Global Behavioral Science
Psyc UN1990 (4 Points) | Spring 2025

Course Information
Schermerhorn ???
Tuesdays 2.10-4.00pm

Instructor Information
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Office hours: Send Zoom requests, preferably for Tuesdays between 9 and 1

Bulletin Description
This course builds on fundamentals of psychological and behavioral science by exploring generalizability and replicability on a global level, while still testing novel ideas and application. Students will learn from a wide range of studies and their real-world implications, while having the chance to contribute to original research through an interactive program in which much of the content comes high-impact publications from previous cohorts.

This is a hands-on class: you will develop, work on, and present the design of a study that will be carried out shortly after. There is no requirement to participate in that study or intend to pursue research in the future; this seminar is for those that are excited about the opportunity to blend theory, discussion, methods, and real-world application of behavioral science at a large, international scale.

Course description
This course transitions students from learning about fundamental theory and methods in psychology to learning about their applications in science and real-world settings around the world. At its core, it is a behavioral science class focusing on the design and development of reproducible psychological research. This involves further review of theory already covered in previous courses as well as exploring new topics along with their real-world applications. For example, how did social norms go from an experimental question in a laboratory to changing policies from investments to household energy consumption? Furthermore, this course is explicitly about reviewing behavioral research on a global level, including replications (successful and failed) and attempts to apply to policy around the world.

In years past, participating in this seminar course gave students the opportunity to work within the Junior Researcher Programme (https://jrp.pscholars.org), completing a three-week practicum at the University of Cambridge in the summer. Going forward, priority for the summer activity in Cambridge will go to students that complete this seminar course, but it is not mandatory to participate in both.

Prerequisites
Students should have completed at least one semester of research methods and/or one semester of statistics, and at least 16 credits in a behavioral subject (psychology, neuroscience, cognitive science, economics, sociology, public health, or public policy). Students that have not met these requirements but are interested in the program should contact the instructor as early as possible.

Enrollment limit is 30. Everyone interested is encouraged to register. This course is developed for a diverse student body. Students from outside the US and/or non-native English speakers, students from parts of the US that are often missed in social science, and students generally interested in global understanding of research are highly encouraged to join the course.

Role in the Psychology Curriculum

This course is designed to give advanced undergraduates in behavioral sciences a hands-on opportunity to apply their training toward strong theoretical research in the real world. This means they will explore theories beyond the initial publications, critique their potential for replication in controlled and natural settings, and contribute to the development of a real study that will be tested in other languages and settings. For example, do cognitive biases like the sunk cost fallacy or loss aversion impact long-term, real world individual economic outcomes?

- For the Psychology Major, PSYC UN1990 will fulfill the special elective requirement.
- For the Psychology Certificate program, credits from PSYC UN1990 can be applied towards the 28 program credits.
- PSYC UN1990 cannot be applied to the Neuroscience and Behavior Major.

Motivating Questions

1. Which major concepts in psychological science replicate in meaningful ways *globally*?
2. What makes psychological research more or less reproducible in new settings?
3. What are the real-world applications and implications of more reproducible methods in behavioral sciences?
4. Can students achieve a high-impact study in a semester by learning and applying questions 1-3?

Course Overview

The four-credit course introduces students to the importance of reproducibility in psychological research methods on an international scale using high-power samples along with meaningful measurements. It will fit into the expanded Psychology Department curriculum (https://bit.ly/2Si3e5j), which explicitly advances training in statistics, research methods, experimental design, and other inferential techniques in empirical studies. Students learn the challenges in implementing and validating methods across languages and populations, as well as the value of replicating research findings.

There will be a strong emphasis on critiquing, adapting, and validating the testing measures and interventions used in behavioral sciences around the world. Students also gain experience with translation (conceptual and linguistic) of measures, with course material including the direct evaluation and critique of past JRP projects. Specific methodological topics include model equivalence, measure invariance, multiple components of validation and cross-validation, and method design for replication. Materials for many of these have recently been produced by the Center for Open Science, and are freely available online.

