



BUSI Z798
Applied Research Methods
Fall 2020
Course Syllabus

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Office Hours: By appointment
Class Meeting: Monday 11:15 pm to 2:15 pm

Course Description:

This course covers fundamental issues in conducting empirical research in the social sciences, focusing on business administration (e.g., organizational behavior, corporate strategy, marketing, international business, operations management, behavioral accounting) and allied disciplines (e.g., psychology, sociology, communications). This course is designed for doctoral students who intend to conduct empirical research publishable in scholarly journals. The course sequence is organized according to stages in the research process, from the initial framing of a research question through design, measurement, and analysis, and culminating in publishing the results of one's work. We begin with the selection and framing of a research question, the philosophy of different research approaches, choices in method and design, the role of theory, and how to take stock of knowledge in your area. The course then moves to measurement, covering instrument design, reliability, validity, exploratory factor analysis, and confirmatory factor analysis. For each topic, students are assigned core readings, and, when appropriate, are given empirical data to apply the methods under discussion. Students also receive an extensive bibliography on each topic and a detailed written synopsis of key issues. As a prerequisite, students should have a solid foundation in basic statistics, correlation, and regression analysis.

Course Requirements:

Students are required to fully participate at weekly class meetings. Each meeting will include a discussion of the assigned readings and homework, including the results of any data analyses. **Students are expected to read all materials and complete all homework before class.** Regarding homework, when analyses are involved, written answers should include supporting results, excerpts from computer output or brief summary tables (*not* raw computer output). These written answers serve two purposes. First, this course emphasizes hands-on application of various methods, and for learning purposes, there is no substitute for using these methods and summarizing the results in writing. Second, written answers to homework questions provide an important means of monitoring learning throughout the course. When these answers show that certain topics are not well understood, these topics will be reviewed in class. Students may consult with each other regarding the concepts and principles underlying the methods used.

However, *written answers should represent the work of each individual student*. Moreover, *students must not obtain answers to homework questions from students who have previously taken this course*. Drawing from the work of current or past students is considered a violation of the honor code and carries the risk of failing the course and other appropriate sanctions. You will need to be in class to present, clarify, and defend your work. Not being able to do so could significantly affect your grade of the written assignment. That is, ambiguity in your written assignment could be partly mitigated through class discussion. Without attendance, ambiguity would cost you points.

Students are also strongly encouraged to bring questions of their own to raise in class for discussion. These questions help us collectively address points of confusion and pursue issues that extend beyond the assigned readings.

For assignments that require data analysis, students must have access to statistical software. I will conduct analyses using windows versions of SPSS and R (SPSS available on the business school network & R is freeware).

SPSS: <https://iuware.iu.edu/Windows/Title/3161>
R-package: <https://www.r-project.org/>

Students may use other software but will be responsible for converting the data files provided and for running the software.

For those largely unfamiliar with SPSS or those that would make SPSS their primary statistical software, then I would recommend purchasing the following book that is extremely helpful.

Field, A. (2009). *Discovering statistics using SPSS*. Sage publications.

Learning Goals:

By the end of this course, students should:

- Demonstrate a better understanding of the research methods used in the management, marketing, and related fields of study.
- Improve their ability to evaluate critically research ideas and articles published in the literature; assessing their methodological soundness and contribution to the field.
- Improve their ability to communicate material from the methods literature effectively to an academic audience.

Required Reading Materials:

Required reading materials for the course include books, book chapters, and journal articles. The book for this course is:

Singleton, R. A., Jr., & Straits, B. C. (2018). *Approaches to social research* (6th ed.). New York: Oxford University Press.

Singleton & Straits (2018) will be the primary text for the course, which will be supplemented with articles accessible through IU libraries and chapter provided by me.

NOTE: On occasion (such as in the first week), I will assign a segment of an article. Feel free to read these in their entirety, but the key points will be in selected text.

Summary of Topics:

1. **8/24 Overview of the Research Process:** The nature of science; the meaning of programmatic research; stages in the research process; characteristics of an interesting, important, and relevant research question.
2. **8/31 Developing and Evaluating Theory:** The role of theory in social science research; elements of a theory; criteria for evaluating theory; using theory to develop propositions and hypotheses.
3. **9/14 Choices in Method and Design (Part 1):** Choices in research design; comparing the strengths and weaknesses of different research designs and methodological approaches. Focus is on experiments.
4. **9/21 Choices in Method and Design (Part 2):** Coverage of qualitative research and mixed methods.
5. **9/28 Reliability and Classical Test Theory:** Essentials of classical test theory; sources of measurement error; methods for estimating reliability.*
6. **10/5 Validity:** Distinguishing between different forms of validity; the central importance of construct validity.
7. **10/12 Sampling:** Populations versus samples; methods of sampling; representativeness vs. practicality; sampling bias; determining required sample sizes using power analysis.*
8. **10/19 Responsible Research:** Conducting research in ways that maximize the robustness, replicability, and trustworthiness of findings.
- 9.
10. **10/26 Reviewing and Integrating Research Part 1:** Locating relevant research; computerized and ancestral literature search; integrating research findings.*
11. **11/2 Reviewing and Integrating Research Part 2:** Steps to conducting a meta-analysis.*
12. **11/9 Instrument Design & Exploratory Factor Analysis:** Conceptual and operational definitions; generating an item pool; evaluating item characteristics; determining measurement format and type of scale. Principal components vs. common factor analysis; extracting and rotating factors; construction of factor scales and scores.*
13. **11/16 Confirmatory Factor Analysis I:** Comparisons between exploratory and confirmatory factor analysis; model specification, identification, and estimation.*

14. 11/30 Confirmatory Factor Analysis II: Conducting a CFA and interpreting output*

15. 12/7 Confirmatory Factor Analysis III: assessment of model adequacy and fit and extension into structural equation modeling. *

*Indicates classes that involve data analysis.

