

What You Gain with an I/O Psychology Master's and Advanced Quantitative Methods Certificate

Recent graduate Ally McGinley on what it's like to study Industrial/Organizational Psychology and why she chose Montclair.

What inspired you to pursue a master's in Industrial/Organizational Psychology and certificate program in Advanced Qualitative Psychology, and how did you know it was the right fit?

In the Industrial/Organizational (I/O) psychology field, one of the core competencies of an I/O practitioner is understanding statistical methods and data analysis. I/O practitioners must be able to understand how data is related to employee insights. Such insights require knowledge of data cleaning, data transformation, visualizing data, and the advanced statistical methods that are offered in the Advanced Quantitative Methods of Psychology certificate. The combination of the M.A. and the certificate was ideal for me, as the course requirements for both aligned well. To complete the certificate, I needed to take three additional classes - one extra class per semester—bringing my total to four classes per semester. Fortunately, my graduate assistantship (GA) covered tuition for up to 12 credits per semester, allowing me to take the extra class without additional financial burden. Since I did not plan to pursue a Ph.D., I believe that earning both the M.A. and the certificate has made me a more competitive candidate in the job market.

What career goals led you to combine I/O Psychology with the Advanced Quantitative Methods certificate?

Combining I/O Psychology with the Advanced Quantitative Methods certificate has helped me achieve key career goals, including developing strong competencies in statistical methods, data handling, and data cleaning to ensure high-quality data for analysis. Through this combination, I gained intermediate proficiency in R Studio and became more comfortable working with other programming languages such as JavaScript and HTML. These skills allow me to assess the quality of data and draw meaningful inferences - abilities that are essential in both research and applied settings like HR analytics. In addition to being confident in R Studio, I'm also capable of identifying and resolving coding discrepancies in other languages, making these skills highly transferable to a wide range of roles in the workforce.

How has the Advanced Quantitative Methods certificate challenged you to grow as a researcher or analyst?

The Advanced Quantitative Methods certificate has significantly challenged me to grow as both a student and an analyst by deepening my understanding of complex statistical techniques, particularly in analyzing nested data. It pushed me to be more intentional and thorough in ensuring data transparency such as checking for violations of linear regression assumptions, appropriately handling outliers, and applying data transformations when necessary. One key area of growth has been in data visualization. I've learned how to communicate complex findings clearly and effectively through visuals, a skill that is highly valuable in applied settings where I may be responsible for presenting data-driven insights to leadership or team members in a way that is both accurate and engaging.

Can you describe a research project where your training in advanced quantitative methods made a big difference?

My training in advanced quantitative methods was essential in a research project I conducted at Montclair's Cognition and Decision-Making Lab. I explored how individuals' social value orientation, whether they prioritize personal gain or the welfare of others, impacts group satisfaction in business management decision-making contexts. Using multilevel modeling, I examined the effect of social value orientation at both the individual and group levels. This approach allowed me to assess how group satisfaction varied based on the average social value orientation within groups, while controlling for other factors such as group size. Multilevel modeling was critical for this analysis, as the data were nested, which is a common structure in organizational settings where individuals are grouped within teams, departments, or other structures. This project strengthened my ability to analyze hierarchical data and interpret complex interactions between individual and group-level variables, a skill I now feel confident applying to real-world organizational challenges.

What resources at Montclair helped you thrive in both the I/O Psychology program and the certificate track?

At Montclair, the support of my peers in the Quantitative Methods certificate program and the I/O Psychology faculty played a key role in helping me thrive in both tracks. One of the most important aspects of mastering quantitative skills was the ability to apply them in practical settings. I was able to use R Studio in non-statistics-focused courses like Psychometrics to assess scale reliability and validity, and in my graduate assistantship, where I merged datasets and ensured data accuracy. When I encountered challenges, I could rely on my I/O peers for support and attend Dr. Bixter's office hours for help with coding issues that would otherwise slow down my progress. Another resource that proved valuable was the broader online data science community. I frequently consulted shared code and tutorials to help solve problems and deepen my understanding. Additionally, using AI tools helped me learn advanced coding techniques and complete complex analyses more efficiently. Beyond statistical skills, I gained the ability to leverage AI technology, an increasingly important capability in today's data-driven organizations.

Was there a particular class or professor that shifted your perspective or made a lasting impact on you?

The course Data Science for the Social Scientists had a lasting impact on me. It not only deepened my understanding of statistics but also provided a formal introduction to R Studio. One of the most engaging skills I developed was the ability to analyze qualitative data using web scraping and sentiment analysis. For example, I learned how to scrape text data from Google and apply sentiment analysis techniques to extract meaningful themes. What made this experience especially memorable was the opportunity to tailor my learning to my personal interests. I even applied sentiment analysis to the lyrics of my favorite band. This course helped me realize that data analysis can be both rigorous and creative.

How has your experience at Montclair changed your view of what's possible in your career?

My experience at Montclair has significantly increased my confidence in my skills as a professional. I now feel equipped with valuable competencies that can benefit a wide range of organizations. As long as I tailor my experiences and skills to align with an organization's needs, I am confident in my ability to make a meaningful and lasting impact. When I first began at Montclair, I envisioned a career primarily in human resources. While I still have a strong interest in HR, my experiences have expanded my perspective. I feel prepared to pursue roles in data analysis, and consulting, by leveraging both the professional and statistical skills I've developed. Montclair gave me the opportunity to grow not just as a student, but also as a statistician, mentor, team member, and emerging professional. It was more than an academic experience; it was a professional development journey that proved to be a worthwhile investment for those willing to take advantage of the opportunities available.