By the end of the course, students will contribute to the design of a proposed international study - original settings as well as new locations and languages. Students also learn why reproducibility in new settings can have a major impact on policy. The course includes the following sections:

Section 1: Introduction to international research methods and collaborations (Sessions 1-3)
Section 2: Introduction to research translation and behavioral policy (Sessions 4-8)
Section 3: Instrument design and development (Sessions 9-12)
Presentation of completed work (Sessions 13-14)

Specific sessions are detailed later.

Course Objectives

1. Students will gain deep understanding and practical experience in behavioral science, including the translatability of findings between settings as well as the reproducibility of methods.
2. Students will learn a broader range of behavioral interventions and measurement techniques by exploring a global caseload of theory and empirical studies.
3. Students will produce their own study material based on a research protocol that will be provided to the group early in the course and discussed throughout.
4. Students will contribute as co-authors to a full manuscript for submission to a behavioral science journal (optional).

Course Organization

Class

This class meets once per week. All sessions are 1 hour 50 minutes, and consist of brief introductions, discussion of assigned readings, informal case presentations, and practical activities regarding the design of interventions and measurement approaches. This class will be highly interactive and requires that everyone come prepared for all sessions. Considerable classroom time will be dedicated to working on individual project assignments to be submitted for the final materials; all sessions will involve content that must be reflected in those assignments. Students will also be given administrative tasks focused on project management, which is meant for realistic exposure to conducting research.

All course reading materials will be based on published scientific articles listed for each session.

Graded work

Attendance. Attendance at all sessions is mandatory and accounts for 10% of the total grade. It is expected that all students attend actively, meaning there must be clear engagement in discussions and presentations. Practical sessions will be the best opportunity for this as there will not be a formal assignment, but instead, the entire group will work through a given issue or article in order to design improvements that can be applied to course projects. Absences will be excused only for valid personal reasons, and the instructor must be consulted in writing as early as is possible, depending on the situation.

Paper Discussions. All students should anticipate being asked to participate and/or lead discussions on the assigned readings. Because this is very much a practical course, all readings apply directly to the material being developed and therefore are mandatory.

Project materials. The primary piece of work for this course will be a completed Qualtrics instrument of a real study. To move toward this, students will submit draft versions of each element. “Draft” does not mean poorly formatted or incomplete – it should be presented as though it could be final but will not be graded as though it cannot be improved. Students will then review and provide feedback to each other in the group as a graded exercise. All students will be individually responsible for a country and/or language. Students are not required to speak a second language to complete this. As all aspects of the study build into the final instrument, this will be the primary piece of submitted work for the course.

Grading

Participation: 30 points
Draft project materials: 10 points (Due ahead of Session 11)
Collaborator reviews/checking: 10 points (Sessions 11 and 12)
Completed final project materials: 50 points (Due ahead of session 13)

Participation is fundamental. Every student should come to sessions intending to share views, debate, discuss, disagree, compromise, and so on. The expectation is that prepared lecture material will rarely be covered in-full as discussions of the material covered will take priority. The most basic form of participation is providing critical summaries of the materials covered (students should anticipate being asked to do this for any required material to begin discussion in any session). Simply attending class is not sufficient to receive full credit; students are urged to be full participants in every discussion. **If you are concerned about receiving full credit, it is urged that you come to all classes with prepared notes (even slides) of the required reading and other thoughts or materials considered prior to class.**

There is no extra credit for this course. Students must attain a B or higher to remain eligible for the overseas/summer aspect of this program. Borderline grade changes will only be considered for students with 100% attendance (excluding excused absences). Grading standards will be 90-100 (A), 80-89 (B), 70-79 (C), 60-69 (D), and <60 (Fail) scale will be used. Specific class ranking will not be used to determine eligibility for summer program.

Class Policies

Attendance at all sessions is expected. Only genuine emergencies are excused (illness, family emergency, etc.), or religious holidays. Students with academic or other mandatory scheduling conflicts must notify the professor *in writing* at the earliest possible moment (students are strongly discouraged from raising these issues in the classroom for privacy and consistency reasons). Anyone with care duties may of course speak with instructor about having a dependent in the classroom. Unexcused absences will be dealt with on a case-by-case basis; where significant engagement has been missed, it will lower participation grades (proportional to the material missed).

