



PURM
Perspectives on Undergraduate
Research & Mentoring

Reflections on the Undergraduate Research Experience of Three Former NCAA Division I Athletes

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Undergraduate research (UR) opportunities are important for college students to engage in areas of interest, gain valuable skills, and contribute to their learning outside of the classroom (Mahatmya et al., 2017). There have been a few studies on college athletes engaged in high impact practices (HIPs) like study abroad programs (Navarro et al., 2020), first-year seminars (Grafnetterova et al., 2020), and learning communities (Mamerow & Navarro, 2014). However, little has been studied on athletes' engagement in UR (also a HIP). While athletes may not be a large percentage of an institution's student population, they are more visible in the campus community. College athletes face time constraints, balancing two full-time roles of student and athlete, often with limited time remaining to devote to extracurricular activities (Ishaq & Bass, 2019; Rubin & Moses, 2017). They also endure negative stereotypes, seen as outsiders by the student body and faculty, isolating themselves from campus involvement (Rubin & Moses, 2017; Simons et al., 2020). These stereotypes include the idea of the "dumb jock," in which athletes are incapable of handling college-level work and require additional support to pass classes (Simons et al., 2007).

Many campuses offer academic support in facilities designated specifically for athletes, beyond the typically weekday work hours (Rubin & Moses, 2017). Besides attending classes on campus, athletes spend most of their time in athletic facilities for meals, workouts, tutoring, and practices. In classes, they are more likely to sit with other athletes who understand their schedule and lifestyle (Rubin & Moses, 2017). Their rigid schedules might prohibit them from exploring student organizations or UR. Because of this, engaging athletes in UR is not as easy or obvious for faculty as it may be with other students. Yet, Gaston-Gayles and Hu (2009) discovered that athletes who engage in educationally purposeful activities, including faculty interaction and collaborative learning, improve in cognitive and academic outcomes. Since athletes' college experience may differ significantly from that of other students, it is important to learn from former athletes' participation in UR.

Literature Review

Undergraduate Research Benefits

There is a continuum of UR and mentoring structures, from faculty-centered to student-driven, collaborative to independent in approach (Ticknor, 2017). As Ticknor (2017) described, projects may involve students working independently on innovative or unique projects they designed, or contrastingly, students may contribute to a research team that supports a professor's research agenda. The same variation is true of mentoring relationships, which can vary from highly structured

teacher-student dyads to personalized plans designed to increase student independence and assimilation into the discipline.

Organizing a very structured UR curriculum coupled with former students' narratives, Wolfgram et al. (2012) emphasized, "All students have an educational right to this type of empowering pedagogy" (p. 11). Yet, many faculty require incentives to devote time to mentoring UR, unless they are motivated to participate for other reasons (e.g., increasing diversity) (Nagda et al., 1998). When surveying former UR participants about rewards and challenges in their collaborative research team experience, Kessler and Alverson's (2014) responses included the empowerment and independence students gained from UR, aligning with Wolfgram et al. (2012).

Surveying former UR participants at University of Wisconsin-Eau Claire, Schmitz and Havholm (2015) discovered that UR positively impacted their acceptance to graduate school and/or success in their career. Nagda et al. (1998) found participation in UR improved retention rates, especially among African Americans and sophomores. Yet, Mahatmya et al. (2017) noted that barriers to participation from interested students included lack of time, information, or income.

Athletes' Engagement in High Impact Practices

As Rubin and Moses (2017) suggested, athletes may be interested in participating in academic activities that support their goals and interests, but are restricted because of their schedules, lack of after-hours support, and separate facilities where they spend much of their time. In the athletic realm, Weaver and Simet (2015) noted that athletes are often thrown into leadership roles without the opportunity to develop skills or train. Opportunities for athletes to develop valuable skills is important, and a UR setting provides athletes a setting to collaborate with "others who are very different from them" (Weaver & Simet, 2015, p. 56).

Burgin (2011) studied Division III athletes at two colleges in the top 25% academically at their respective institutions, using instruments for achievement, motivation, and learning strategies. She found that the athletes were ambitious with high expectations, explaining, "Extrinsically, they wanted the recognition, they wanted to please others, or be like others who achieved success. These athletes not only strove to achieve personal academic excellence but also as a means to a successful future" (Burgin, 2011, p. 105). Athletes described faculty "as supportive, encouraging and accommodating" (Burgin, 2011, p. 120). Gaston-Gayles and Hu (2009) found that athletes who interact with faculty reaped positive benefits to their learning and communication skills. Mahatmya et al. (2017) suggested that high achieving students are who faculty recruit to participate in UR. Yet, with negative perceptions of athletes by faculty, athletes might be overlooked for UR and mentorship (Rubin & Moses, 2017; Simons et al., 2007).

