. Thanks in advance.

Med venlig hilsen / Best regards

Simon S. Torp
Associate Professor, Ph.D.
Aarhus Universitet
Business and Social Sciences
AU Herning (tidligere AU-HIH)
Birk Centerpark 15
7400 Herning
T: 87 16 69 76
M: simon@hih.au.dk
W: www.hih.au.dk
Hi again and thank you for a fast reply
My bad, I forgot to attach them, but they are attached now
I will send an email to the lecturer as well, but we are finished with the lectures and he does not have an office at school (studying in Copenhagen and he lives in Sweden, he was just flying in for the lectures).

Thank you

Best
Espen
I am desperate at this point (I did not attend the session where the lecturer went through this topic)

Best
Espen
By the way, what if we compare two groups with ANOVA? The results will be the same as what you can get with an unpaired/paired t test. So it is ok to use ANOVA for two groups, but using t tests is more common.

This is what I read, now what I do Independent t-test or anova for 2 groups?

--
Regards
Puja Sareen
Hi James

Sorry for lots emails, but want to share the below information.

I have cited the following point if we need to increase the level of t value, However, he did not mention the rational.
We could use "construct level changes" or "individual changes" in the bootstrap procedure in order to increase the t value.
Best regards.
Mo

From: james.eric.gaskin@gmail.com
To: msa999@hotmail.co.uk
Subject: RE: How can convert 7-point likert scales to 5-point likert ?
Date: Thu, 13 Dec 2012 15:22:57 -0700

The threshold for the t-value is dependent upon your desired confidence level. So, if you want a 95% confidence level, you should aim for 1.96, but if you are fine with a lower confidence level, then you can use a lower t-statistic. You could also simply increase the number of cases selected for the bootstrap – this will automatically increase the t-statistic. So, instead of using 100 or 200, use the same number as your sample size.

James

From: M M [mailto:msa999@hotmail.co.uk]
Sent: Thursday, December 13, 2012 3:06 PM
To: Dr James
Subject: RE: How can convert 7-point likert scales to 5-point likert ?

Thank you so much, as the usual, your fast reply is highly appreciated.

Actually I am not an expert in statistic, but I thought this conversion will improve the effect between constructs, but you said that the regression will arrive at the same.

I used SMART-PLS to analysis my data and the T statistic results show that most of value below 1.96 (see table below). Is there any way to retain/use the value below 1.96 in the model?, for example Henseler et al (2008) claims that t value can be selected when is 1.64 and more , Is that right?

<table>
<thead>
<tr>
<th>Construct</th>
<th>Standard Error</th>
<th>T-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR -&gt; LM</td>
<td>0.088066</td>
<td>0.049372</td>
</tr>
<tr>
<td>CR -&gt; OC</td>
<td>0.134604</td>
<td>0.060733</td>
</tr>
<tr>
<td>LMX -&gt; OC</td>
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<td>MBEA -&gt; LM</td>
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<tr>
<td>MBEA -&gt; OC</td>
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<td>0.065333</td>
</tr>
<tr>
<td>PSV -&gt; LM</td>
<td>-0.093745</td>
<td>0.038891</td>
</tr>
<tr>
<td>PSV -&gt; OC</td>
<td>-0.101936</td>
<td>0.054859</td>
</tr>
</tbody>
</table>
I do appreciate your answer.

Regards,
Mo

From: james.eric.gaskin@gmail.com
To: msa999@hotmail.co.uk
Subject: RE: How can convert 7-point likert scales to 5-point likert ?
Date: Thu, 13 Dec 2012 14:12:02 -0700

If you have not yet collected the data, then just reduce the number of points to five.
If you have already collected the data, then you may have more of a problem... I’m not sure why you would want to convert it down to 5 from 7 though. Statistically you will arrive at the same regressions.
If you want to convert so that you can make meaningful comparisons between the mean and SD, then you will just need to use ratios: x/5 and x/7 for those comparisons.
Hope this helps.
James

From: M M [mailto:msa999@hotmail.co.uk]
Sent: Thursday, December 13, 2012 2:03 PM
To: James
Subject: How can convert 7-point likert scales to 5-point likert ?

