



S052 (01)

**Intermediate and Advanced Statistical Methods for
Applied Educational Research**

2019 Spring

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What are the most valuable things you have gained from this course?
Possibilities may range from acquisition of concrete skills or knowledge to changes in perspective or ways of thinking.

The most valuable thing I've gained is a deeper understanding of both statistical methods and how you continue to develop statistical knowledge beyond what was presented in class.

Much better understanding of Stata and how to apply quantitative analytical skills to data.

Analytical ways of thinking, working with peers, greater fluency in the methods and language of data analysis and statistical inference. Greater comfort with Stata. Written communication skills to summarize findings from quantitative methods.

I learned a lot of different approaches that can be used in data analysis.

Multi group analysis and logits!

Data analysis, summarizing and explaining findings

This course gave me more confidence to work with complicated/real world data. It also helped me think through career choices and pathways. One of the most valuable courses in my HGSE careers.

The most valuable thing I gained from the course was an increase in my growth mindset to truly believe that I can do advanced statistical analysis. Regardless of if and how I use the technical knowledge I acquired in this course in my future career, this itself was extremely valuable for me.

I knew absolutely nothing about statistics before taking s40 in the fall. I learned so much in this class, both about the course content and myself.

This is the best class I took at HGSE. I can actually understand educational research!

I gained so much from this course. I built upon the skills I learned taking S040 and expanded upon them by learning multilevel modeling, logistic regression, survival analysis and topics related to measurement. I also gained a greater appreciation for how to communicate findings to both technical and non-technical audiences. Finally, I gained significant practice in writing up findings and constructing arguments that are supported in data.

The most valuable things I learned was how to understand a P-Value and be less intimidated by attempting to understand STATS while I'm reading through the materials.

Hard data analysis skills using Stata, a deeper understanding of how to interpret and communicate findings from analysis, and a theoretical understanding of various data concepts (especially multi-level models). The ability to read and understand research findings and reports. It really helped me to cement the concepts from S-040 and take a deeper dive into stats. Marketable research and analysis skills that are very helpful in the job search as well!

Understanding of multi-level models. Ability to write more confidently about statistics to audiences with varying stats knowledge.

Confidence in my quantitative abilities, STATA practice, and a broad understanding of advanced statistics!

- I have improved my skills in conveying complex statistical analysis to a "naive but intelligent" audience
 - I have gotten better at understanding statistical model building processes
 - I have improved my Stata coding skills
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Communication is important

Learning style helped us truly learn the concepts, focus on communicating the numbers helpful, also focus on being critical of models and understanding real world implications of models.

- data analysis
 - multilevel modeling
 - survival analysis
 - logistic regression
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I am very glad to have taken this course, because I now feel like I can pick up any research study and understand at least the language used to describe the methods section. Understanding multilevel models, logistic regression, survival analysis, and some basics of measurement is absolutely essential to this! Even if you don't want to go into quantitative research, the skills in S052 are really valuable and Andrew makes it accessible, even to people who don't want to continue with statistics.

Applied data analytics (less phobic and more well-versed to STATA)

Increased facility with the language of statistics and data analysis. I'm comfortable exploring data, running tests and discussing the output. I also learned quite a bit about having patience as a student -- the importance of going over material many times before expecting to fully comprehend it.

All the stats! As is well-known at HGSE, the quant sequence really focuses on interpretation and writing for the layperson. SUPER valuable.

Extension of S40

Applied statistical knowledge. More confidence with my math and stats skills.

This is an incredible course! Professor Ho covers quite a bit of material, but all of it is taught very well. I learned about logistic regression, post hoc tests, survival analysis, multilevel models, and measurement.

The course provided a good foundation to understand quantitative papers in the future.

- 1) How to persist in learning challenging material
 - 2) How to collaborate effectively
 - 3) How to write and speak about statistical analyses
 - 4) How to communicate findings to a variety of audiences
 - 5) Built on Stata knowledge from S-040
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Exposure to new ideas in the field of statistics

EVERYTHING - I gained so much knowledge from this course on quantitative data evaluation, statistics, Stata, research, etc.

We learned a lot of specific concepts: multilevel modeling, random intercepts, logistic regressions, survival and hazard probabilities. But more than anything, this class made me excited about learning new statistics concepts. It also made me feel like I could do my own statistical analysis, even if I don't know all the methods because I know how to approach a problem and I know where to look for support. Best stats class ever!

Quant skills, critical thinking, ability to understand a research paper, stats in general. This has been the best course I have taken at HGSE by FAR!

How to apply statistical methods in educational settings.

Ability to substantively interpret and explain statistical findings.

This course helped me develop stronger data analysis skills and made me more comfortable using Stata.

To not fear statistics

A deeper understanding of statistics, and how to learn statistics.

I have gained a deep understanding of statistical methods and am able to apply these methods to analyze real data sets.

The statistic language to interpret the data, and how to communicate with the audience.

The course provides a very good comprehensive study of intermediate and advanced statistical analysis. Professor Ho is a very effective lecturer and does his best to explain very complicated materials to students. He is very accessible and always is patient when answering questions.

