

Increasing Research Opportunities for Females in the Undergraduate Kinesiology Curriculum

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Abstract: *This paper focused on the shared experience of female undergraduate Kinesiology majors as they navigate the research process. Students enrolled in the class Undergraduate Research Opportunities are tasked with seeking IRB approval, collecting data, completing statistical analysis, and presenting results.*

Key Words: kinesiology, equity, portraiture

INTRODUCTION

In the undergraduate Kinesiology program at Peru State College, students are required to take *HPER 290 Research Opportunities in Kinesiology*. This grants female Kinesiology students the opportunity to conduct research that they might not have the chance or resources to do before graduate school. The way the Kinesiology curriculum at Peru State College is set up, students will take *HPER 290 Research Opportunities in Kinesiology* and *HPER 433 Applied Exercise Science*. Students enrolled in *HPER 290 Research Opportunities in Kinesiology* are tasked with seeking IRB approval, collecting data, completing statistical analysis, and presenting results. As a senior, students will take *HPER 433 Applied Exercise Science*. Those enrolled in this class perform another research project with all the knowledge they have learned over the past four years. The goal of this research project is to get it published. The Kinesiology program at Peru State College helps prepare students for continuing their education in graduate programs.

LITERATURE REVIEW

According to the U.S. Department of Commerce, women held 47% of U.S. jobs in 2015, but only 24% of those jobs were in the STEM field (Noonan 2017). Roughly, 70.4% of physical therapists are female. This correlates with the number of females who apply to physical therapy school and get accepted which is 60.7% (2017). According to Data USA, females average salary as a Physical Therapist is \$63,193 and a male's average salary as a Physical Therapist of \$83,914 ("Data USA: Physical Therapists," n.d.). In athletic training, 53% are female and 47% are male. Females average salary in athletic training is \$50,091 and male's average salary in athletic training is \$60,180 (National Athletic Trainers' Association, 2017). The average male salary in

occupational therapy is \$70,663 and for females it is \$59,040. Roughly, 89.3% are female in occupational therapy (“Data USA: Occupational Therapists,” n.d.).

RESEARCH METHODOLOGY

PORTRAITURE

“Portraiture is a method of qualitative research that blurs the boundaries of aesthetics and empiricism in an effort to capture the complexity, dynamics, and subtlety of human experience and organizational life,” (Lawrence-Lightfoot & Davis, 1997, pg. 1). Portraiture focuses on the good things that stem from the research.

AUTOETHNOGRAPHY

“Auto ethnography is a form of autobiographical narrative that explores the writer’s own experience of life.” (Savin-Baden & Major, 2013, pg. 201) When using autoethnography in research projects, the subjects of the study are told to write about their experiences in the study using their own first-hand experiences and feelings. This was used to create a bridge between “narrative and analysis, in its goal of speaking to broader audiences beyond the academy” (Lawrence-Lightfoot & Davis, 1997, pg. 14). This research practice allowed students to “reflect critically upon their personal and professional creative experiences” (Pace, 2012, pg. 2).

RESULTS

AUTOETHNOGRAPHY

Sydney: In *HPER 290 Research Opportunities in Kinesiology*, I had the opportunity to perform a research project. Out of the four members in my group, two were female (including me). The first thing we had to do was submit an Institutional Review Board (IRB). Right from the beginning of this process, I could tell Julia and I would be doing most of the work. We were the ones who put thought into the IRB and went through the revision process. Once our project was approved, Julia and I typed up a permission form to hand out to our participants. Once again, we had no help from our other peers. When it came to collecting data, Julia and I were there helping our participants perform the VO₂ while our other peers didn’t necessarily always show up to help. We spent many hours collecting data, performing statistical analysis, and analyzing out results. When it came to presenting the data at the Health Fair, Julia and I presented all the data while our peers only showed up for a brief time.

Julia: In *HPER 290 Research Opportunities in Kinesiology* I participated in the same research project as the one Sydney did (listed above). As she pointed out, we had to do a majority of the work. When it was time to start our testing Sydney and I reached out to all the participants. This included getting their waivers signed, handed in, and also scheduling when they would run. When it came to the actual testing of their VO₂ max Sydney and I would calibrate the machine, set up the gear, log data, and operate the treadmill to fit protocol. The others in our group would either sit and watch, hold a piece of paper (RPE Scale), or not even show up. When it came time to analyze data Sydney and I did all of it. Lastly, when we put our poster board together we gathered/purchased all of the materials and organized it. The others in our group didn’t show up till the very end to help glue a couple things onto the board. On the day we presented our posters Sydney and I did most of the talking and one member of our group left before we were finished, and without even telling us.

