

My long-term goal is to understand the biological and evolutionary role of social relationships (i.e., friendships) across the lifespan. However, I was not always captivated by learning about and researching biology and evolution. I come from a small town that is extremely religious, where evolution is a taboo topic. Evolution was taught once in my hometown during my high school biology class. My teacher had barely begun to explain the definition before my fellow peers complained that evolution does not exist and, with that, the discussion was finished.

It was not until years later – in an undergraduate physical anthropology course – that I learned about humans’ amazing evolutionary heritage by examining the skulls of our phylogenetic relatives (e.g. *Australopithecus*; *Homo neanderthalensis*). This and related evidence convinced me that the views of my high school peers were wrong, evolution did occur. This motivated me to learn more how evolution has shaped us to the humans we are today and eventually become a source of knowledge on the subject for future students.

Similar to how the evolution of skulls changed my path to become a researcher, I did not originally want to become a professor either. This changed once I began teaching inner-city children and saw firsthand how **education can change lives**. I know people speak of the great poverty and violence in other countries, but I have seen it within our borders. One of my many stories of breaking this cycle is one of my students who, at the age of 7, wanted to become “a prisoner as [his] adult job like his parents.” I invited him to also consider other options, encouraged him to strive for better, and taught him ways to achieve his goals. By the end of the year not only had his grades drastically increased, but he changed his career goal to become a doctor. This experience makes me extremely proud to know that I aided in his development. I want to be able to inspire more young adults and college students by becoming a faculty member and pushing them to strive for more and achieve their dreams.

In addition to education, I have also seen the **importance of friendships** and social support in changing a child’s trajectory. I have witnessed gang members trying to recruit my students. What is worse is that I have seen time and time again if their friends are joining the gang, they typically do too. I have spoken to students about them asking if this is the route they want to go and they almost always have one answer: What else is there? I have also witnessed a more positive outcome in which students surround themselves with friends who do not want to perpetuate the cycle and they typically do not join a gang.

One example is a student who had an older cousin who was shot and murdered in the streets because of gang related activity. The student told me about this incident and explained that he never wanted to be involved with them. He regularly wore a t-shirt that had his cousin on it and would tell his friends about it. He and his friends would always talk about ways they will not end up like that (e.g., going to college, working “real” jobs, etc.).

Witnessing the impact of friendships sparked my interest in **researching friendships from a variety of perspectives**. This includes the trade-offs of types of friendships, how these trade-offs change across the lifespan and due to functionally relevant social contexts, the role of friendship in mental health, co-rumination, and biological mechanisms of friendship. This led me to pursue a Ph.D. at Oklahoma State University (OSU) under the advisement of Dr. Jennifer Byrd-Craven and Dr. Aaron Lukaszewski. I am currently the principal investigator for a number of studies, which are currently in various stages of development.

The first study I developed at OSU examines how various personality traits and social status predict investment in types of social relationships (e.g., close friendships, acquaintances, etc.) for their actual relationships and using a budget allocation paradigm. I developed a budget allocation paradigm based off of Dr. Norman Li's work on mate preferences, which has never been used to assess investment in friendships. Although examining real-world social relationships is important, the budget allocation paradigm explores the trade-offs of social relationships from a **functionalist point of view**. I presented findings that social knowledge and connectedness mediated the relationship between social attractiveness and the number of close friends at the 2016 Southwestern Psychological Association conference, which won the Psi Chi Research Award. Further studies examining which traits are best predictors of investment are currently in preparation.

This idea has been expanded to examine how individuals change their investment in types of social relationships across varying, evolutionarily relevant context (e.g., status seeking, parenthood, etc.). Preliminary analyses revealed that across all contexts individuals prefer close friendships, but the amount individuals invest changes according to evolutionarily relevant context (e.g., in a status seeking context, investment in close friendships decreases and investment in strategic associates increases). These findings were presented at the 2016 Human Behavior and Evolution Society conference. This data is being used as preliminary data for my master's thesis, which will be proposed this semester. My thesis will replicate this study in a MTURK sample and expand it by examining social relationships and romantic relationships (i.e., long-term and short-term mates).