Ochoa et al. (2015) suggested a barrier to engaging students in UR might be differences in understanding between a diverse student body and faculty. Large, public institutions are predominantly White, but many college athletes come from varied racial and ethnic backgrounds (Hawkins, 2010). Table 1 shows the 2018 data from NCAA member institutions, the athlete (NCAA, 2018) and general student populations' (IPEDS, 2018) racial/ethnic backgrounds by enrollment percentage. In 2018, the total number of athletes was 492,829, including 181,048 in Division I (NCAA, 2018) and total number of students enrolled in all NCAA member institutions was 15,953,144 (IPEDS, 2018).

From the data in Table 1, there is a higher percentage of Black athletes across divisions compared to the percentage of Black students enrolled at NCAA members institutions in the general population. In Division I, the percentage of Black athletes is double. Interestingly, there are three times as many Hispanic students enrolled in college as there are Hispanic NCAA athletes. In NCAA Division I

institutions, the percentage of international athletes (6.18%) is higher than the percentage of international students in the student body (4.9%). If international students and students of unknown race are excluded, one could argue that institutions are more diverse than the athlete populations. Yet, every institution is unique.

Table 1. *Athlete and General Student Population Racial/Ethnic Backgrounds at NCAA Institutions (2018)*

Race/Ethnicity	NCAA Division I Athlete %	NCAA Athlete %	Student %
American Indian/Alaska Native	0.37%	0.39%	0.48%
Asian/Hawaiian/Pacific Islander	2.14%	2.11%	7.54%
Black/African American	20.97%	16.39%	10.25%
Hispanic/Latino	5.06%	5.71%	15.36%
International	6.18%	3.98%	4.9%
Multiracial	4.71%	3.92%	3.91%
Unknown	3.62%	3.03%	3.24%
White	56.95%	64.46%	54.31%

Note. International students are not categorized by race/ethnicity.

Kansas State University (KSU) and the University of Nevada, Las Vegas (UNLV) are the institutions represented in this study. These are two very different institutions in terms of enrollment by race/ethnicity, as UNLV was ranked the most diverse undergraduate institution by *U.S. News and World Report* in 2018 and is both a Hispanic Serving Institution and Asian American and Native American Pacific Islander Serving Institution (UNLV, 2018a). In 2018, UNLV’s White student population was 30.13%, surpassed by 30.19% Hispanic students. There were 16.73% Asian/Pacific Islander students enrolled, 10.7% multiracial students, yet only 7.64% of students were Black (UNLV, 2018b), less than the 10.25% average across all NCAA member institutions. KSU is a predominantly White institution. In 2018, 75.33% of the student body was White, and only 3.2% of the students were Black (KSU, 2019a).

The demographic differences might cause a disconnect based on misconceptions by faculty about athletes, or athletes’ perception of UR. Faculty need to offer a “genuine and open invitation to participate, transparency, and high expectations” in UR to engage students from different backgrounds and responsibilities outside of classes (Ochoa et al., 2015, p. 6). Yet, Simons et al. (2007) suggested that while many athletes face stigmatization on campus, race is a significant factor that may harm athletes from marginalized backgrounds.

Interviewing 11 athletic advisors and athletic directors about athletes and HIPs, Ishaq and Bass (2019) found, “The relationship between athletics, academics, and the campus administration plays a vital role in determining whether or not HIPs are implemented in the student athlete setting” (p. 190). The relationship, described by participants, may be influenced by reporting lines (e.g., athletic director to Provost), press (e.g., media attention on a scandal), and individual connections (e.g., effort made by athletics to collaborate with campus) (Ishaq & Bass, 2019). Yet, Rubin and Moses (2017) warned, “Campus culture is often in conflict with the culture of the athletic department” (p. 319). A positive culture might allow athletic staff and coaches to learn more about HIPs athletes could pursue. Ishaq and Bass’s (2018) participants suggested that barriers to athletes’ participation in HIPs are “university control of implementation of HIPs, differences in attitudes of coaches versus athletic directors, lack of funding or resources, and athletics-campus relationships,” from which coach support had a major role (p. 187). Coaches may deter athletes from participation in activities

with a significant time commitment, like UR or study abroad. But with coach approval, students are encouraged to engage in activities outside of class and athletic commitments (Ishaq & Bass, 2019). Recently, Grafnetterova et al. (2020) studied first-year seminars for athletes, noting that 33.7% of four-year institutions require athletes to enroll in such courses. Because first-year seminars cover too many topics for one semester, they recommended that athletes have further engagement in HIPs. Since these courses require many campus partnerships, Grafnetterova et al. (2020) recommended that athletic departments and campus offices work together, strengthening their relationships to support athletes' participation in HIPs. The purpose of this study was to explore the impact of UR experiences on the development of three former Division I athletes.