Dear James

Sorry I have a question, and I hope to help me.

How can convert 7-point likert scales to 5-point likert ?

Regards,

MO
Hello James,

I am a Ph.D. student in Poland. I have been watching your videos on Statwiki and learning AMOS from them. If possible I would like to ask you a question. I am testing my hypotheses and I got stuck with t values. Is it possible to get t values from AMOS or I need to use some other package?

Thank you very much for the great material you are making available online.

Best regards from Poland,

Bruno Schivinski, MA
Department of Marketing
Faculty of Management and Economics
Gdańsk University of Technology
ul. Narutowicza 11/12
80-233 Gdańsk

http://www.zie.pg.gda.pl/web/english
Dear James,

Am Phd student at the university of Bedfordshire UK. Your useful website statwikis which has been helpful in helping me testing mediation effects. I have two quick questions.
1. How can I use the excel tool for group differences when I have more than two groups i.e 3 groups? As the excel tool has two groups only.
2. My supervisor has asked me to include an extra variable in my model. I.e I have a model am testing in which has 3 independent latent variables and one dependant latent variable. My supervisor has asked me to include size as a control variable within the model. When i run the SEM the model with Size fits worse than the model without based on all goodness of fit test. Which goodness of fit test can you recommend when the variables in the model differ?

I will appreciate for your assistance

Kind Regards

Billy Wadongo
Phd student
Business and Management Research Institute
University of Bedfordshire
Luton Campus,
Bedfordshire
UK
+447570 238 278 (UK)
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Dear James,

As usual your youtube videos are life saving for me. I was trying to assess the moderating effects of team climate and emotional hiding on burnout. At the same time I also wanted to know how job-burnout partially mediates the effects of emotional labour components (hiding, faking,...) on quality of care. For moderating effects I followed your instruction on video and for mediating effects I compared this model with full mediated and no mediated models. The final best fit model is attached. I was wondering if I did it right and if I could conclude that these results suggested that hiding have a significant impact on burnout and that this impact can be moderated by team climate? And burnout mediated the effects of emotional labour components on quality of care?

Any suggestion would be highly appreciated. Many thanks in advance.

Kind Regards,
Leila

Dr Leila Karimi, PhD  MAPS  ACHSM
Lecturer, Health Services Management
School of Public Health
La Trobe University
Bundoora, Victoria 3086
Australia
Email: l.karimi@latrobe.edu.au
Phone: +61 3 94793013
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Email: l.karimi@latrobe.edu.au
Phone: +61 3 94793013
Fax: +61 3 94791783
Website: http://www.latrobe.edu.au/health/about/staff/profile?uname=LKarimi
Dear James,

I am writing you from a sunny and chilly Amsterdam, The Netherlands. Let me first start to thank you for your work on youtube tutorials on AMOS analysis. I am currently working on my PhD and use AMOS intensively for my large models. Although I have tried to master this subject over the past 8 months or so, I even went to summerschool on SEM in Lugano, Switzerland, your instructions were most helpful! Might you ever come to our country, you will be treated as a hero, as many people have used your material, also in this country.

Anyway, I have a few relatively easy questions I hope you can help me with.

In order to check for discriminant validity, you use in the excel worksheet an MSV and an ASV indicator. I understand the logic of these indicators, and am curious if you have a relevant literature source for me so I can use these indicators also in my thesis with the correct references.

I like the stat tools a lot. However, I use a Mac and have difficulties in getting the Excel macro's to function. Seems as if there is some protection. Maybe you have something less severely protected that I can use? (I am not very much an excel expert...)

Thanks again for everything you do for the AMOS community!

Kind regards,

Raymond Zaal=
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Thanks again for everything you do for the AMOS community!

Kind regards,

Raymond Zaal=
Dear James (if I may),

Thank you for your very clear explanations of structural equation modeling on Youtube and statwiki!!

When reading published papers I get the impression that best practice recommendations are not always carefully followed up.
Do you perhaps have some references to pdf’s of papers which are examples of good reporting on SEM?