A student with a sudden emergency should submit completed work and seek information on possible extensions; last-minute extension requests where no work has been completed will not be considered. Late assignments are marked down 10% at the moment they are late based on the score assigned, then an additional 5% for every day. For example, an assignment due on Monday but submitted Wednesday that receives a grade of 30 will have 20% deducted, meaning it receives only 24 points in the end. Anything not submitted during the week it is due will be given a 0. Exceptional cases will be reviewed individually.

All sessions will be held in-person except if arranged otherwise. Students should make arrangements in advance to ensure they have a sufficient setup for participating in class.

Policy on AI use

AI is now unambiguously part of both the academic experience as well as all forms of scientific research. As such, this course takes a unique position by *encouraging the use of AI with clear and non-negotiable boundaries that will result in course removal if disregarded.* The general guidelines can be generally broken down as:

1. Students may use any tools deemed necessary in the development of ideas, instruments, resources, writing, in this class and for the associated materials **provided that any content of any kind not directly produced by their own work is explicitly noted.**
2. Students acknowledge that AI is a non-reliable resource when dealing with the level of accuracy and precision expected within training on an advanced academic subject. Any insights gained in the use of AI (or similar tools) must be fact-checked; failure to do so is the fault of the student, not the tool.
3. **At no point can any material be used that was not produced by the student**. That is, students may use all tools as they develop, draft, revise, and submit their work. However, the final work must come from the student. For example, a student may use AI to search for material, seek summaries of topics or articles, or assist with instruments. That material may be used to inform writing that the student produces. The writing may be put through an AI tool to check grammar, writing quality, referencing, etc. However, the final material must be 100% student-produced.
4. **Students are actively encouraged to find efficient ways to identify sources and tools**. This is not limited to AI, but AI may be used provided that students understand that there is a high probability one, many, or all insights produced through generative AI (and similar tools) may be fundamentally, systematically, or narrowly flawed. In plain language: AI can produce completely made up information, can provide completely biased information, or can simply get the specific facts wrong within otherwise correct sources. **If they use this information uncritically, the nature of this course means they may automatically fail.**

In summary, students are allowed and actively encouraged to make use of a wide range of tools in this course. However, they are responsible for making that use explicit and transparent, citing and crediting it, and most critically, ensuring any material produced is accurate. But all submitted work must be their own original content.

Academic Integrity

Academic honesty includes presenting only your own work in exams and assignments, and correctly attributing others' ideas where appropriate. Taking credit for work that is not your own is a serious violation within the academic community, and anyone found to be cheating or plagiarizing in this class will be reported to the university. Detailed definitions and examples of academic dishonesty (and a rundown of the consequences) are available in Columbia's Guide to Academic Integrity (http://www.college.columbia.edu/academics/integrity)—it might not be the most riveting text on the internet, but since you'll be held to it, you should probably give it a read.

It is assumed you are here because you're interested in the course topics and enthusiastic to learn as much as you can. We understand that reality can get in the way of studies. Please make sure you speak with me about any issues before they get so bad that they become overwhelming, or create a scenario in which cheating or plagiarism feels like your only option.

As a general rule, it is always better to over-cite, be extremely transparent, and generally practice integrity in your work. Please speak to me if you have any doubts about this. You may also consider speaking with:

Your academic advisor or dean

One of the Psychology Department's Directors of Undergraduate Studies (Trisha Lindemann)

Counselors at Columbia's Counseling and Psychological Services
http://health.columbia.edu/services/cps or https://psychology.columbia.edu/content/advising

Students with Disabilities

Students with special needs who may require accommodations should make an appointment to see me as soon as possible, at least by the end of the second week of class. If you have not already done so, stop by the Office of Disability Services (ODS) on the 7th floor of Lerner Hall to register for support services. ODS often requires two weeks to process an application, so please contact them as soon as you can, preferably before the course begins.

Individual session descriptions

Pre-course readings (read in this order; to be discussed and referred to in multiple sessions)

Read first: Kahneman, D., & Tversky, A. (1979). Prospect Theory: An analysis of decisions under risk. *Econometrica, 47*(2), 263-291.