Methodology

Set in the interpretive paradigm, narrative inquiry directed our study, through collaborative storytelling (Mahoney, 2007; Tracy, 2020). Webster and Mertova (2007) described narrative inquiry as “set in human stories of experience. It provides researchers with a rich framework through which they can investigate the ways humans experience the world depicted through their stories” (p. 1). Researcher-participants shared their narratives, reflecting upon their UR experience coupled with their role as NCAA Division I athletes at large, public, research-intensive, doctoral institutions. Through critical reflection, these lived experiences connect with implications for future college athletes' involvement in UR (Kim, 2016), and identify common threads in the stories (Priest & Seemiller, 2018).

Each story holds the dimensions of temporality, sociality, and place, the vital components of narrative inquiry (Kim, 2016). In essence, stories are meaning-making reflections of past experiences (Priest & Seemiller, 2018). Through narratives, the core qualitative concepts of self-reflexivity, context, and thick description, researchers' immersion in the culture of the UR experience, were achieved (Tracy, 2020). The researchers co-constructed meaning through interpretation of stories through multivocality, multiple voices to crystallize the experience of athletes' participation in UR (Tracy, 2020). With the goal of gaining insight for current and future college athletes, the following question guided the research: “How did the lived experiences of former athletes who participated in UR shape their development?”

The following narratives were written by three former Division I college athletes who attended large, public universities. Alyssa joined the KSU equestrian team and participated through its last season that ended in 2016 after her third year, though the announcement of its disbanding was after her first year in college. She had to decide between transferring to continue her athletic career or staying at the university. The realization that she would not compete in her senior season was devastating, but she stayed at KSU because of the relationships she built and her love for the university. Kennedy was recruited to the KSU rowing team while attending freshman orientation. Having had no prior rowing experience, she redshirted her first year to develop as a student in the college setting and adjust to the demands of Division I athletics. She graduated with eligibility remaining and finished her final season as a graduate student in kinesiology. Mike tried out for the UNLV football team before his freshman year and started as a preferred walk-on and redshirt, earning a scholarship at the start of his third year. He graduated with eligibility remaining and competed in his final season while pursuing a graduate degree in higher education leadership.

Alyssa's Story

My story begins back in 2013 when I stepped foot onto Kansas State University as a newly enrolled college athlete. I am a first-generation college student, even though I would not find out what that meant for another four years.

I was a member of Kansas State Athletics' inaugural Leadership Academy class in 2014. I had just finished my freshman year on the University's Equestrian team and remember getting an email during the summer about accepting an invitation to join Leadership Academy. I was not quite sure what it was but decided to go for it. I did not really know what to expect but I am so glad that I clicked accept. In Leadership Academy, I was able to make connections with faculty, advisors, and other athletes in every sport on campus. We learned how to utilize our individual traits in order to contribute to our teammates, coaches, and the community. Personally, I was not a very vocal leader, but more of an individualistic, relationship-building leader. I learned specific strategies to talk to teammates and help them reach their own potential. I became a person that teammates would go to if they were having a bad day, needed to talk, or needed help with a certain area of practice. I was a person that they could trust and that meant the world to me. This experience built my confidence by leaps and bounds and helped propel me into attaining my goals and dreams.

The Leadership Academy is designed for athletes who have been identified by their coaches as having high potential to influence and lead. Coach nominated sophomores and juniors who choose to join the program and begin a two-year training program focused on teaching the skills to be a successful leader in their team, community, and society. Athletes developed, practiced, and taught leadership skills, developed a peer leader network, and worked together to positively influence team culture and overcome obstacles and conflicts in their respective teams. They took personal responsibility for their leadership development and ownership of their actions. The two-year program is separated into two sequential levels for leadership development, Veteran Leaders and Emerging Leaders.

Goals for my participation in the Leadership Academy included developing awareness and personal understanding, identifying personal strengths and areas for improvement, exploring leadership methods, learning leadership skills, practicing leadership skills, building a network of peer leaders, and creating a leadership culture. I believe it did all of these for me.