Your first two assignments for the class will each be worth 6% of your total grade. This will allow you some time to acclimate to my grading and expectations. From Week 3 forward, each assignment is worth 8% of your final grade. Your final letter grade will be based on the following cutoff points:

A	93 and over
A-	90.00-92.99
B+	87.00-89.99
B	83.00-86.99
B-	80.00-82.99
C+	77.00-79.99
C	73.00-76.99
C-	70.00-72.99
D+	67.00-69.99
D	63.00-66.99
D-	60.00-62.99
F	under 60

MAKE-UP WORK

There will be no make-ups for missed work unless an arrangement is made with the professor. Such arrangements will only be made under extreme circumstances.

INCOMPLETES

Incompletes will not be granted except under very exceptional circumstances, and only at my discretion. You are not allowed to take an incomplete as a way to avoid failing the course. In the event that a student desires a grade of “incomplete,” I must be contacted at the earliest possible time with a legitimate and verifiable excuse. In addition, students must have at least a grade of B- or better in the course up to that point.

REQUESTS FOR RECONSIDERING A GRADE

If you feel that work you submitted was improperly evaluated, you can ask to have it reviewed and the grade reconsidered. While I am decidedly unreceptive to being asked to review work simply because a poor grade was received, I truly appreciate the opportunity to correct a mistake. Please recognize that a new grade could be lower or higher than the original grade. I will only consider requests to reconsider a grade within one week of the graded work being handed back to you (i.e., don't wait until the end of the semester to make such a request).

AVOIDING ACADEMIC MISCONDUCT

Students taking classes in the Kelley School of Business at Indiana University strongly believe that the ideal academic environment is one that holds both personal integrity and honesty in the highest regard. To foster such an atmosphere, an honor code, one to which all students taking business courses are expected to adhere, has been established.

The following is an excerpt from the *Kelley School of Business Student Honor Code*:

Academic integrity requires that students take credit only for ideas and efforts that are their own. According to the Indiana University Code of Student Rights, Responsibilities, and Conduct, the following behaviors reflect academic integrity:

- *A student must not adopt or reproduce ideas, words, or statements of another person without an appropriate acknowledgment.*
- *A student must not use or attempt to use unauthorized assistance, materials, information, or study aids in any academic exercise.*
- *A student must not use external assistance on any "in-class" or "take-home" examination, unless the instructor specifically has authorized such assistance.*
- *A student must not use another person as a substitute in the taking of an examination or quiz.*
- *A student must not steal examinations or other course materials.*
- *A student must not allow others to conduct research or to prepare any work for him or her.*
- *A student must not take any credit for a team project unless the student has made a fair and substantial contribution to the group effort.*
- *A student must not violate course rules as contained in a course syllabus or other information provided to the student.*
- *A student must not intentionally or knowingly help or attempt to help another student to commit an act of academic misconduct.*

Please also see the Indiana University Code of Student Rights, Responsibilities, and Conduct (<http://studentcode.iu.edu/index.html>), especially Section II: Responsibilities G and H; and the Indiana University Policy on Cheating and Plagiarism (<http://policies.iu.edu/policies/categories/academic-faculty-students/academic-student-affairs/cheating-plagiarism.shtml>); as you will also be held to these standards regarding what constitutes academic misconduct.

As the instructor for this course, I am obligated to report in writing all suspected cases of academic misconduct to the appropriate university channels. Any instance of academic misconduct will result in a failing grade for this course.

DISABILITY SERVICES FOR STUDENTS

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services for Students (<http://studentaffairs.indiana.edu/disability-services-students/index.shtml>) for information on

arranging for accommodations. I cannot provide any accommodations without documentation from Disability Services for Students. The earlier you do this in the semester, the better.

INDIANA UNIVERSITY SEXUAL MISCONDUCT POLICY

As your instructor, one of my responsibilities is to help create a safe learning environment on our campus. Title IX and our own Sexual Misconduct policy prohibit sexual misconduct. If you have experienced sexual misconduct, or know someone who has, the University can help.

If you are seeking help and would like to speak to someone confidentially, you can make an appointment with:

The Sexual Assault Crisis Service (SACS) at 812-855-8900
Counseling and Psychological Services (CAPS) at 812-855-5711
Confidential Victim Advocates (CVA) at 812-856-2469
IU Health Center at 812-855-4011

More information about available resources can be found here:

<http://stopsexualviolence.iu.edu/help/index.html>

It is also important that you know that federal regulations and University policy require me to promptly convey any information about potential sexual misconduct known to me to our campus' Deputy Title IX Coordinator or IU's Title IX Coordinator. In that event, they will work with a small number of others on campus to ensure that appropriate measures are taken and resources are made available to the student who may have been harmed. Protecting a student's privacy is of utmost concern, and all involved will only share information with those that need to know to ensure the University can respond and assist.