Best wishes,

Coert Visser

www.m-cc.nl
Dear Sir,
Thank you so much for sharing the excel file. Now I'm really enjoying my SEMs.

Could you also help me with the following:
- what is the difference between constrained and unconstrained model that is used for discriminant validity? How do you do it? (Cao & Zhang 2011)
- reference for 0.4 factor loading and o.4 AVE?
- how to do unidimensionality?
- second order construct.. I saw your video on it but could figure out how Cao & Zhang (2011) have done it.
- i could not find NNFI in the fit indices in AMOS.. ?
- how to analyze the indirect and direct effect? (Kim et al. 2012)

To what I understand, in the measurement model we use the dependent and independent variables all together.. right? so in the Cao & Zhang and Kim et al 2012 i can't figure out the different fit indices for common method variance, unidimensionality, CFA, and structural model??

Im attaching the two articles for your convenience.

Your help will be highly appreciated.
Thank you

Regards,
Shamila K
Respected Sir,

I'm a PhD candidate from Pakistan. I saw your video on youtube.com and it was very useful for me. You have made SEM very easy for me. Thank you for uploading your videos. May God Bless you. I was wondering where I can find the excel file you made for the validity and reliability? Will you be kind enough to share it with me?

I will be very grateful to you.

Regards,
SHamila K
Dear James,
Thank you so much for your video how to deal with CMB. When we square the common latent factor to obtain the common variance, how can we use this value in our further analysis, i.e. to correct the CMB? Can we generate a common latent factor in AMOS through the 'Data imputation' function and use it as a control variable in further analysis, or we substract this value from coefficients to reduce the bais?

Thank you very much.

Best,
Mike
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Thank you very much.

Best,
Mike
Dear Mr. Gaskin

Thank you so much for your public service for teaching us AMOS and everything else associated with it. If there is anything I can do to contribute –financially for example, please let me know I would do my fair share.

Thanks

Prof. Dr. E. Sirakaya-Turk
Associate Dean for Research, Grants and Graduate programs
The University of South Carolina
The College of Hospitality, Retail and Sport Management
1010C Carolina Coliseum
Columbia, SC
USA

Tel: 803-777-3327
Dear James,

I do not know which saint has prompted you to help me from wherever you are but you definitely have solved most of my problems. I know I would probably never have the opportunity to be of any assistance to you but I would love to (if I can) in future. Thank you so very much.

Regards.

Sardana

Other contact: sardana1975@yahoo.com

---

From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Wednesday, 4 July 2012 1:56 AM
To: Khan Sardana
Subject: RE: About Stats tool packages

Two issues with it. The first is that it was never intended for measurement models, but this can be overcome by removing this row from both regression weights tables:

```
NEGECOMMIT <-- COMMITMENT
```

The second issue is that you included Bank A twice, and not Bank B.

James

---

From: Khan Sardana [mailto:K.Sardana@latrobe.edu.au]
Sent: Monday, July 02, 2012 11:55 PM
To: James Gaskin
Cc: sardana1975@yahoo.com
Subject: About Stats tool packages

Dear James,

Thanks again for your generous and prompt help. However, I have copied pasted in the right cell in your stat tool file and still did not get the calculation done. It shows me a command (after I clicked the button) that ‘the object does not support this kind of application’. I have one latent variable in this model which is COMMITMENT. I am not sure if the problem is there.

I am sending you my regression weights tables for both groups (Bank-A and Bank-B) and critical ratios for differences between parameters in a normal excel file (attached to the mail). If possible, could you please run a multi-group analysis for me in your system and may be send me the results table.

If I am asking for too much of your time, could you advise me in general why this may not be working (can my operating system be non-combatable) and what could be done about it?

Sorry to bother you with this, I totally understand if you are too busy to help any further.

Thanks for the help so far and regards.

Sardana
From: James Gaskin [james.eric.gaskin@gmail.com]
Sent: Tuesday, 3 July 2012 2:51 AM
To: Khan Sardana
Subject: RE: About Stats tool packages

Here you go. See attached. Glad to have been helpful.
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Hi James.