My senior year of college, the year after my team was disbanded from the university, I found myself diving deep into what Kansas State had to offer. I applied for and earned a teaching assistant position in General Psychology and even got to teach my own section to college freshmen and sophomores. It was such a rewarding experience, and I loved every minute of that semester. During my next and final semester of undergrad, I was able to earn an internship working with K-State Athletics' Director of Sport Psychology, Dr. Ian Connole. This was my end goal, becoming a Sport Psychologist for a university athletics department, so I was ecstatic to get started. In this internship, I was able to shadow team meetings, help prepare exercises and facilitate them, and I was even able to get my start in undergraduate research. Dr. Connole approached me about a project that he and another professor on campus, Dr. Lisa Rubin, had recently started. They were looking at the best way to evaluate a leadership development program. When I was asked if I wanted to assist, I could not say yes fast enough. I was immediately thrown into looking at different forms of surveys, information intake strategies, and how these would work with our Leadership Academy. After trial and error, our team came to the conclusion that using a dual approach of both surveys and in-person interviews was the most effective way to evaluate the impact of our program. At the end of my internship, Dr. Connole had me apply to present this information at the Association for Applied Sport Psychology Annual Conference in Orlando that Fall. Hesitantly, I applied for a poster session and was accepted. Being able to go down to Florida and talk to like-minded professionals in the field was a stunning experience. I was able to learn so much and to help others understand all of the amazing work that was going on at Kansas State University. It was truly incredible.

As graduation crept upon me though, I found myself somewhat lost when it came to my next steps. I had chosen to step away from my original plan of going into sport psychology but was not

sure what was next. I set up a meeting to talk through my options with my academic counselor in athletics to sort through all of this confusion. I cannot tell you how much that one conversation did for me, but it completely cleared my path and made me come to so many obvious revelations. I realized that I wanted to be like her one day, assisting college athletes in their academic endeavors and doing everything in my power to help them reach their potential. So I applied to Kansas State University's Master of Science in College Student Development with a track in Intercollegiate Athletics about one month before graduation. Nothing like cutting it close, right? Luckily enough I was accepted, but then came the daunting task of attempting to find a graduate assistantship (GA).

This process was a tough one for me. My initial thought was to try and obtain a GA position within K-State Athletics. After all, I had been an athlete there my whole undergraduate career and even worked with their student-athlete services team during my last semester. I thought it would be a logical transition, one that I would really enjoy, and one that would set me up perfectly for my desired career. Unfortunately, after some applying and waiting, I was told that they were not accepting any inside hires at this time and were looking to go in a direction of outside hires only for all of their GA positions. Not only was this information shocking to me, but I was now lost. Being an out-of-state student getting a graduate assistantship was pretty much the only way I was going to be able to afford my degree. The next two weeks before graduation were some of the most stressful times that I have experienced but eventually they did pay off.

After searching for and interviewing with a couple of positions, I landed on an advertisement for a program within KSU's Office of Undergraduate Research and Creative Inquiry (OURCI). I immediately thought back to my time doing research with Dr. Connole and Dr. Rubin and thought I could do this. After inquiring a bit more about the position, I learned that it had two distinct parts: the first was working as an advisor in the Developing Scholars Program, a program dedicated to the advancement of traditionally underrepresented students in higher education through research; the second was working in OURCI doing outreach, presentations, events, and holding open advising times for interested students. It felt perfect. I could combine my interests in research with my love of helping others while simultaneously gaining valuable knowledge to assist me in my goal of one day becoming an advisor. After a grueling interview process, I found out that I earned the position. I can definitively say that the two years when I was in this position and in graduate school were the most educational, tough, and beneficial years of my life.

I learned that as an athlete involved in research, one of the biggest factors to keep in mind is the time commitment. I was in a sort of different position where I did not have my sport during the semester when I was doing research. But I know how overwhelmed I felt even without it. I could not imagine the stress of practices, workouts, athletic training, competitions, meetings, and so on, on top of my research. I think professors need to be cognizant of that. Also, as athletes doing undergraduate research, we have a unique perspective. My perspective as an athlete led me to an interest in decision-making and how the idea of pressure influences those decisions. I was able to create a research project for one of my psychology courses that looked into this idea and found that pressure did impact decision-making and performance. How cool is that? Now this was just a little study done in my class, but it largely impacted my curiosity and drive to learn as much as I could. Lastly, athletes who do undergraduate research are given the opportunity to take full advantage of their undergraduate careers. Not many people can say that while simultaneously competing as a college athlete, they also completed a research project, possibly were published, while also earning a degree. These accomplishments stand out and speak volumes to potential employees. Not only that but it serves as a great example for future college athletes. It truly emphasizes the "student" part in the term student-athlete.