I encourage you to visit **stopsexualviolence.iu.edu** to learn more.

Masks and Physical Distancing Requirements

In recognition of what all IU community members owe to each other all students, staff, and faculty signed an acknowledgement of their responsibility to follow public health measures as a condition returning to the campus this fall. Included in that commitment were requirements for wearing masks in all IU buildings and maintaining physical distancing in all IU buildings. Both are classroom requirements.

Both requirements are necessary for us to protect each other from transmission of COVID-19.

- Therefore, if a student is present in class without a mask, the instructor will ask the student to put a mask on immediately or leave the class.
 - If a student comes to class a second time without a mask, the student's final grade will be reduced by one letter (e.g., from an A to a B, for instance), and the instructor will report the student to the Office of Student Conduct of the Division of Student Affairs.
 - If a student refuses to put a mask on after being instructed to do so, the instructor may end the class immediately, and report the student to the Office of Student Conduct. The student will be summarily suspended from the university pursuant to IU's [Summary Suspension Policy](#)

- If Student Conduct receives three cumulative reports from any combination of instructors or staff members that a student is not complying with the requirements of masking and physical distancing, the student [will be summarily suspended](#) from the university for the semester.

Summary Suspension Policy

“A student may be summarily suspended from the university and summarily excluded from university property and programs by the Provost or designee of a university campus. The Provost or designee may act summarily without following the hearing procedures established by this section if the officer is satisfied that the student’s continued presence on the campus constitutes a serious threat of harm to the student or to any other person on the campus or to the property of the university or property of other persons on the university campus.”

The Provost has determined that refusal to comply with the public health requirements specified in the Student Responsibility form, including the requirement of wearing a mask in all IU buildings, constitutes “a serious threat of harm to other persons” within the meaning of the summary suspension policy. In addition, the Provost has determined that a person who does not comply with these requirements, as evidenced by three credible violations of the policy reported to the campus from any source, constitutes “a serious threat of harm to other persons” within the meaning of the summary suspension policy.

Student Rights

Any student who believes another person in a class is threatening the safety of the class by not wearing a mask or observing physical distancing requirements may leave the class without consequence.

Attendance

The student responsibility form requires that you take your temperature every morning and that you refrain from attending class if you have a temperature of 100.4 or higher or other symptoms of illness. In order to ensure that you can do this, attendance will not be a factor in the final grade. Attendance may still be taken to comply with accreditation requirements.

Assigned Seating

In order to ensure we can contact you in the event you are exposed to COVID-19, you must remain in your assigned seat for the entire semester.

Session 1: Overview of the Research Process

Required Reading:

Singleton & Straits (2018), chs. 1 & 2

Shadish, Cook, & Campbell, D. T. (2002), ch. 1.

Walsh, J. P., Tushman, M. L., Kimberly, J. R., Starbuck, B., & Ashford, S. (2007). On the relationship between research and practice: Debate and reflections. *Journal of Management Inquiry*, 16, pp. 129-132

Bennis, W. G., & O'Toole, J. (2005). How business schools lost their way. *Harvard business review*, 83(5), 96-104.

Huff, A. S. (2000). 1999 Presidential address: Changes in organizational knowledge production. *Academy of Management Review*, 25(2), 288-293.

CARMA Webcast: "Organization Studies: Is Ours a Hard Science?" by Ron Landis (1 hour)

Assignment Questions:

1. Singleton & Straits (2018) discuss social science research, framing it as a four-stage process that links theory, prediction, observation, and empirical generalization. Ideally, research involves a balanced emphasis on these four stages. However, in some areas, research places excessive emphasis on one stage (e.g., empiricism with little guiding theory, theory that is not subjected to empirical test), or some stages in the process are not adequately linked (e.g., research emphasizes deductive, theory-driven inquiry to the exclusion of inductive, exploratory research, or vice-versa). Identify an area in which you plan to conduct research. Does research in this area place equal emphasis on the four stages described by Singleton & Straits? Has it deviated from the cyclical process that Singleton & Straits describe? If so, what corrective steps should be taken to advance knowledge in your area?
2. The excerpt from Walsh et al. (2007) frames what has become an ongoing debate concerning rigor and relevance in management research. Read this excerpt, followed by the position expressed by Bennis and O'Toole (2005) and March, as given in the excerpt from Huff (2000). What is your position on this debate? Do you consider rigor or relevance more important?
3. The Shadish et al. chapter introduces experiments and their underlying logic. We will spend more time on experimental designs later in the semester, but in a broad sense, what makes experimental designs the "gold standard" of research designs? Identify a recently published experimental study in your field or area of interest and report the independent and dependent variables. Do you believe their causal claim was justified or do you suspect a confound?
4. Watch the Landis webcast and first comment on where you see the current state of organizational studies on the spectrum from hard to soft (some of this may be answered

in the above question). Second, if we define “hard” as high in methodological rigor, what are the greatest barriers to increased rigor that you either have seen or anticipate in your specific content area/discipline?

Session 2: Theory Development and Evaluation

Required Reading:

Whetten, D. A. (1989). What constitutes a theoretical contribution? *Academy of Management Review*, 14, 490-495.

Bacharach, S. B. (1989). Organizational theories: Some criteria for evaluation. *Academy of Management Review*, 14, 496-515.