Read second: Ruggeri, K., Alí, S., Berge, M. L., Bertoldo, G., Bjørndal, L. D., Cortijos-Bernabeu, A., ... & Gibson, S. P. (2020). Replicating patterns of prospect theory for decision under risk. *Nature Human Behaviour*, 1-12. https://www.nature.com/articles/s41562-020-0886-x

The purpose in reading these is to look at a fundamental theory in behavioral science and both understand the work that developed it but also decide what critiques you have about the original method and reporting. Then you should see how a contemporary approach, involving a much broader sample with more sophisticated analytical and reporting methods does or does not address those critiques.

Session 1 – Course introduction, syllabus review, administrative planning for term/summer
This session will introduce students to the wider GLOBES program, partnership with the JRP, timelines for the semester and practicum, and clarify course expectations.

Discussion papers (read before session):

Nosek, B., & Errington, T. (2019). What is replication? https://doi.org/10.31222/osf.io/u4g6t

Tasks (after session):

Identify top three countries/languages for possible work

Select and review a published study protocol or pre-registration in decision-making (ideally one with a now-published study, or at least preprint)

Session 2 – Introduction to global collaborations
The objective of this session is to evaluate approaches to running multi-country, multi-lingual studies with large collaborations based around the world. We will use two papers from prior GLOBES cohorts as the focal point.

Discussion papers (read before session):

Ruggeri, K., Većkalov, B., Bojanić, L., Andersen, T. L., Ashcroft-Jones, S., Ayacaxli, N., ... & Folke, T. (2021). The general fault in our fault lines. *Nature Human Behaviour*, *5*(10), 1369-1380.

Ruggeri, K., Panin, A., Vdovic, M., Većkalov, B., Abdul-Salaam, N., Achterberg, J., ... & García-Garzón, E.. (2022). The globalizability of temporal discounting. *Nature Human Behaviour*, *6*(10), 1386-1397.

Većkalov, B., Geiger, S. J., Bartoš, F., White, M. P., Rutjens, B. T., van Harreveld, F., ... & van der Linden, S. (2024). A 27-country test of communicating the scientific consensus on climate change. *Nature Human Behaviour, 8(10)*, 1892-1905.

Tasks (after session):

Begin study logbook with relevant guidance/details

Identify ten collaborator institutions/experts/junior researchers from selected country

Review fundamental social and economic data for selected country

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Session 3 – International collaborations for early career behavioral scientists
The objective of this session is to introduce students to the opportunities and challenges involved in leading large-scale research involving an international team specifically involving students.

Discussion papers (read before session):

Jarke, H., Anand-Vembar, S., Alzahawi, S., Andersen, T. L., Bojanić, L., Carstensen, A., ... & Geiger, S. J. (2022). A roadmap to large-scale multi-country replications in psychology. *Collabra: Psychology*, *8*(1), 57538.

The collaboration behind the replication: https://go.nature.com/34bzDyV

Behind the scenes of a large-scale research collaboration: https://bit.ly/3micLUW

Tasks (after session):

Contact researchers from previous GLOBES/JRP papers that worked on your country to seek recommendations

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Session 4 – Appropriateness, ethics, and IRB
In this session, students will shift from theoretical to practical aspects of conducting behavioral research. The instructor will introduce students to consider ethical, cultural, and legal oversight as they develop an behavioral study on an international level.

Discussion papers (read before session):

Chater, N., & Loewenstein, G. (2023). The i-frame and the s-frame: How focusing on individual-level solutions has led behavioral public policy astray. *Behavioral and Brain Sciences*, *46*, e147.

Also read commentary responses for the above paper in the same edition – there are a large number and you should select a few.

APA International Research brief

Tasks (after session):

Review past GLOBES IRB applications

Review supplemental notes from GLOBES studies 2020-2023 for country-specific ethics topics

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Session 5 – Studying economic and financial behaviors in the real world
In this session, we will review cases from two textbook chapters looking at experimental designs for financial decision-making, both for traditional controlled studies as well as those conducted in real-world settings. These cases will demonstrate why testing replicability in global studies is so valuable.