Kennedy's Story

Initially I did not have an interest in pursuing research. For years I was told that I was not suited for sciences or fields related to math. When considering college and a future career, I planned to pursue writing, specifically journalism. Kansas State University was intended to be a temporary point in my academic career, where I would knock out gen eds and then transfer to a different university. Timing and opportunity changed all of that. A chance meeting at orientation and enrollment allowed me the opportunity to become a student-athlete. I had not competed in organized sports and I quickly was thrown into the world of Division I collegiate athletics as a rower. Multiple rowing programs across the country search for athletic women with the right mindset and work ethic to take on the challenge of learning a new sport in college. That opportunity changed my life.

My coaches and teammates were an incredible support system. While it was clear that training was important, it was evident within my team's culture that academics were a top priority. I struggled academically and personally in my freshman year. A huge step toward improving my engagement and performance in school was changing my major. I switched into Kinesiology, primarily physiology, following encouragement from a student-intern who was working under my strength coach at the time. Having a trusted individual, who was in what was considered my "safe space" as an athlete, who not only communicated what the field and research in it could be like but held the conversation in a casual way that was easy to understand, was critical to my pursuit of involvement in research. My major required individuals to choose a focus, and I became interested in the physiology of exercise, specifically in diseased states. I knew the faculty in my department were well-known, and being at a school, working toward becoming a top research institution, I became curious about what research was. Research felt far away and above my head. Not understanding how research worked intimidated me. But as a highly competitive athlete, I love a challenge. In everyday life, I often felt it was easily forgotten that I was a student as well as an athlete. The professors specific to my department challenged me to fully invest in applying myself to learning. I have interacted with multiple athletes who have been high achieving athletically and academically their entire lives. While athletics is a huge part of the identity of students competing at this level, there is a desire to be seen beyond the uniform and field of competition.

A cornerstone of my academic career was interacting with faculty who appreciated I was an athlete but didn't let that be the only defining aspect of my identity. They acknowledged the hard work and dedication but saw me for who I was. Being seen as a person was huge. The stereotypical student-athlete is not always the reality. I felt compelled to rise to the challenge to understand my academic capabilities. Athletics allowed me to have the mindset of wanting to constantly improve and reach the next level, this carried over into how I wanted to approach being a student. I knew that my eligibility was going to allow me the flexibility to have an extended timeline at K-State. In order to make the most of my time, I knew that grad school was likely going to be the next step. Considering how to improve my application, undergraduate research opportunities were going to be crucial. While there are resources available to help undergraduates get connected, my schedule made it difficult to visit offices and make extra visits to campus. While many professionals and employees at universities go above and beyond to help students connect, it felt overwhelming to try and balance academics, a part time job, athletics, and also still find time to connect with individuals I had yet to interact with.

Strong relationships with professors on campus made the difference in seeking research opportunities and ultimately committing. My on-campus academic advisor started the conversation of looking into research. He was able to provide useful information and point me toward other students involved in research who could help. Peer to peer interaction made seeking research opportunities less intimidating. While starting the conversation went well, extending past the initial conversations of interest was not as smooth.

Immediately I was met with skepticism. Professors raised concerns. Most undergraduate students dedicated at least 12 hours to labs and were available for meetings or sessions early in the morning. This also did not account for the time many dedicated to reading other labs' publications and working toward an increased understanding of the field. I was told no by multiple individuals and that it wouldn't be possible to be actively involved in research. While that answer was expected, it was difficult to accept. I was persistent, and I knew I wanted to make my involvement in research happen. I had an advisor tell me that while it hadn't been done before and they weren't sure it was possible, but if someone was going to prove them wrong, it was going to be me. I relied on previous performance as a student and the guidance of my on-campus advisor to be an opening to make the impossible happen. This is where I learned the importance of encouraging athletes to appreciate the resources they have on campus. Athletics offers so much support, but that does not negate the need to appreciate the people on campus. Early in my academic career, I made efforts to connect to mentors and advisors on the campus side. Being an athlete ties you to a university, and I wanted to make the most out of that privilege. I was constantly reminded by each side of my support system that I was more than an athlete.

Once I was involved in research, I was committed for the long haul. I loved the process of identifying a study question, collecting data, and attempting to make sense of findings. I spent multiple years in research, and co-authored multiple published papers. I was fortunate to join a lab where collaboration was the basis for our work. After finishing my undergraduate degree, I wanted to pursue a master's in the same field of study. My undergraduate involvement carried over directly into a year and a half of graduate coursework. While a coursework option was possible, I knew I enjoyed research and wanted to see if it would be possible to pursue completion of another research project culminating into my thesis project. All of this continued while I was still competing in my final year of eligibility in rowing. There were times that the commitment was difficult, but it was more than worth it in the end.