Sutton, R. I., & Staw, B. M. (1995). What theory is *not*. *Administrative Science Quarterly*, 40, 371-384.

Weick, K. A. (1995). What theory is *not*, theorizing *is*. *Administrative Science Quarterly*, 40, 385-390.

Edwards, J. R., & Berry, J. W. (2010). The presence of something or the absence of nothing: Increasing theoretical precision in management research. *Organizational Research Methods*, 13(4), 668-689.

Hambrick, D. C. (2007). The field of management's devotion to theory: Too much of a good thing? *Academy of Management Journal*, 50, 1346-1352.

CARMA Webcast: Addressing the "Too Much Theory" Problem in Management Research: Abductive Reasoning and the Role of Academy of Management Discoveries" by Peter Bamberger (1 hour).

Assignment Questions:

1. Whetten (1989), Bacharach (1989), and Sutton and Staw (1995) describe the basic features of theory along with criteria that theories should satisfy. What are the common themes among these criteria? In what ways do the criteria differ from one another? Which criteria make the most sense to you, and why?
2. Weick (1995) questions several of the arguments advanced by Sutton and Staw (1995), and some of these questions also apply to criteria specified by Whetten (1989) and Bacharach (1989). Do you agree or disagree with the position taken by Weick (1995)? Elaborate your answer.
3. Based on your answers to the preceding two questions, develop a list of what you believe are the most important criteria for evaluating theory. Using these criteria, evaluate a theory in your area of research, based on your understanding of the literature in that area. Ideally, this theory should pertain to the research question you developed at the beginning of this course. In what ways is the theory adequate? In what ways is the theory deficient? Suggest some ways to modify the theory to overcome its deficiencies.
4. Edwards and Berry (2010) document the imprecision of management theories and describe ways in which theories can be made more precise. Is the theory you evaluated in the preceding question as imprecise as the theories reviewed by Edwards and Berry (2010)? Describe how the theory you chose could be made more precise by applying the

approaches recommended by Edwards and Berry (2010) for increasing theoretical precision.

5. Hambrick (2007) argues that the devotion to theory in management research has become an obsession that is counterproductive to scientific progress. To what extent do the concerns raised by Hambrick (2007) apply to the way theories are treated in your area of research? What steps should be taken to address these concerns?
6. Watch the Bamberger CARMA talk and discuss abduction as it relates to the more dominant models of deduction and induction.

Session 3: Choices in Method and Design (Part 1)

Required Reading:

Singleton & Straits (2018) Chapters 4, 7, & 8

1. Identify two (2) publications in your area of interest that used a true or quasi-experiment. What were the authors trying to test specifically and how appropriate was their research design? Using the material/nomenclature in Singleton & Straits (2018), highlight the specific strengths and weaknesses (e.g., threats to validity) of each study.
2. For each of the following studies, identify the major threat(s) to internal validity and explain how each threat is an alternative explanation of the study's hypothesized effects (this is the second exercise in Chapter 8).
 - a. A campus lecturer touting the benefits of transcendental meditation (TM) presents data showing that persons who have practiced TM for months or longer perform better on recall tests and learn more quickly than a group of randomly selected nonmeditators. According to the lecturer, these data show that TM directly improves the ability to learn.
 - b. Stephen Schoenthaler (1983) studied the impact of dietary changes on the antisocial behavior of individuals in juvenile detention centers. In one study, the diet of inmates was changed by replacing sugar with honey and Kool-Aid with fruit juice; and high-sugar cereals and desserts and snacks with foods lower in simple sugars. Using a reliable institutional incident reports, Schoenthaler measured antisocial behavior for each inmate 3 months prior to, as well as 3 months after, the dietary change. The records showed a significant reduction in behavioral problems.
 - c. To study the effects of the children's television series Sesame Street, viewers were tested for various preschool skills (e.g., recognizing letters of the alphabet) both before and after a season of viewing. It was found that children with the lowest initial test scores showed the greatest gains, which suggests that disadvantaged children benefited more than others from watching the program.
3. On p. 254 of Singleton & Straits (2018), the fourth exercise concerns the DARE program. Complete all three subparts.

Session 4: Choices in Method and Design (Part 2)

Morgan, G. and Smircich, L. (1980). The Case for Qualitative Research. *Academy of Management Review*, 491-500.

Cunliffe, A. L. (2011). Crafting qualitative research: Morgan and Smircich 30 years on. *Organizational Research Methods*, 14(4), 647-673.

Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of mixed methods research*, 1(2), 112-133.

Singleton & Straits (2018) Chapter 11

Watch one of the following CARMAs that appeal to your interests

Scott Turner: Mixed Methods in Strategy and Organizations Research

Kevin Corley: Qualitative Rigor in Inductive Organizational Research

Assignment Questions:

1. What are the benefits of qualitative research described in Morgan and Smircich (1980)? What do you imagine would be the counterarguments from the quantitative minded camp? What were the key differences/improvements offered by Cunliffe (2011) and do you believe that they addressed some of the counterarguments raised above?
2. In the article by Johnson et al., they argue mixed methods may be particularly well-suited for studying research domains that are at intermediate stages of maturity. That is, qualitative research is often seen as most appropriate for domains at a nascent level of development and quantitative approaches may be more appropriate at mature levels of paradigm development. Identify a topic area you perceive is at an intermediate stage of maturity and broadly describe how you might apply a mixed methods approach. Defend your order of implementation and the priority among approaches. Explain the purpose your mixed design (e.g., triangulation, development).
3. Read one of the following articles from *Journal of Contemporary Ethnography*. Highlight its strengths, weaknesses, and then briefly sketch out a follow up study (qualitative or quantitative) that would address the weaknesses, complement the strengths, increase generalizability, etc. I stress “sketch out.” This doesn’t need to be a something you’re sending to IRB tomorrow—just a brief, one paragraph summary what might bolster/test the findings of the first study.
 - (a) Cain, C. L. (2012). Integrating dark humor and compassion: Identities and presentations of self in the front and back regions of hospice. *Journal of Contemporary Ethnography*, 41(6), 668-694.
 - (b) Sobre-Denton, M. S. (2012). Stories from the cage: Autoethnographic sensemaking of workplace bullying, gender discrimination, and white privilege. *Journal of Contemporary Ethnography*, 41(2), 220-250.
 - (c) Bezemer, J., Cope, A., Kress, G., & Kneebone, R. (2014). Holding the scalpel: Achieving surgical care in a learning environment. *Journal of Contemporary Ethnography*, 43(1), 38-63.
 - (d) Sallaz, J. J. (2017). Exit tales: How precarious workers navigate bad jobs. *Journal of Contemporary Ethnography*, 46(5), 573-599.

4. Critique the CARMA talk you chose. What resonated with you? Were there parts you disagreed with or were confused by? If there were a Turner or Corley Part 2, what would you like it to entail? In other words, what would be the next area of exploration you would like to take in this domain?

Session 5: Reliability and Classical Test Theory

Required Reading:

Pedhazur and Schmelkin (1991), ch. 5

Viswanathan: Chapter 2 & 3

Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of applied psychology*, 78(1), 98-104.

Cho, E. (2016). Making Reliability Reliable: A Systematic Approach to Reliability Coefficients. *Organizational Research Methods*, 19(4), 651–682.

Assignment Questions:

1. Read the chapter on reliability from Pedhazur and Schmelkin (1991) and the two chapters by Viswanathan. These chapters provide a reasonably comprehensive treatment of the meaning and estimation of reliability and measurement error and it is important that you have a good, solid grasp of this material. The articles by Cortina (1993) and Cho (2016) offer further details regarding the meaning and uses of coefficient alpha as an estimate of reliability. When is it appropriate to use alpha? Identify two articles that you believe misinterpret/misuse alpha and explain how.
2. Using formula 5.23 from Pedhazur and Schmelkin (1991), calculate a table of reliability coefficients for scales containing from 2 to 10 standardized items and average interitem correlations ranging from .10 to .90 at .10 increments (this table will contain 81 reliability coefficients and can be easily constructed in a spreadsheet). What does this table tell you? What implications does this information have for constructing measures?
3. Complete questions 1, 5, 8, 11, 15, 17, 18 and 22 in Appendix 2.1 of Viswanathan. Be specific in your answers.

Session 6: Validity

Required Reading:

Nunnally and Bernstein (1994). Chapter 3

Shaffer, J. A., DeGeest, D., & Li, A. (2016). Tackling the problem of construct proliferation: A guide to assessing the discriminant validity of conceptually related constructs. *Organizational Research Methods*, 19(1), 80-110.

Singleton & Straits (2018) Chapter 5

Ketchen Jr, D. J., Ireland, R. D., & Baker, L. T. (2013). The use of archival proxies in strategic management studies: Castles made of sand? *Organizational Research Methods*, 16(1), 32-42.

Suddaby, R. (2010). Construct clarity in theories of management and organization. *Academy of Management Review* (35), 346–357.

CARMA: Dan Newman--Construct Mixology: Forming New Management Constructs by Combining Old Ones

Assignment Questions:

1. The Nunnally and Bernstein (1994) chapter, Suddaby (2010), and Singleton & Straits (2018) provide an excellent discussion of the definitions of and distinctions between content, criterion-oriented, and construct validity. Based on this information, how would you develop a measure that would ensure each of these three forms of validity? How would you determine whether you have been successful?
2. Shaffer et al. & Newman's CARMA talk describe and document the issues of construct redundancy and construct mixology. Do you agree with their assessment/conclusions regarding the redundancy/mixology problems in the literature? Regarding redundancy, do you believe this is a measurement or construct issue? That is, are the constructs distinct, but the measures too similar or is that the constructs described are just different names for the same thing? What other research domains do you believe suffer from potential construct redundancy/mixology? Support your arguments with empirical and/or theoretical arguments.
3. Be ready to discuss the Ketchen et al. piece. Regardless of whether you're micro, macro, or meso, the rise of "big data" means that proxies will be a part of your lit soon enough.

Session 7: Sampling and Statistical Power

Required Reading:

Singleton & Straits (2018), ch. 6

Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112, 155-159

Verma, R., & Goodale, J. C. (1995). Statistical power in operations management research. *Journal of Operations Management*, 13, 139-152.

CARMA: Richard Landers: Creating Datasets with Social Media

Shen, W., Kiger, T. B., Davies, S. E., Rasch, R. L., Simon, K. M., & Ones, D. S. (2011). Samples in applied psychology: Over a decade of research in review. *Journal of Applied Psychology*, 96(5), 1055.

