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Korean-American Military Brat Lands in NH and Seeks to Improve Mental Health Training for Future Pediatricians

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Research Article

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—Claudia R. Maynard

The rain relentlessly threw itself at the classroom window. Scattered quotes, posters, and supplies lining the walls were at dissonance with the organized desks inhabiting the center of the room. From where I stood, a whiteboard hung directly behind me, the carpet beneath began to mold to my shoes, and a projector dangled above the heads of about thirty students.

I searched the eyes of my soon-to-be peers in hopes that I would feel comforted, but the tight ball forming in the pit of my stomach only grew stronger as my confidence dwindled. My family had just moved from Germany to New Mexico. I was fourteen years old, and I was about to introduce myself to the class as the New Girl.

My body continued to heat up, and from time to time I brushed my sweaty palms against my jeans. Having attended eight different schools across the globe while growing up in a military family, it always struck me as interesting that this initial feeling of anxiety would occur with each transition. As I eventually overcame this challenge in high school, I began to focus my energy on helping my fellow peers accomplish the same thing.

Before I began conducting research in college, I performed a literature review to expand my understanding of anxiety and its impact on people's lives. About half of all pediatric patients who receive a psychiatric disorder diagnosis do not enter the mental health care system because "their symptoms are not identified or they are not referred to services by parents, school, or health professionals," according to Jongerden, Simon, Bodden, Dirksen, and Bögels (2014). Early recognition is a crucial part of improving a patient's quality of life, especially in the long term. If

The author, left, tutors UNHM student Sabrina Oliveira on her physics studies. *(Photo by Blanca Santibañez.)*

patients don't receive the treatment they need, it can cause or exacerbate other physical, emotional, or mental issues.

Based on this, pediatricians play a vital role in detecting child anxiety and decreasing its negative outcomes. Unfortunately, Carpenter, Pincus, Bair-Merritt, Perrin, and Mian (2018) found that pediatricians "do not receive an adequate level of training in the evaluation, management, and treatment of anxiety disorders." Furthermore, there is a lack of research in clinical decision making among early career medical professionals.

As a biotechnology major interested in pursuing a career in medicine, I was eager to explore this topic further. Specifically, I chose to consider what personal factors (such as career focus and interest in mental health) might influence the likelihood that a medical resident would diagnose an emotional disorder in a child or refer a child for one. This research emphasizes the need for early recognition of mental health issues and an interdisciplinary approach between experts from different fields, specifically, mental health and primary care.

Joining the Child and Family Lab

Early on in life I became interested in medicine because my father was severely injured in a motorcycle accident, which resulted in a multitude of surgeries and becoming a 100 percent disabled veteran. Upon my graduation from Wheatland Union High School in California, my family decided to move closer to relatives and settled in New Hampshire. During my gap year just after high school graduation, I worked one-on-one with students with epilepsy and Down syndrome as a long-term special education substitute, and also prepared myself to start college at the University of New Hampshire at Manchester.

After my first year at UNHM, a friend from a local Korean church introduced me to Dr. Jason Ahn, from the emergency department at Massachusetts General Hospital (MGH), who allowed me to job shadow for the first time. This experience propelled me to find a way to gain patient exposure to further explore my own medical career. During the summer after my sophomore year, I underwent a rigorous three-week course to obtain licensure as a nursing assistant. Afterward, I was offered a job at Hillsborough County Nursing Home and with the agency Right at Home, directly caring for those with Alzheimer's, Parkinson's, dementia, and spinal injuries. I also began a volunteer role at the Yawkey Cancer Center at MGH and with Patient Support Corps at Dartmouth-Hitchcock Medical Center in Lebanon, New Hampshire. If it were not for UNHM's commuter-friendly campus, I would not have been able to attend classes full-time, work part-time, form connections with faculty, and be close to family.

During this time, I also began my work for Dr. Nicholas Mian, an assistant professor of psychology at UNHM who researches early identification and treatment of child anxiety disorders, including how medical students are trained to evaluate patients' mental health. Mian is the principal investigator of the Pediatric Anxiety Training Study (PATS). As part of this study, funded by the Deborah Monroe Noonan Memorial Research Fund, pediatric medical residents undergo a training program developed by Mian with the goal of improving their evaluation, referral, and clinical decision-making skills for anxiety disorders.

This study enthralled me because of my own experiences overcoming anxiety and witnessing it in the lives of others. I was elated to be offered a volunteer research assistant position under Mian's supervision at the Child and Family Lab at UNHM. Over the next two years, I gained experience in literature review, Institutional Review Board (IRB) approval, statistical analysis, survey development, grant proposals, and conference presentations. This experience culminated in an independent research project investigating the possible influence of medical residents' personal characteristics on certain clinical decision-making factors.