By participating in undergraduate research, I gained so much. I learned multiple highly specialized surgical and research techniques. This has allowed me to consider a broad range of careers and opportunities in the long term. I learned how to apply critical thinking and try to make sense of research findings. As an active participant in research, I didn't always consider the benefits that others think of. I knew that I was learning and being challenged in a way that was fun and exciting. Learning in the lab benefitted me as an athlete. I was fortunate to be a part of an athletic team and a lab group. Both of these groups played a significant role in shaping me throughout my undergraduate and graduate career.

While my undergraduate research involvement has ceased, the studies and data completed during that time have continued to build into more publications. This mirrors the benefits I feel, in that everything learned during this time has continued to shape my career path and the type of professional I want to be. I am grateful for the people who believed that I could and all those that helped to make my involvement possible. I have had the privilege to meet several student athletes also interested in research, but I am especially struck by the number of conversations I have had with people who want to get into research but don't know how or think that they can't. It would be incredible to have more athletes involved in research across every field. I think it's possible, and I look forward to the day when it's not a question of how we get athletes involved.

Mike's Story

I have always been an athlete. My dad was my youth soccer coach, I had an opportunity to try and play hockey and went right back to soccer when the seasons crossed. I went to high school and started the fall on the soccer team and was quickly recruited to the football team. A 6-foot, 245-pound freshman is hard to not notice when the PE coach was the defensive line coach for the varsity

football team. After the track season in the spring, I started at Right Guard for the varsity football team in my sophomore year. At the time I didn't think my football skills would take me to college but upon graduation, I took the opportunity to play Division I football.

I have always had great academic expectations set on me as well. Growing up, only "A's" were acceptable. I had honor roll accolades through primary and middle schools and graduated with high honors in high school. [I was] always having some sort of outside involvement with both academics and sports: Gifted and Talented Education in primary school, National Junior Honor Society in middle school, AP and Honors classes with research in high school.

I tried out for the UNLV Football Team leading into my freshman year and earned preferred walk-on status for the football team. I worked out in the school gym and was kept in the loop by the player coordinator for the team on the goals set for me coming into the team at the end of the spring. This burned my redshirt year. But during the following spring, I was a starter on multiple special teams. After the next season, I played a handful of downs on offense. The coaching staff awarded me a full scholarship on the team, and I had the rest of my education paid for while playing as a Rebel.

During this time, I changed my major three times in my first two years landing as a Psychology major with a minor in Criminal Justice. Brain development and usage was fascinating to me and I needed to know more. I joined the Cognitive Research Lab under the mentorship of Dr. Daniel Allen and Dr. Janice McMurray. I earned the maximum number of research credits allowed by my degree in just one year working full time in the lab. I continued my research on pre-frontal development "for free," not earning credits for the remainder of my undergraduate degree because the lab had become another home for my development, and I didn't want to waste the opportunity to grow intellectually. As an athlete, I was granted some "extras" that all other students must seek out. Silent sanctuaries to develop including the locker room, film room, training room, training table, study halls, etc. But the research lab, opportunity served to all students, is the place that I developed academically and a key development to my professional attitude and work ethic. Sport develops characteristics that are relatable to the workforce, but the research lab develops actual work experience.

Collaborative Storytelling of Shared Themes

Through collaborative storytelling, shared ideas and experiences from the three narratives highlighted themes about athlete participation in UR that are connected with quotes from the stories in Table 2 (Mahoney, 2007). These themes include staff and faculty encouragement, student focus with athlete mindset, and meaningful research experiences.

Discussion

With limited time to pursue activities outside of the classroom and sport, these stories showed an intentional choice was made by the researcher-participants to dedicate time for UR. Table 2 shows that each received mentorship and encouragement from faculty or staff. These former athletes capitalized on their athlete mindset while focusing on research. They had worthwhile UR experiences that led to tangible benefits (e.g., conference presentation) and intangible advantages (e.g., transferable skills). All three entered graduate programs after participating in UR, and studies have shown UR is a pathway to graduate education (Schmitz & Havholm, 2015). Kennedy and Mike continued competing in their sport after starting graduate school and, after already balancing athletics, classes, and research as undergraduates, managed their time well.