Choose one of the next four articles about sampling/samples:

Short, J. C., Ketchen Jr, D. J., & Palmer, T. B. (2002). The role of sampling in strategic management research on performance: A two-study analysis. *Journal of Management*, 28(3), 363-385.

Cycyota, C. S., & Harrison, D. A. (2006). What (not) to expect when surveying executives: A meta-analysis of top manager response rates and techniques over time. *Organizational Research Methods*, 9(2), 133-160.

Robinson, O. C. (2014). Sampling in interview-based qualitative research: A theoretical and practical guide. *Qualitative research in psychology*, 11(1), 25-41.

Gibbert, M., & Ruigrok, W. (2010). The “what” and “how” of case study rigor: Three strategies based on published work. *Organizational research methods*, 13(4), 710-737.

Assignment Questions:

1. Consider the sampling designs described by Singleton & Straits (2018). How well does each design balance the trade-off between representativeness and practicality? Display your thinking by plotting the designs in a 2-dimensional space defined by representativeness and practicality axes drawn orthogonal (i.e., at right angles) to one another, with each axis ranging from “minimum” to “maximum.” Plot the sampling designs with your area of research in mind (e.g., some sampling designs may be more practical in some areas than in others, due to differences in the unit of analysis and other constraints), and explain the logic underlying your placement of the sampling designs.
2. What were the key takeaways of the article you chose about sampling/samples? Be ready to give a brief summary to the class.
3. What were your three biggest takeaways from the CARMA talk?

4. Calculate the statistical power of each study included in a published meta-analysis of your choosing detecting a small, medium, and large effect. Obtain these effect sizes from the results of the meta-analysis, with the population (i.e., weighted average) correlation (r not ρ) serving as a medium effect and values one standard deviation below and above the population correlation as small and large effects, respectively, where the standard deviation is the square root of the variance of the observed correlation (SD_r , not SD_{ρ}). Using these three effect sizes, compute the statistical power of each study to detect a small, medium, and large effect, setting alpha at .05 (note that the power results will differ across studies depending on the sample size used in each study). Arrange these power values in a table with three columns for the low, medium, and large effect sizes and k rows where k equals the number of studies in your meta-analysis. The power calculations can be performed using the first website listed on the next page or by downloading and installing G*Power, which is also described on the next page. What power values did you obtain? What patterns do you see in the power values? What are the implications of these power values for research in the area represented by the studies you used for your meta-analysis?

Resources for Computing Statistical Power

Power calculator for correlations:

<http://www.quantitativeskills.com/sisa/statistics/correl.htm>

Insert the correlation (i.e., one of your three effect sizes) in the r_1 box and the sample size for each study in the N_2 box. Click Calculate, and power values will appear in the window to the right. For more details, click “Help Correlation.”

G*Power, a free program for conducting power analysis:

<http://www.pscho.uni-duesseldorf.de/abteilungen/aap/gpower3/download-and-register>

After you download and install G*Power, launch the program, and from the top menu, select Tests, Correlation and Regression, Correlation: Bivariate normal model. Under Test family, you should see Exact, and under Statistical test, you should see Correlation: Bivariate normal model. For Type of power analysis, choose Post hoc. You can then enter your three effect sizes one at a time in the window labeled Correlation

ρH_1 , and for each effect size, enter each of the sample sizes from the studies in your meta-analysis in the window labeled Total sample size. For the Tail(s) box, you should decide yourself whether to choose One or Two (you can try both if you would like). Make sure to explain your decision and interpret your results accordingly.

Session 8: Responsible Research

Required readings:

Singleton, R. A., Jr., & Straits, B. C. (2018). Chapter 3

Batson, C. D. (1975). Rational processing or rationalization? The effect of disconfirming information on a stated religious belief. *Journal of Personality and Social Psychology*, 32(1), 176.

Shaw, J. D. (2017). Advantages of Starting with Theory. *Academy of Management Journal*, 60(3), 819-822.

Cortina, J. M. (2016). Defining and operationalizing theory. *Journal of Organizational Behavior*, 37(8), 1142-1149.

O'Boyle Jr, E. H., Banks, G. C., & Gonzalez-Mulé, E. (2017). The chrysalis effect: How ugly initial results metamorphosize into beautiful articles. *Journal of Management*, 43(2), 376-399.

O'Boyle, E., Banks, G. C., Carter, K., Walter, S., & Yuan, Z. (2018). A 20-year review of outcome reporting bias in moderated multiple regression. *Journal of Business and Psychology*, 1-19.

Read one of the next two articles:

Aguinis, H., & Vandenberg, R. J. (2014). An ounce of prevention is worth a pound of cure: Improving research quality before data collection. *Annu. Rev. Organ. Psychol. Organ. Behav.*, 1(1), 569-595.

Orb, A., Eisenhauer, L., & Wynaden, D. (2001). Ethics in qualitative research. *Journal of nursing scholarship*, 33(1), 93-96.—**This is from nursing, but there isn't much on ethics in qualitative management research that I could find (a research gap that should be filled)**

Assignment questions:

1. After reading the Singleton and Straits chapter, read Batson (1975). What ethical issues do you identify in this study? In order to test his theoretical proposition, was this design and this sample necessary? If not, what alternative would you suggest?
2. Describe where Shaw (2017) and Cortina (2016) converge and diverge on the role that theory plays in contributing to questionable research/reporting practices (QRPs). Where do you land on this issue?
3. Do you agree with the two O'Boyle et al.'s conclusions about the prevalence and/effect of QRPs? Will do you!? Yeah, that's what I thought. Where do the issues raised in the two O'Boyle et al. pieces intersect with the two articles described in the above question?