Bailey: Last spring, I had the opportunity to take *HPER 290 Research Opportunities in Kinesiology* and conduct research with a group of my peers. I was the only female in a group with four males. We started out the research process by writing a proposal to the Institutional Review Board (IRB). In my case, I was the only one who put any thought into the IRB form. Because my group chose to do a study based on data from previously played football games and not subjects, my group's IRB proposal was accepted immediately without need for revision. After the IRB process, we started collecting the data from the previous football seasons and putting the information in an Excel spreadsheet. After finally receiving all the work from my fellow students, we used correlation and regression to find which element of a collegiate football game is the best determinate to predict whether the home team wins or loses. At the end of the year we presented our findings as a poster presentation at the college's health fair.

PORTRAITURE

Sydney: One of the first things I noticed when I transferred to Peru State College, was being one of the only females in the Kinesiology program. In Kinesiology specific classes, I am the only female. One benefit of being the only female in these classes, is I have the opportunity to teach my peers the material. By doing this, I have a great understanding of the course material and it has helped me succeed in college. And even though I may get stuck carrying my classmates when it comes to group projects, I learn more by doing all the work and that has also helped me succeed in college. One other benefit of being a minority in the Kinesiology program at Peru State College, is it allowed me to present at the Northern Rocky Mountain Education Research Association (NRMERA) conference in Salt Lake City, Utah.

Julia: For my first year at Peru State College I was undecided and completed all of my general education classes. They had a relatively balanced male to female ratio. When I began taking my Kinesiology courses that drastically changed. Being one of the only females in the Kinesiology major may sound intimidating or even unfair at times considering we have had to take on a lot of extra responsibilities, but I think it was for the best. In the kinesiology courses I have taken I had to really take charge and do a lot of extra work when males in my group/class wouldn't contribute. This helped me to learn the material better. It also provided me with a better understanding of not only our research project, but the research process in general. After conducting our research I can now confidently calibrate a VO2 machine and conduct the test. If I wouldn't have had to take charge I probably wouldn't have gained this knowledge/skill. Other opportunities that have risen due to the fact of being one of the only females was the chance to attend the Northern Rocky Mountain Education Research Association (NRMERA) conference in Salt Lake City, Utah and present. Lastly, I have grown very close to the few other females in my major. We really push each other and encourage each other to be our best. If there had been more females I don't know if I would have ever gained this friendship.

Bailey: Upon arriving at Peru State College, there were equal amounts of males and females in my classes. The first time I experienced being a minority in the classroom was during my *First Year Seminar in Kinesiology (HPER 199)*. I was one of two females in my class. I found the kinesiology-specific classes at the higher levels have limited amounts of females in the classes. Because I was one of the few females in my kinesiology classes, I experienced many benefits that would not have happened if there were more females in the class. One of these benefits is that I retained more information throughout the research process because I was the one who had to do all the work and aid my peers in understanding the full concepts of research. This led me to earn a higher score on my final exam at the end of the semester. Another benefit that I would not have

received if I had not been the minority was to ability to present findings at the Northern Rocky Mountain Education Research Association (NRMERA) conference.

REFERENCES

- Lawrence-Lightfoot, S., & Davis, J. H. (1997). *The art and science of portraiture*. San Francisco: Jossey-Bass
- National Athletic Trainer's Association. "2016 Salary Survey." National Athletic Trainer's Association, Jan. 2017, members.nata.org/members1/salariesurvey2016/2016-Salary-Survey-Executive-Summary.pdf.
- Noonan, R. (2017). Women in STEM: 2017 Update. *US Department of Commerce*, 1-11. Retrieved from <http://www.esa.doc.gov/sites/default/files/women-in-stem-2017-update.pdf>
- Occupational therapists. (n.d.). Retrieved from <https://datausa.io/profile/soc/291122/>
- Pace, S. (2012). Writing the self into research: Using grounded theory analytic strategies in autoethnography. *Text: Journal of Writing and Writing Courses*, 13, 1-15.
- Physical Therapist Centralized Application Service 2016-2017 Applicant Data Report. (2017). *Report of the American Physical Therapy Association*, 12-14. Retrieved from http://www.ptcas.org/uploadedFiles/PTCASorg/About_PTCAS/PTCASApplicantDataReport.pdf
- Physical therapists. (n.d.). Retrieved from <https://datausa.io/profile/soc/291123/>