Kennedy highlighted her team's culture and strength coach intern as positive influences in her success, and self-advocating for UR opportunities. Mentorship was especially meaningful to Alyssa, a first-generation college student, only exposed to UR her senior year. This taste of UR led her to

Table 2. Shared Themes from Narratives

Staff and faculty encouragement

Quotes

“I joined the Cognitive Research Lab under the mentorship of Dr. Daniel Allen and Dr. Janice McMurray.” (Mike)

“My on-campus academic advisor started the conversation of looking into research.” (Kennedy)

“My next and final semester of undergrad I was able to earn an internship working with K-State Athletics’ Director of Sport Psychology, Dr. Ian Connole...I was able to shadow team meetings, help prepare exercises and facilitate them, and I was even able to get my start in undergraduate research.” (Alyssa)

Student focus with athlete mindset

Quotes

“My perspective as an athlete led me to an interest in decision-making and how the idea of pressure influences those decisions. I was able to create a research project for one of my psychology courses that looked into this idea and found that pressure did impact decision-making and performance.” (Alyssa)

“Being an athlete ties you to a university, and I wanted to make the most of that privilege. I was constantly reminded by each side of my support system that I was more than an athlete.” (Kennedy)

“As an athlete, I was granted some ‘extras’ that all other students must seek out. Silent sanctuaries to develop including the locker room, film room, training room, training table, study halls, etc. But the research lab, opportunity served to all students, is the place that I developed academically and a key development to my professional attitude and work ethic.” (Mike)

Meaningful research experiences

Quotes

“By participating in undergraduate research, I gained so much...This has allowed me to consider a broad range of careers and opportunities long term. I learned how to apply critical thinking and try to make sense of research findings. As an active participant in research...I knew that I was learning and being challenged in a way that was fun and exciting.” (Kennedy)

“Sport develops characteristics that are relatable to the workforce, but the research lab develops actual work experience.” (Mike)

“At the end of my internship, Dr. Connole had me apply to present this information at the Association for Applied Sport Psychology Annual Conference in Orlando that Fall. Hesitantly, I applied for a poster session and was accepted. Being able to...talk to like-minded professionals in the field was a stunning experience.” (Alyssa)

change directions with her graduate education and become a GA in OURCI, where the Developing Scholars Program (DSP) “offers high-achieving, serious-minded, historically underrepresented students research projects in their field of study with faculty mentors. Scholars will receive academic, social, and financial support while becoming integrated into the intellectual climate of the university” (KSU, 2019b, para. 1). DSP is structured, has faculty mentoring and peer support, is staffed, and incorporates a research seminar course for undergraduates. Institutions should consider a staffed office for UR and programs like DSP, inviting athletes to participate along with other student populations.

Implications

The former athletes shared, in their own words, the implications for athletes’ involvement in UR.

Alyssa

Through trial and error, I learned the following aspects throughout my time in OURCI:

- It is all about connections and having undergraduate research experience is a solid route to attain some of those.
- Undergraduate research increases the level of overall learning.
- Students learn time management, how to follow directions, how to think creatively and abstractly, and how to present this information to multiple different people.
- Always ask questions.
- Research is what you are doing when you do not know what you are doing.
- Take advantage of every opportunity presented to you.
- Sometimes professors expect more from you than you can offer, but most of the time, professors become a person that an undergraduate researcher can rely on.
- It looks amazing on a resume or CV.
- Employers and graduate schools like to hear what you attained from this experience, do not be afraid to talk about why you enjoyed it.

Kennedy

Critical components to increasing participation of college athletes in research:

- Meet students where they are. From positive experiences with others (the strength coach intern), I pursued a major that was not originally on my radar. By having a trusted individual approach me in an environment I was comfortable with, opportunities were made possible. There are research centers and groups available to help students pursue research, but I struggled to take advantage of those opportunities despite being motivated to find a lab to work in. Athletes live structured and planned lives. Outreach to students has increased the platforms and spaces used to meet students where they are. Athletes are similar to any student group. By visiting facilities, practices, and continuing the positive experiences, word of mouth becomes a powerful tool in guiding students to pursue research involvement.
- Flexibility and appreciation. Research is important. And there are certain protocols and procedures that will have time limitations. By legitimately appreciating that student athletes focus on their sport is valid, professors and supervisors can begin to build a sense of trust. There are multiple facets of research that can be completed around the prior time commitments of student athletes. Some practice times and adjustments can also be made on the athletic side with proper planning. The tenacity and dedication common across sports will help students complete these tasks. By showing a commitment to a huge portion of their identity, students feel compelled to continue to develop other aspects of who they are. Athletes are not the only students with schedule constraints to consider. For faculty, with communication and an attitude that considers making things work, it is possible to increase college athletes’ access to research involvement.
- Relationships. While there has to be a mutual commitment from faculty members leading UR

opportunities and participating athletes, one of the key components to my continued involvement in the lab was the concern and care from my major professor. He understood my schedule. When I voiced an interest in pursuing involvement, he showed genuine interest in making it work. He cared about my well-being as a student, a researcher, and an athlete. Relationships can also be cultivated with athletic academic advisors, coaches, and other athletes. By having people around students understand the value of research, we can start the conversation to increase involvement.