Answer one (1) of the next two (2) questions

4. In your own research, how effective would the suggestions offered by Aguinis & Vandenberg (2014) alleviate the pressure to engage in QRPs. Which solutions proposed by the authors seem the most viable? Is there anything else you can think of to assist reducing the prevalence of QRPs?
5. What are the ethical challenges facing qualitative researchers? How relevant/effective are the issues raised in Orb et al. in a management setting?

Session 13: Meta-Analysis Part 1

Required readings:

Lipsey, M. W., & Wilson, D. (2000). Practical meta-analysis (applied social research methods). Chapters 1-4.

These are required, but just get the gist of the core arguments;

Bobko, P., & Roth, P. L. (2008). Psychometric accuracy and (the continuing need for) quality thinking in meta-analysis. *Organizational Research Methods*, 11, 114-126

Wood, J. (2008). Methodology for dealing with duplicate study effects in a meta-analysis. *Organizational Research Methods*, 11, 79-95.

Aytug, Z. G., Rothstein, H. R., Zhou, W., & Kern, M. C. (2012). Revealed or concealed? Transparency of procedures, decisions, and judgment calls in meta-analyses. *Organizational Research Methods*, 15(1), 103-133.

Assignment questions:

1. Identify a relationship that you have an interest in meta-analyzing. I would prefer it be something that has not been meta-analyzed before and you may find it easier if it is a correlation rather than a group difference, odds-ratio, etc. Briefly explain why you think meta-analyzing this relationship is important and what a meta-analysis may be able to do to add to this literature.
2. Do a Google Scholar search on the relationship. How many results were returned? Provide the citations for the first ten (10) primary data, empirical articles you found and the sample size (N) and correlation (r) from each. **You need at least ten studies so if need be, expand your inclusion criteria.** For example, if you wanted to do entrepreneurial grit and venture performance and only found 4 studies, then expand your inclusion criteria to include entrepreneurial resilience, persistence, or expand your outcome variable to be any positive outcome of grit (e.g., satisfaction, firm size). **However, one sample, one effect size.** If a study reported grit and 5 different measures of performance, that's not 5 effect sizes. Just choose one and move on. Report your coding in a table in Word. Create 3 columns and 11 rows. The column headers will be "Citation", "N", and "r". The ten rows after that are your coding results.
3. The correlation of interest will differ across these 10 studies. What are the methodological and substantive factors you believe might account for this variation?

Session 14: Meta-Analysis Part 2

Whitener, E. M. (1990). Confusion of confidence intervals and credibility intervals in meta-analysis. *Journal of Applied Psychology*, 75(3), 315-321.

NOTE: credibility intervals and prediction intervals are the same thing.

Cortina, J. M. (2003). Apples and oranges (and pears, oh my!): The search for moderators in meta-analysis. *Organizational Research Methods*, 6(4), 415-439.

Borenstein, M., Hedges, LV, Higgins, JPT, & Rothstein, HR (2011). Introduction to meta-analysis. Chapters 8, 10-13, 16-17, 38

Review the Meta-Analytic Reporting Standards: <http://www.apastyle.org/manual/related/JARS-MARS.pdf>

Assignment questions:

1. Revisit the data you coded last week. Identify two potential moderators in the dataset—one continuous, one binary. These don't have to be theoretically driven so it's fine to use date of publication, percentage of females in sample, US versus non-US, etc. Next, make sure to have the metafor package in R and your data saved as a .csv file. The file should have rows and columns as before, but two additional columns, "cont.mod" and "cat.mod".
2. In your own words, what is the difference between a confidence intervals and credibility interval? What are the types of questions they each answer?
3. Identify a published meta-analysis (MA) on a topic of interest to you.
 - a. Evaluate the quality of the research question(s) they are trying to address. What value does the systematic review/MA provide to the debate about the relationship they studied?
 - b. Evaluate their methods and results sections using the APA's Meta-Analytic Reporting Standards. What do the researchers do right and what do they do wrong?
 - c. What would you recommend to those authors in terms of improving and extending their work?

Session 11: Instrument Design & Exploratory Factor Analysis

Required readings:

Hinkin, T. R. (1998). A brief tutorial on the development of measures for use in survey questionnaires. *Organizational research methods*, 1(1), 104-121.

Conway, J. M., & Huffcutt, A. I. (2003). A review and evaluation of exploratory factor analysis practices in organizational research. *Organizational research methods*, 6(2), 147-168.

Hayton, J. C., Allen, D. G., & Scarpello, V. (2004). Factor retention decisions in exploratory factor analysis: A tutorial on parallel analysis. *Organizational research methods*, 7(2), 191-205.