Discussion papers (read before session):

An introduction to behavioral economics. In *Psychology and Behavioral Economics* (pp. 36-49). Routledge. (via Columbia)

Economic, financial, and consumer behavior. In *Psychology and Behavioral Economics* (pp. 50-70). Routledge. (via Columbia)

Tasks (after session):

Ensure you have working access to a Columbia Qualtrics account

Begin drafting literature review/background material (due before session 11)

Session 6 – Translation & Instrument building for online experiments
Students will be introduced to the Qualtrics platform for building survey/experiments for online data collection. We will also discuss the different data collection platforms and the fundamental of forward-and-back translation for behavioral research.

Discussion papers (read before session):

Casler, K., Bickel, L., & Hackett, E. (2013). Separate but equal? A comparison of participants and data gathered via Amazon's MTurk, social media, and face-to-face behavioral testing. *Computers in Human Behavior*, *29*(6), 2156-2160.

Peer, E., Brandimarte, L., Samat, S., & Acquisti, A. (2017). Beyond the Turk: Alternative platforms for crowdsourcing behavioral research. *Journal of Experimental Social Psychology*, *70*, 153-163.

Palan, S., & Schitter, C. (2018). Prolific. ac—A subject pool for online experiments. *Journal of Behavioral and Experimental Finance*, *17*, 22-27.

Students should also re-read the recruitment/data collection sections from all recent GLOBES papers

Tasks (after session):

Request access to group Qualtrics experiment tool

Identify and coordinate translation team

Recruit soft-launch (~10-30) participants for completing pilot after double-checking

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Sessions 7-9 – References, sunk cost fallacies, opportunity costs

In these sessions, we will cover the theory and methods behind the specific psychological constructs of interest for our application. To do this, we will focus on three well established paradigms and why they remain unanswered. NOTE: Students will have the option of determining an alternate theme for study. This will be discussed in early sessions. If a change is agreed, readings for sessions 7-9 and specifics of subsequent topics will be adapted.

Readings (before session):

Tversky, A., & Kahneman, D. (1991). Loss aversion in riskless choice: A reference-dependent model. The quarterly journal of economics, 106(4), 1039-1061.

Keller, L. R., & Wang, Y. (2017). Information presentation in decision and risk analysis: Answered, partly answered, and unanswered questions. *Risk Analysis*, *37*(6), 1132-1145.

Persson, E., & Tinghög, G. (2020). Opportunity cost neglect in public policy. *Journal of Economic Behavior & Organization*, *170*, 301-312.

Ronayne, D., Sgroi, D., & Tuckwell, A. (2021). Evaluating the sunk cost effect. *Journal of Economic Behavior & Organization*, *186*, 318-327.

Tasks (after sessions):

Download base survey version for offline translation

Begin adaptations for local and cultural appropriateness

Review demographic measurements from prior GLOBES studies and challenges presented

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Session 10 – Guest Speakers: Dr Sarah Ashcroft-Jones (CUIMC) & Dr Sandra Geiger (Princeton)
The objective of this session is to introduce all students to the Summer 2026 GLOBES project. While the topic and theme will be different from those discussed during this semester, the skillset will be the same.

Readings & Tasks will provided to the students ahead of the session

Task (after session):

Complete Qualtrics instrument and final draft writing (due before session 11) and be prepared for double-checking in following session

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Sessions 11-12 – Reviewing, fact-checking, providing constructive feedback
This will be an entirely practical session in which all students must have their completed instruments checked by classmates. All material should be completely ready for roll-out and only minor issues should be identified.

Task (after session 11):

Once instrument is approved by instructor, circulate with X0 participants to complete pilot

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Sessions 13-14 – Present Instruments

The presentation sessions are mandatory and all students must be actively involved. All students will present a completed instrument and study protocol for a second country/language, as well as the

simulated pilot results from earlier testing. The instrument must be fully functional for data collection for an experimental, multi-country study for future data collection (optional participation).

Summer activity

Students admitted to GLOBES will have priority if they apply to participate in the summer practicum. Travel dates will be confirmed later (typically late July/early August) but may involve options in the UK and potentially in Italy. The primary activity will be the delivery of a multinational replication project as chosen by the group. Some sections of the course will use that study as an example for design, but it is not mandatory that all seminar participants contribute to it. This project will be led by Columbia faculty but activities, circumstances permitting, will be completed at the University of Cambridge. Plans on this will be posted later once final details are known.