Another study that is currently in the data collection stage is examining **friendship quality** in regards to mental health outcomes (i.e., depression, anxiety, and suicidal ideations), co-rumination, personality traits, and mindfulness. My mentor, Dr. Byrd-Craven, and I developed new friendship scales to assess friendship quality at a deeper level than previous scales. We have also developed three new co-rumination scales, which for the first time will allow us to examine who is initiating co-rumination and what are individuals are co-ruminating about. My proposed study is an extension of this research by collecting data on both parties and examining the psychobiology of the stress response in the context of female friendships. This will allow us to cross-validate responses on friendship quality and examine friendship quality through hormonal synchrony (i.e., cortisol and progesterone) of the dyad.

In addition to my friendship studies, I currently help manage the personality and life history study for Dr. Lukaszewski that examines a variety of personality and life history characteristics in addition to physical measurements, photos, and videos to later be analyzed for various ratings (e.g., physical attractiveness). For this project I recruit, train, and manage several research assistants for data collection purposes. I have also trained research assistants on managerial tasks (i.e., training new research assistants) to give them leadership roles within the lab and post-data collection procedures (i.e., photo cropping). Additionally I aided in IRB modifications, survey creation, and creation of protocol procedures.

Prior to OSU, I received a Bachelor of Science at the University of North Texas where majoring in Psychology and minoring in Anthropology **equipped me with an inter-disciplinary experience** that was furthered by my involvement in two Psychology labs. In the COPE Lab under Dr. Patricia Kaminski, I learned an observational coding system for nuances of caregiver-child interactions through extensive training and rated over 100 videos of caregiver-child dyads

for a multi-university study. In the Cross-Cultural Attachment Lab under Dr. Chiachih DC Wang I learned how to proctor surveys, enter data, code qualitative data, recruit and interview community participants, and studied in-depth interracial and intercultural couples. Under the supervision of Dr. Wang and graduate students in the lab, I completed an honors thesis, presented four posters at regional and national conferences, co-authored a manuscript, and mentored other undergraduates in the lab.

Broader Impacts

Through mentoring I found a way to merge my love of research with my love of teaching. Since I have seen first-hand how education can change lives, **I value diversity**. I encourage my female and ethnic minority undergraduates to get involved and pursue graduate school. I have mentored three women of color and one white female all of which have gone onto graduate programs. Currently, I am mentoring four undergraduate females, two of which are African American at various stages in their education.

One of my mentees who is in her senior year has developed her own research question: Does mindfulness increase friendship quality? Preliminary results suggest that mindfulness does, in fact, increase friendship quality. We are currently in the process of submitting it to a regional conference where she will have experience **presenting her research findings**. Once data collection is complete we will submit it for publication.

In the summer of 2016, I had the opportunity to be a graduate coordinator of OSU's National Science Foundation's Research Experience for Undergraduates (REU). This included getting them settled into Stillwater, introducing the faculty mentors during their seminars, and giving lectures on different aspects of getting into graduate school and conduction of research. In conjunction with my mentor and another graduate student, I personally mentored one of the students, a first generation college student. This project is still on-going and we plan to replicate our findings at the REU student's home intuition.

In addition to mentoring undergraduates, I will disseminate my research at conferences (e.g., Human Behavior and Evolution Society) and will publish in peer-review journals (e.g., *Journal of Personality and Social Psychology*) to **promote more interest in the scientific community** about friendships from a psychobiological perspective. In addition to relaying my findings to the science community, I will also relay my work to the community at large. This will be done by giving departmental colloquiums, science café talks, and giving talks to high school students, since that is a critical time in developing positive peer relationships.

As mentioned above I have seen the cycle of poverty and violence how just one positive close friendship can help individuals break that cycle. Not only do I want to better understanding of the function of and the underlying biological mechanisms friendships, but I want to take this knowledge and **implement change**. My future research including the proposed study gives way to understanding the underlying mechanisms that can lead to developing higher quality friendships. Once the research is finished, I can go into communities giving individuals and teachers ways we can change these underlying mechanisms to develop healthier social relationships. This may include discussing the disadvantages of co-rumination, choosing the right type of social relationships, and finding ways to buffer stress in a friend, without allowing for stress contagion.