We have seen your video on youtube regarding two step cluster analysis in SPSS, and have found it very helpful and it seems like you know a lot about this method.

We are currently writing our master thesis where we are analyzing webshops and how their conversion rates (dependent variable) are affected by elements within design and configuration.

We have observed and gathered 161 variables (continuous and categorical) from 423 webshops.

Does it make sense to include variables which don't correlate (continuous and categorical) with the dependent variable or show any differences among groups (categorical) in regards to the dependent variable?

Only 36 of our variables either correlate or show differences among groups.

Kind regards,
Jacob and Tina.
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Kind regards,
Jacob and Tina.
Hope you will be enjoying good health..Your videos regarding SEM are very useful...I am doing my MS thesis and intend to do multi group moderation analysis by low and high levels of three types of culture.I need your video regarding that and how to divide sample into high and low group mean values.I urgently need that kindly help me out...

regards
Qandeel Anjum
Hi James,
I just watched your youtube video. 
Do you mind to share ValidityMaster excel file ?
Thanks you in advance.

Cheers,
Ngadiman Djaja
You’re youtube presentation on variables and factor analysis is superb. I will be teaching my first doctorate topics class on survey design and would love to use some of your slides, if that is OK with you. By the way, do you know of a good textbook or journal article that outlines the process for developing a scale?

Thanks,

Eric Rhiney, Ph.D.
Webster University
Herbert Walker School of Business & Technology
Department of Management
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Thanks,

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Herbert Walker School of Business & Technology
Department of Management
Sheri came up with this new model, but I am worried about the circles versus the squares.......I don't actually remember what they each stand for (circles versus squares) but I wanted you to weigh in. I like the compression of the perceived control into one construct since we do explain it in the paper. This is an attempt to simplify it. Which do you prefer? Thanks, Deirdre

--
Deirdre Dixon
deirdre.dixon84@gmail.com
813 765-8527
Dear Mr. Gaskin,

A very good morning to you!

You might be surprised upon receiving an email from an unknown person, so let me first introduce myself. I am Puja Sareen, working as a lecturer in Ansal university, India & pursuing my doctorate in HR. I was thoroughly impressed by not only the enormous amount of work you have done in various research area's & published so many books and journals. But more importantly, what gave me the courage to reach out to you directly was that you have been open to sharing your learning & experience with anyone who wants without anybody requesting you for help. Truly appreciate your openness.

As I mentioned, I a currently working on my thesis & my research work involves a comparative study of Indian and Multinational companies with respect to the e-HRM systems being used by them. It is a perception study on a 5 point Likert scale. I have been going through your video's on web and your blog and have learnt quite a bit. After I completed my CFA in AMOS 18, I am stuck & unable to move ahead due to an error which comes up when I try to use one of your tools, "The Statistical Tools package" in excel. I have been trying to find group differences for Indian and multinational companies but after feeding the data at correct places (from your video) I encounter an error "Runtime Error". I am attaching the screen shot of the error message for your kind reference along with the statistical tools file where I have tried to paste the data but getting that error. I am also sending along with these the amos output file which has regression tables for both the groups (Indian & MNC). I would be highly obliged if you could help me determine the cause of this error and what can be done to get out of my situation. This is the only option which I know for group comparison & if this doesn't work, it will be a big setback for me.

Thanks in advance for your kind assistance

Regards
Puja Sareen
Sr. Lecturer

91 0 9911574469
Hi, James,

So glad to receive your reply. By reviewing the research paper and materials on the internet. I found that it is said that factorial experimental design, for independent (exogenous) categorical variables (in my example, it is play pattern and exercise setting) could be included into the model as predictors (model 1) or create a multiple group analysis based upon categorical variables (model 2). I want to know what is the difference between this two methods or what is advantage of doing one vs the other?

Model 1:

Model 2:

Look forward to your reply.