Choose one of the following CARMA talks based on your interests

Adam Meade: Question and Context Effects in Organizational Survey Data

Brian Boyd: Current Issues in Individual, Group, and Organizational Level Measurement

Steven Rogelberg: Non-responses to Organizational Surveys

Katherine Klein: Issues with Group Measurement

Howard Weiss: Measurement of Affect and Episodic Events

Karen Locke: The Practice of Member Review in Qualitative Research

Assignment questions:

1. For the CARMA talk you chose, be ready to teach your classmates the key problems and solutions offered. You don't need to prepare slides or anything like that, but be able to give a coherent 3-5 minute summary of one or more of the takeaways in a "here's the problem, here's why it's a problem, here's the solution, and here's why it fixes it." Feel free to work on it with a classmate.
2. The Conway and Huffcutt article reviewed EFA practices, but the paper was published in 2003. Based on your reading of your literature, do you find that EFA practices have improved, stayed the same, or gotten worse? Be specific in your reasoning.
3. Critique of a scale validation article. Originally, I was just going to assign you an article, but I think it would be more valuable to have you choose a scale validation piece within your area of interests. That said, if you want some examples, here are 4. The assignment is to act as if you were the reviewer. You will focus on all aspects of scale development from the Hinkin article. You will highlight what they did right, wrong, and did not report. You can critique all aspects including the construct validity, reliability, sample used, data collection, EFA, etc. Anything that we have covered this semester (e.g., systematic and random error) can be incorporated. Reviews at top journals usually run about 1 ½ to 2 pages single space, but take as much room as you need.
 - a. Kapoutsis, I., Papalexandris, A., Treadway, D. C., & Bentley, J. (2015). Measuring Political Will in Organizations Theoretical Construct Development and Empirical Validation. *Journal of Management*, 0149206314566460.
 - b. Bennett, R. J., & Robinson, S. L. (2000). Development of a measure of workplace deviance. *Journal of applied psychology*, 85(3), 349.
 - c. Lewis, K. (2003). Measuring transactive memory systems in the field: Scale development and validation. *Journal of Applied Psychology*, 88(4), 587-603.

- d. Dahling, J. J., Whitaker, B. G., & Levy, P. E. (2009). The Development and Validation of a New Machiavellianism Scale. *Journal of Management*, 35(2), 219-257.

Session 12: Confirmatory Factor Analysis Part I

Required readings:

Weston, R. & Gore, P. A. (2006). A brief guide to structural equation modeling. *The Counseling Psychologist*, 34, 719 – 751.

Anderson, J.C., & Gerbing, D.W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103, 411-423.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal*, 6(1), 1-55. **ONLY READ pp. 27-28**

Edwards, J. R., & Bagozzi, R. P. (2000). On the nature and direction of relationships between constructs and measures. *Psychological methods*, 5(2), 155.

Review this website: <http://lavaan.ugent.be/tutorial/cfa.html>

Assignment questions:

Read Anderson and Gerbing (1988). Review the distinctions between exploratory and confirmatory factor analysis, and pay particular attention to the correspondence between the confirmatory measurement model and the notion of true score and error variance in classical test theory, the meaning and importance of unidimensional measurement, and the concept of a two-step modeling approach. Then, read Edwards and Bagozzi (2001), which identifies various models relating constructs to measures and discusses criteria for choosing among those models. Discuss the implications of these models for developing and evaluating measures in your area.

Find a dataset (any quantitative dataset will be fine, but do not use the preloaded CFA examples in R) and conduct two CFAs using lavaan (the website from above is a step-by-step walkthrough). Your model should be a basic one with at least 2 factors with at least 3 indicators per factor. It's not absolutely necessary, but try to pick factors that have strong, positive correlations with one another. Report the summary statistics for each model (you can copy and paste the "summary(fit, fit.measures=TRUE, standardized=TRUE)" statement, but I also want you to interpret the findings. Did the model fit well? Did the indicators appropriately load onto their respective factors? Would you recommend revising the model? The second model you run should be on the same data, but instead of running a 2+ factor CFA, I want you to have all the items load onto a single factor. Report and interpret the same way as the first CFA.

Session 13: Confirmatory Factor Analysis Part II

Required readings:

Thanksgiving Break—before class, review the readings and class material from previous class.

Session 14: Confirmatory Factor Analysis Part III

Required readings:

Little, T. D., Rhemtulla, M., Gibson, K., & Schoemann, A. M. (2013). Why the items versus parcels controversy needn't be one. *Psychological Methods*, 18(3), 285.

Cortina, J. M., Green, J. P., Keeler, K. R., & Vandenberg, R. J. (2016). Degrees of freedom in SEM: Are we testing the models that we claim to test? *Organizational Research Methods*, 1094428116676345.

Tomarken, A. J., & Waller, N. G. (2005). Structural equation modeling: Strengths, limitations, and misconceptions. *Annu. Rev. Clin. Psychol.*, 1, 31-65.

Assignment questions:

1. Using the dataset posted on Canvas, run a CFA and SEM with at least 4 exogenous variables, at least one mediator, and at least one outcome. Report the chi-square and accompanying fit statistics for the CFA, the fully mediated model, and one alternative, partially mediated model. Regarding the 2 SEMs, which model would you retain and why.
2. Identify 2 recently (last 5 years) published studies in leading journals in management or in your field that used SEM. Report the chi-square, sample size, degrees of freedom, and RMSEA for the CFA and their final model (whichever one they retained). From their methods and results section, determine if the degrees of freedom can be recalculated for the final model. Please show your work. That is, determine the number of indicators in the total model to calculate the available degrees of freedom, then subtract the number of estimated paths in the model. This number should match what the authors reported. If it does not, describe why you think this might have happened.