Pediatric Medical Resident Training

Dr. Mian started the Pediatric Anxiety Training Study himself in the fall of 2015 when he developed the training program Early Identification of Anxiety Disorders in Pediatric Settings in collaboration with faculty from Tufts University School of Medicine and Boston University School of Medicine and clinical staff from the Boston University Center for Anxiety and Related Disorders (CARD). The training was designed to improve pediatric residents' ability to evaluate anxiety disorders during primary care visits and to increase their confidence in discussing emotional disorders with families. The content of the training is consistent with the American Association of Pediatrics Behavioral Health Competencies. Collaboration between psychologists and pediatricians is repeatedly recommended by family medicine training programs and the American Academy of Family Practice as an effective strategy to address training challenges, according to Stancin and Perrin (2014).

The training consists of a series of videos, which allows for easy integration into the residency's curriculum. The content emphasizes information and techniques that will most assist pediatricians in identifying a potential problem; evaluating severity; discussing with parents; and making recommendations, including helping the family directly or referring for specialized evaluation. Training videos discuss the signs to look for when assessing a patient, such as defiance/tantrums, prolonged separation distress, and selective mutism (not speaking in certain situations). Participants also watch several role-plays of pediatricians speaking with families to illustrate techniques such as questions to ask, red flags to watch for, and how to talk to parents and children about anxiety.

As a whole, the Pediatric Anxiety Training Study consists of a pre-assessment, then the Early Identification of Anxiety Disorders in Pediatric Settings training as described above, and finally, a post-assessment. In the pre-assessment, medical residents indicate their age, race/ethnicity, professional status, career focus, and interest in child mental health issues. They also complete the Knowledge of Anxiety Assessment, which asks questions such as "Is it very rare for children under the age of 5 to have diagnosable problems with anxiety?" Participants also complete the Perceived Evaluation Skills Assessment, which asks if they agree or disagree with statements such as "I am confident in my ability to evaluate emotional disorders (anxiety, depression)." Furthermore, the residents give feedback on clinical vignettes that involve videos of a physician with a child presenting anxiety symptoms. The medical resident must indicate if the child qualifies for an anxiety disorder diagnosis, how urgently he or she would refer the child for treatment, and the level of interference (how much an issue is impacting the child's life).

Upon completion of the pre-assessment, the residents undergo the Early Identification of Anxiety Disorders in Pediatric Settings training. The post-assessment consists of the same questions as the pre-assessment, excluding preliminary information used to establish medical resident characteristics.

The author conducting analyses in the Child and Family Lab at UNHM. (*Photo by Sabrina Oliveira.)*

Research Methods

Phase I of the Pediatric Anxiety Training Study, conducted in 2016, involved medical residents at Tufts University School of Medicine and Boston University School of Medicine. Phase II, still in progress as of April 2019, involves students from Duke University School of Medicine, Warren Alpert Medical School of Brown University, and Orlando Health. Because the analysis of data collected during Phase II is ongoing, the results I present in this article will reflect what was collected during Phase I.

My research goal was to investigate whether and how medical residents' career focus, interest in child mental health issues, and level of experience influence three clinical decision-making factors: diagnosing, referring, and interference ratings (ratings of the degree to which anxiety affects the child's daily life). The importance of this research endeavor is that we may be able to improve patient outcomes through enhanced physician-education tools. Dr. Mian has been investigating the efficacy of the Early Identification of Anxiety Disorders in Pediatric Settings training (2019), but that is separate from my own analyses.

I performed statistical analysis using the Statistical Package for the Social Sciences (SPSS) software (IBM Corp, 2016). I chose to use data from the pre-assessment to assess any influence of personal factors on the clinical decision-making factors from the clinical vignettes. To evaluate the significance of career focus I performed an analysis of variance (ANOVA). I ran a Pearson Correlation to evaluate interest in child mental health issues, as well as to analyze how level of experience (as determined by whether they were first-, second-, or third-year residents) related to the clinical decision-making means. In addition to independent data analyses, I met weekly with my mentor, collaborated with other students, and attended research conferences.

Results of Phase I Analysis

When it comes to career focus, ANOVA results were significant in that residents who were interested in a career in clinical/primary care—as opposed to academic/emergency medicine—had higher levels of sensitivity in terms of referral urgency and interference ratings (see Figure 1). In other words, those residents leaning toward a career in clinical/primary care reported that the child needed to be referred sooner and that the anxiety was affecting the child's way of life to a greater degree.