Regards,

Zumei
Yes, if you want to compare groups on the relationships among variables in this model, you will need to use multi-
group analysis. The problem with multigroup analysis though is that you need to have a sufficient sample size for
each group, especially with a model as complex as this. For example, for this model I would recommend a minimum
of 45 respondents per group (5x9 variables = 45).
Hope this helps.
James

From: #WU ZUMEI# [mailto:ZWU1@e.ntu.edu.sg]
Sent: Thursday, June 28, 2012 3:46 AM
To: jeg82@case.edu
Subject: consulting for sem model

Hi, Gaskination,

Thank you very much for your youtube videos. I learn a lot of knowledge about amos and sem from your videos.
Could you give me some advice for my master thesis.
First, I want to give you a draft explanation of my research model. I am doing a research to examine the factors that
influence elderly exercise participation intention. So, based on the literature, I got the following proposed model.

Based on the research model, I designed a between subject 2(play patterns)X2 (exercise settings) experiments. And
ask the elderly joined the exercise groups for one months, twice a week. Pre and post survey were conducted to
collect data during pre and post survey. Moreover, I also did a survey on one control groups (people in control group
don’t need to join exercise, just do survey). Now I got the data with 5 different groups, but I found it is not easy to
test the model.

Based on my understanding, should I use multiple-group analyses? Please give me some advice, I am really confused
and not sure about the method.
Look forward to your reply!

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Model 1:

![Diagram 1](image001.png)

Model 2:

![Diagram 2](image002.png)

Look forward to your reply.

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Based on my understanding, should I use multiple-group analyses? Please give me some advice, I am really confused and not sure about the method.
Look forward to your reply!

Regards,
Zumei
Dear Dr. Gaskin,

Great Thanks! It helps a lot.

Best Regards
Shanshan

1. There is no reserved label for comparing of two models. I assume you are simply testing alternative models for model fit and the strength of the regression weights.
2. Those numbers are not fantastic, but they are also not terrible. The p-value should be greater than 0.05 in this case. It is very difficult to achieve that, and it is not strictly necessary either. Models with many variables or a large sample size will almost never achieve it. Judging by your Chi-square, you have either a lot of variable or a large sample size or both.
3. If this is a measurement model, then you should use my "Validity during CFA made easy" video. You can find many videos on my youtube channel homepage. To get their just click on my name from any of my other videos. Hope this helps.

James

-----Original Message-----
From: Qi Shanshan [mailto:shanshan@ift.edu.mo]
Sent: Tuesday, March 12, 2013 9:51 AM
To: James Gaskin
Subject: 答 : Question relate to SEM

Dear Dr.Gaskin,

Wow, you replied! Thank you so much.

Sorry for making the question complicated. Please allow me to re discrpe it, i have three basic questions:
1. I wish to find relationship between two models, i wonder how can i name this kind of action in SEM such as a path analysis, multiple-group models.

2. I revised the original model the output is like this:
x^2 516.2
df 211
P-value 0.000
CFI 0.938
GFI 0.902
RMSEA 0.06

The p-value is very strange but I tried many ways it still doesn't work. Could you please point a direction for me?
3. if i wish to test the validity of the model, could you recommend one of your Youtube videos which i can learn how to do it.

Thanks so much!

Shanshan

件人: James Gaskin [james.eric.gaskin@gmail.com]
送: 2013年3月11日 23:58
收件人: Qi Shanshan

I’m not sure I understand the question. If you are just wondering what sort of statistics should be included in a research paper, then I would recommend finding a few good research papers and then following their example. Best of luck.

James

-----Original Message-----
From: Qi Shanshan [mailto:shanshan@ift.edu.mo]
Sent: Sunday, March 10, 2013 1:04 PM
To: james.eric.gaskin@gmail.com; james.gaskin@byu.edu
Cc: james.gaskin@byu.edu
Subject: Question relate to SEM

Dear Dr. Gaskin,

Greeting from Macau, I watched your SEM education video on Youtube. First of all, thank you for sharing the great Youtube videos online. It helps me a lot on studying SEM.

May I ask you a silly question? Currently, I want to find the relationship between consumers’ actual behavior with my new developed model and another model created based on planned theory of behavior. What should I do in AMOS, as run the CFA again and modification the model fit? Do I need to do ? and What kind of output that I need to report?

I appreciated your help and looking forward to hear from you.

Best regards
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