- Tell students they can. I had my fair share of people who doubted that I would be able to balance research and actively competing as an athlete. While that motivated me to prove them wrong, it will not be the case for every athlete. I had peers who were just as interested in learning and pursuing involvement in labs, but ultimately decided not to due to professor's inability to see the importance and opportunity to compete as a collegiate athlete. Approaching the conversation with an open mindset changes the game. Instead of focusing on why it won't work, a little creativity and patience can go a long way.
- Research often takes place year-round. During competition season, my professor knew that my involvement would be limited. My ability to participate in conferences and opportunities to present research were severely limited, but I was still able to be a productive lab member and make meaningful contributions to published research across time. While my experience may have differed from the "usual" experience, it was still meaningful. Off season and summer offered the opportunity to increase involvement and take more ownership over projects. It may not be "standard" or "typical" but gaining experience can happen at different times.
- Communication. By creating a safe space and knowing that I could ask questions, I was able to have the needed conversations to make everything work. Clear expectations from advisors and a mutual goal setting process for progress and project completion created a space where realistic expectations were possible.
- A positive team culture. While campus played a pivotal role in my involvement, knowing that my coaches encouraged all athletes to explore their passions and say yes to opportunity was huge. While my responsibilities and time demands increased as I continued my involvement with research, I knew that my team was willing to look at how to make it all work. Research is an incredible academic opportunity and knowing that I was supported and encouraged to pursue this made all the difference.
- Understanding college is for development. When I first came to college, I struggled academically. It was because of my support system that I was challenged to relearn how to be a student. Because others legitimately wanted to see me excel, I accomplished more in five years than I thought possible. There is more potential for success in students than is always acknowledged. When I began to approach school the same way as rowing, learning from square one and giving myself time to breathe, I began to see positive results.

Mike

Recommendations for athletes to apply themselves in the classroom are essential and come from all support groups, including the majority of coaches and professors. Additional research recommendations don't come lightly in that this would be an addition to expectations in the classroom and on the field.

- There needs to be an end goal for life after sports for all athletes through clichés: that you are a STUDENT athlete, not an ATHLETE student. Working in a research lab to overcome professional failure in the future after sports is difficult but will accompany all accolades earned.
- The dedication and passion essential to succeed as a collegiate athlete with time, focus, and workload doubles when combined with development necessary to succeed in the declared field of study as "just" a student. Not many people have the energy to do both, so I believe it

isn't for every athlete. But there is a select group that would thrive under that pressure and succeed both on the field of play and in their field of study, developing professionals ready for all challenges in life via the decision to add research to their overall workload.

Limitations

With three narratives to explore athletes and UR, there are more opportunities to explore this phenomenon in future studies. These were specific experiences of former NCAA Division I athletes at large, public institutions, and studies (e.g., Mahatmya et al., 2017) have noted more UR involvement at masters and small liberal arts colleges compared to research-focused, doctoral institutions. Additionally, “triangulation in a storytelling sense is almost impossible to achieve” (Webster & Mertova, 2007, p. 91). The reader must rely on the narratives’ richness, details, persuasiveness, coherence, and accessibility to understand the study.

Conclusion

Limited research has studied athletes’ engagement in HIPs, especially UR. These stories advanced our understanding of UR’s value for college athletes. Whether brief or long-term, all three athletes’ UR experiences were impactful on their confidence, skill-building, and future directions. They applied their athlete mindset when approaching UR. UR participants reap significant benefits, especially the former athletes who shared their stories. Coaches and athletic administrators should heed the advice from the narratives and positive benefits from athletes’ participation in UR, encouraging athlete participation in such opportunities (Kim, 2016; Priest & Seemiller, 2018).

Despite the longstanding “dumb jock” stereotype college athletes face (Simons et al., 2007), Nagda et al. (1998) announced, “It is possible to concentrate on both the educational and research missions of a university to the benefit of undergraduate students” (p. 70). In this case, UR can showcase talented athletes when they have the opportunity to participate (Ishaq & Bass, 2019). This takes intentional mentorship by staff and faculty, a culture of engaging athletes on campus, supportive coaches, and ensuring athlete awareness about UR possibilities. In turn, athletes will see UR experience open doors to future pathways that are beneficial not only to them, but their institutions and academic disciplines, just as Alyssa, Kennedy, and Mike have indicated.

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