This class was a really critical second step in my data analysis training and statistical understanding. I feel I am able to dig into much more of the nuance of intervention findings now and have a comfort discussing numbers and outcomes thanks to this course.

Solid skills in data analysis and the ability to write a sentence with numbers in it.

The ability to be able to understand and navigate a world of statistics that has long felt like a black box

All the skills learnt in the class were immensely valuable. Those helped answer some of the questions in the interviews.

Different types of statistical analyses, e.g. logistic regression, multilevel modelling, principal components analysis

The mentality that I can do stats

Each unit taught me concrete skills -- literally every unit provided valuable skills.

This is difficult to answer as we learned so much! But to recap, understanding different types of statistical modeling, understanding Logits, life-hazard models to name a few. But more than that, the course leaves you with a good sense of comfort and confidence with statistical analysis and interpretation.

Understanding variables, regressions, figuring out what are the important factors that influence a research question

statistical inference

learning to read statistics in research papers and understand more what they mean

Interpretation of numbers

In-depth knowledge of how to use stata and do.file proficiently, and other statistical methods, gave me a differ perspective on a lot of methods that I had already learned in PH courses

I gained much more fluency in quantitative data analysis and definitely improved my ability to write about quantitative findings.

I learned about multi-level modeling and PCA.

Really good understanding of (and appreciation for) all the statistical concepts we reviewed, an understanding of statistics as a general discipline (its limitations, strengths, and how it should--or should not--be used), increased confidence in interpreting research papers, general enjoyment for stats!

A variety of new analytical concepts and approaches, the importance of exploratory data analysis, and "how to write a sentence with a number in it"! Also, using real data sets and doing original analysis were great opportunities! I also appreciated that we actually discussed educational data.

Wow, so many things. Learning specific statistical knowledge (e.g. multilevel modeling, survival analysis, logistic regression) and much more confidence with thinking/writing about findings.

Many concrete skills/new statistical approaches, including 1) assumptions behind these approaches 2) underlying algebra 3) graphical depictions and 4) writing and communicating results of analyses. This course has a strong emphasis on writing and communicating stats, which I found valuable.

This course really boosted my statistical literacy and equipped me with new data analytic skills that will prove useful in a wide range of quantitative research. I also improved my coding skills using Stata throughout the course.

I definitely left this course with a much better understanding of how to interpret more complicated regression models. Also, while I don't think I'm fully able to construct my own multi-level models yet, I feel like I'm well on the way.

Acquisition of statistical skills - including how to "write" statistics well, which is super helpful.

I definitely gained a lot of concrete skills in analysis not only conceptually but also technically that are necessary for my research interests.

More concrete statistics skills. Topics included multilevel modeling, logistic regression, post hoc testing, survival and hazard analysis, and causal inference. Also continued experience in Stata.

I have learned a new way to learn statistics and paid much more attention to how we interpret the models with the numbers than before.

Can better understand and critically evaluate academic papers

More in-depth knowledge on statistis

At the course previews Andrew Ho used the analogy of S040 as learning how to speak rudimentary statistics and S052 of learning how to speak statistics more fluently. I found that analogy to be so, so true of this course -- with a year of the quant sequence, I feel comfortable thinking about what questions statistical methods can answer in my work, and know either how to use those methods or how to approach learning about them -- but also that I know where some of the limits to quantitative analysis are.

learning how to communicate statistics

Learning to observe, analyze and (perhaps most important) communicate data in authentic ways.

I gained a set of analytic tools to help me produce and consume quantitative research.

Stata, statistical methods, analyzing and writing inferences from data

How important storytelling is, dissecting difficult statistical language into something more concrete, easy to interpret.

improved understanding of the things listed in the Syllabus. A better understanding of statistical analysis.

A perfect introduction to the world of data analysis.

I finally feel competent in stats. A lot of arcane concepts that I had never fully understood are now part of me. I also think that the topics that we learned are really useful for a number of real-world applications. The problems sets are a useful reference for the future, they are real research problems, and we did 7 of them. You can always go back to them to revise the material.

I got mastery of 5 key methods in intermediate and advanced statistics that will prove invaluable for my career moving forward. I also gain a discipline to how to study statistics towards the future, and how to think in terms of the discipline.

The ability to understand a variety of regression approaches to understanding data. This has allowed me to understand some of the terminology used in articles related to how the data was analyzed and to feel more confident that I could do a study some time in the future.

Acquiring advanced and highly usable skills in quantitative methods, while staying grounded in the theoretical thinking that is essential to do high quality quantitative research with integrity.

Learning how to interpret and create statistical models. Thinking about how to translate these into writing.

I learned SO many concrete skills, but even more so I gained a huge amount of resources (the lecture slides and discussions and quiet questions!) and a feeling of familiarity with approaching data analysis that I think will be really helpful in the future. Plus, this class made me and my cohort-mates bond over DAMs, and now I feel like I can go to them to talk about stats going forward.

New statistical techniques used in educational research. A much stronger understanding of the theory behind statistics, and what you need to do to generate effective research.

So many different research skills

Statistical Methods