Clinical Decisions	Clinical/Primary Care Focus - Mean	Academic/Emergency Medicine Focus - Mean	F	P
Anxiety Disorder Diagnosis	3.00	2.83	1.01	.318
Referral Urgency	3.53	2.90	4.89	.031*
Level of Interference	3.35	3.08	4.82	.032*

Figure 1. Analysis of variance (ANOVA) for career focus. Explored the possible significance of interest in child mental health issues and the average ratings from the three clinical decisions (diagnosing, referring, and the degree to which anxiety affects the child's life). F values determine if results are significant. P values indicate if there is a significant difference between two variables, in this case, career focus. (*= statistically significant results for an alpha of .05)

When it comes to a resident's level of interest in child mental health issues, there was also a significant positive correlation between level of interest and the urgency to refer a child to a specialist (see Figure 2). However, there was not a significant correlation between level of interest and how residents would diagnose or rate the level of interference.

Clinical Decisions	R	P
Anxiety Disorder Diagnosis	.207	.083
Referral Urgency	.243	.041*
Level of Interference	.035	.770

Figure 2. Pearson Correlation for interest in child mental health issues and the three clinical decisions (diagnosing, referring, and the degree to which anxiety affects the child's life). There was a significant correlation between interest in child mental health issues and referral urgency. R values measure the strength and direction of a relationship between two variables. P values indicate if there is a significant correlation. (*= statistically significant results for an alpha of .05)

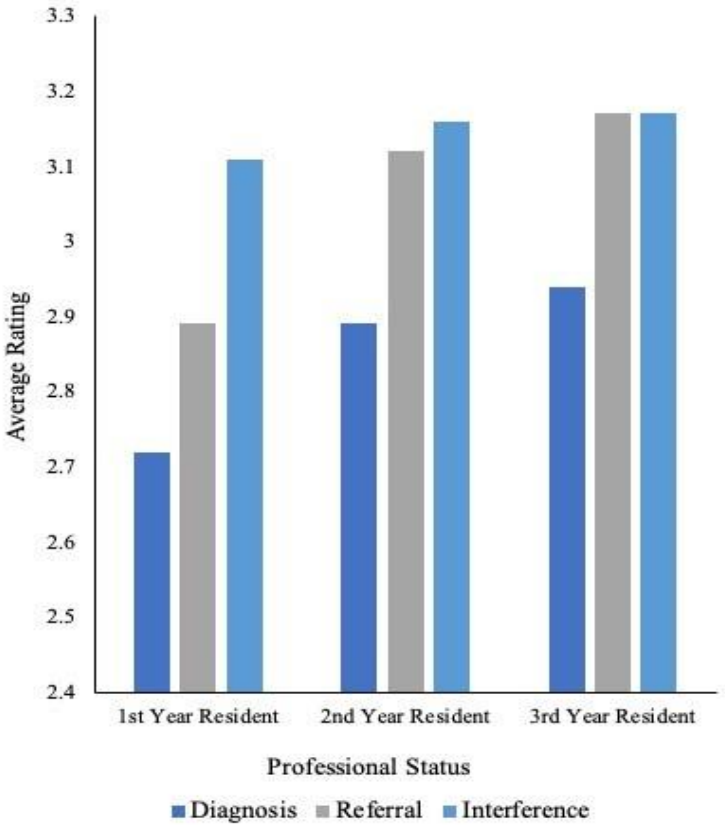

Figure 3. Representative histogram shows the average ratings for the three clinical decision variables (diagnosing, referring, and the degree to which anxiety affects the child's life) based on professional status. Based on the consistent increase in sensitivity for the three clinical decisions as training/experience increased, there was an upward trend.

Furthermore, when comparing responses from first-, second-, and third-year residents, more experience corresponded with higher levels of sensitivity for diagnosing, referring, and rating the level of interference, although results were not statistically significant (see Figure 3).

Based on the findings from the pre-assessment, residents in pediatric primary care do not receive adequate training in the evaluation and treatment of emotional disorders. Data shows that enhanced training could help address these problems. Because of the fact that early recognition of emotional disorders is of utmost importance, my research further substantiates the need for an interdisciplinary approach between clinical psychologists and primary care physicians to equip medical professionals with the necessary tools.

Although not a part of my main research analysis, it is also important to note that the pre-assessment data shows that a majority of the medical residents are aware of the training issues we face today. In the background questionnaire of the pre-assessment, 78 percent of medical residents reported receiving "not enough" training on evaluating anxiety disorders. In addition, 86 percent of them reported "not enough" training in how to talk to parents or children about anxiety. Similarly, in the pre-assessment Perceived Evaluation Skills Questionnaire, only 15 percent said they "strongly agree" or "agree" that they are confident in their ability to discuss treatment options for anxiety with parents; 19 percent reported that they "agree" that they are confident in their ability to make recommendations to parents about how to help with pediatric anxiety.

To go further, post-assessment data reveals that after completing the training, 90 percent of participants reported that they "strongly agree" or "agree" that they will think more about the role of anxiety and emotional functioning in their general practice. Ninety-two percent reported "yes, definitely" or "yes, generally" that they would recommend the Pediatric Anxiety Training Study to a colleague. This further substantiates the need for and value of enhanced training.

What I've Learned and What the Future Holds

In retrospect, my preparation for research on pediatric anxiety has developed over my lifetime as I have transformed into the person I am today. As a Korean-American Air Force brat, I have lived in Alaska, Italy, Korea, Japan, England, Germany, New Mexico, California, Washington, and finally New Hampshire. The military lifestyle also enabled me to travel to France, Ireland, Belgium, Spain, and the Netherlands. Immersion in several different cultures, languages, kinds of food, styles of music, and history shaped who I am today. I am quick to adapt and willing to discover new things, which seems to balance things out—sort of like yin and yang. Moving to different parts of the world allowed me to realize that anxiety affects the lives of many other people, sometimes to a greater extent than anxiety has affected me. Learning how to maintain good physical, emotional, and mental health was a long learning process, but it was possible. With this in mind, I have listened to, discussed coping strategies with, and empathized with those struggling, and I hope that my experiences will help shape the physician I become.

Based on the vast amount of time I have spent working with Dr. Mian, one of the things I have realized is that the research process can extend over a longer period of time than expected. This is especially true when the research involves collaborations between different universities and medical centers, each with their own protocols for reviewing and approving research with human subjects. Even with all my experience working on Phase I, which concluded in spring 2018, it still took a few months to get Phase II up and running. As the lead research assistant in Phase II, I look forward to further investigating clinical decision making in the pediatric setting, collaborating with others, and expanding PATS. Phase II will increase the amount of data, and we also hope that it will encourage even more institutions to participate in the Pediatric Anxiety Training Study in the future. Once I graduate in May 2019, I plan on continuing to work on Phase II of PATS and eventually training another student to take on my role before I begin medical school.

With what I have learned thus far, I understand how vital it is to invest in your college experience by becoming involved in the community, seeking mentors, and nourishing friendships with fellow classmates. I encourage other students to do the same. Not only is there much more to learn from different perspectives but it also provides a supportive network and sense of belonging, and may lead to unprecedented opportunities. Following this path has helped me realize that, along with healing patients in the future, I would like to teach medical students and/or conduct research. I look forward to carrying what I have learned from my research experiences into my medical training and practice.

I am incredibly appreciative to those who have supported me throughout my journey. Dr. Nicholas D. Mian's continuous efforts to challenge me has improved my resilience, work ethic, and critical thinking, and I could not have asked for a better mentor. I feel truly fortunate for the time the medical residents took to participate in the study and extremely grateful for the generosity of the Hamel Center for Undergraduate Research and Manchester Undergraduate Project Support for the grant awards. Most of all, I am forever indebted to my family and friends, who have supported me throughout my journey. It has been an unforgettable experience using my platform to participate in discussions regarding the broader spectrum of medical issues affecting people today, and I hope that my efforts will inspire others to pursue their passions.

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Author and Mentor Bios

Claudia Maynard, from Londonderry, New Hampshire, is a biotechnology major at the University of New Hampshire at Manchester (UNHM). She has achieved the dean's list with highest honors for six consecutive semesters, is president of the Tribeta Biological Honor Society and of the Music Club, and expects to graduate in May 2019 with a bachelor of science degree. Claudia's research was supported by grants from both the Manchester Undergraduate Project Support Committee and the Hamel Center for Undergraduate Research. She was first introduced to this project through her mentor, Dr. Nicholas Mian, while she was his student. Personal experience with overcoming childhood anxiety led her to pursue a research position involving this subject outside the classroom setting. Claudia emphasizes the need for resilience in the research process and the need to develop the ability to translate scientific findings into digestible communication. Publishing in *Inquiry* was the perfect opportunity to culminate her research and showcase these skills while highlighting her findings. Claudia hopes to become a physician and believes that her publication experience in "translating" scientific information concisely to a broad audience will one day help her do the same for her patients, improving the care they receive.

Nicholas Mian, assistant professor of psychology at the University of New Hampshire at Manchester since 2015, specializes in clinical psychology and anxiety disorders in young children. Previously a postdoctoral fellow at the Center for Anxiety and Related Disorders (CARD) at Boston University, Dr. Mian developed the grant proposal related to the pediatric anxiety training project along with the director of the Child Program at CARD, Donna Pincus, and pediatric faculty in Boston-area hospitals. Dr. Mian said that being filmed for some of the training videos was a bit anxiety provoking, but the applicable nature of this project and the overwhelmingly positive response to it, as well as acquisition of new knowledge about video production, study design, and survey development, made it very rewarding. Claudia's passion for medicine was a nice complement to the study's focus, and her work

provided her with valuable skills for her future career. Dr. Mian has had exposure to undergraduate research mentorship in the past, but this is his first experience working with an *Inquiry* author. As a mentor, he emphasizes the importance of study design and statistical analysis, as well as learning to write accurately and concisely for a broad audience, such as the audience of *Inquiry.*