



PURM
Perspectives on Undergraduate
Research & Mentoring

Student-Athletes Narratives about Engagement in Undergraduate Research

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Undergraduate students are often exposed to a myriad of opportunities to engage in their college communities. Varying levels of involvement at the undergraduate level have been found to enhance their college experiences, particularly in terms of persistence (Linn et al., 2015) and academic achievement (Bowman & Holmes, 2018). Astin (1999) discussed the importance of undergraduate student involvement, specifically focused on “the amount of physical and psychological energy that the student devotes to the academic experience” (p. 518). Overtime, Astin’s (1999) student involvement theory has been used as a basis for explaining the importance of having undergraduate students become engaged on their campuses in an effort to increase their likelihood of graduating and becoming productive citizens.

Student-athletes are actively involved on their campuses. Their involvement looks different from their non-athlete peers and there have been negative perceptions about student-athletes' engagement on their campus outside of athletics (Comeaux, 2011). Regardless, researchers have identified that student-athletes have a strong interest in their academic experiences as much as their athletic engagement on campus (Comeaux et al., 2011) and benefits of high impact practices to increase their engagement (Woods et al., 2019). Students benefit from consistent engagement with faculty in academic settings, particularly through mentorship relationships (Comeaux et al., 2011). The lack of time student-athletes have to participate in campus engagement opportunities can lead to deficit thinking about their interest in and ability to participate in meaningful experiences. Research opportunities, as a form of engagement, are beneficial to undergraduate students and increase their likelihood of persistence, expand meaningful engagement, and enhance their opportunities for post-graduation success (Fechheimer et al., 2011). Yet, how do student-athletes express their interest in and identify opportunities for undergraduate research in consideration of their challenges of time? And, how do these opportunities benefit their college experiences?

In this paper, we use narrative ethnography to capture the experiences of two Division I student athletes and their experiences as undergraduate researchers. First, we will review relevant literature to discuss the impact of athlete identity, perceptions, and lifestyle, and how it influences student-athlete engagement on campus. Next, we consider the benefits of undergraduate research opportunities as a mediator for academic inclusion and athlete identity. We describe the use of narrative ethnography and methods used to gather the experiences of two of our co-authors. Then, we share the findings from the narratives and present implications of this study for higher education administrators and faculty members.

Student-Athlete Engagement and Undergraduate Research

Engagement and Identity

Student-athletes are a positive contribution to their campuses. They use their talents and time to win games, increase the visibility of the campus, and create a sense of community among their peers. The experiences that they have are insular, however, as the responsibilities and demands decrease opportunities for engagement. As such, they are considered as receiving favorable treatment, separating them from real college experiences. This otherness has historically created negative perceptions about student-athletes. Also, student-athletes have limited time for academic engagement due to their demanding practice and travel schedule. This creates a need for careful course planning as well as early and frequent discussions regarding academic engagement opportunities. These conversations usually happen in the advising office. Most institutions now have realized the need that student-athletes have for career and professional development. The field of student-athlete development has seen tremendous growth in the past few years. This position is critical as they help student-athletes find and develop their identity, utilizing all the skills and attributes the students have gained from their experiences as a student-athlete.

The concept of athletic identity has been researched and the findings are quite consistent. Melendez (2009) found in his study that males reported a higher sense of athletic identity, and that was also true for white student-athletes. Females showed a higher rate of social adjustment to college. The higher the levels of athletic identity, the lower the engagement to academics and career development. This is consistent with other studies on identity in college student-athletes. Adjusting to college may be more difficult for student-athletes as they are not only dealing with a transition to college, but also to life as a student-athlete. It is important to note that this is also true for high achieving student-athletes. International student-athletes have additional layers of adjustments as they are having to adjust to a completely new country and culture, and many times a new educational system. Student-athletes who are also first-generation college students also face additional adjustments. The transition and adjustment to being a student-athlete in college for many is a lot to overcome and can result in being less likely to engage on campus.

Lally and Kerr (2005), found that student-athletes' identities, career goals, and academic engagement changed as they progressed through their collegiate career. Their initial athletic identity was very strong, and they felt that the lack of time impacted their initial lack of engagement at the university, especially in other career-related activities. However, as they developed through college, their academic engagement became stronger and their student roles became much more dominant. Some student-athletes report a sense of loss of identity when they graduate from college and they are no longer identified as a collegiate student-athletes. Being more involved in academic engagement opportunities on campus and in their community during their collegiate years would help develop and grow their identity, lessening the transition after college. Lally (2007), found that when student-athletes started the process of thinking more about life after their athletic career, their athletic performance did not decrease. This suggests that universities and athletic departments should continue to place an emphasis on professional and career development while in college.

Undergraduate Research and Benefits to Student-Athletes

Student-athletes have decreased availability to pursue university opportunities outside of athletics. However, it should be noted that athletic responsibilities are a significant university opportunity and not considered as a lesser involvement activity. Yet, students who participate in undergraduate research opportunities have increased engagement at their university, which leads to “the foundation of skills and temperaments people need to have to live a fulfilling, productive life after college” (Crowe & Boe, 2019, p.1). Students who engage in undergraduate research have increased interest in STEM fields (Fechheimer et al., 2011) and greater levels of engagement with their professors in the classroom. Student-athletes have, reportedly, experienced challenges in

student-faculty relationships. Faculty can have negative perceptions about student-athletes' efficacy in the classroom, especially if they are students of color and women (Comeaux, 2011). Undergraduate research opportunities in social sciences often have less student participation than in physical sciences (Fechheimer et al., 2011). This indicates an opportunity for increased student participation and mentorship opportunities.

Participation in research can enhance students holistically as undergraduate students. Undergraduate research that is community-engaged provides opportunities to learn about community issues and increase their interaction with community residents (Crowe & Bowe, 2019). This is positive for student-athletes as they have decreased opportunities for community engagement outside of athletic-related activities. Mentorship has been identified as an area of need for student-athletes (Bimper, 2017; Nottingham et al., 2017). Several studies have indicated the mentorship benefits of undergraduate research opportunities for both faculty and graduate students (Linn et al., 2015; Stanford et al., 2019). The mentorship opportunities, especially those in research, can happen in several ways. Becker (2020) suggests that research opportunities should occur across the curriculum: first-year seminars, introductory courses, advanced science courses, and capstone projects.

The varied ways in which students can engage in undergraduate research demonstrates dexterous opportunities for student-athletes who often have limited exposure, awareness, and engagement with research opportunities due to time constraints. Conzo and Johnson (2017) found that the most beneficial part of the research experience for undergraduate students was the mentorship they received from faculty members. This may represent opportunities for faculty and student-athletes to work together to create viable opportunities for research. Carpi and colleagues (2017) identified the sophomore year as the ideal year to recruit students for research opportunities. Early engagement for research is the key to success.

Mentorship from undergraduate research opportunities benefits students' post-graduation plans (Linn et al., 2015). The commitment of time, financial investments, intellectual commitment, and transition to lab culture can be a challenge for students (Linn et al., 2015). However, colleges and universities have increased the quality of and access to undergraduate research. The benefits of these opportunities include increased self-confidence, scientific skills, and increased chances for women of color to transition to graduate school (Fechheimer et al., 2011).

Frankly, we desire for all student-athletes to have the opportunity to engage in undergraduate research opportunities. The reality is for most, this is a difficult opportunity to identify, prioritize, and complete successfully. However, the benefits, affirmation of identity, and building of professional skills, increase the importance of discourse for this population. As such, this study seeks to focus on how student-athletes' research experiences enhance their lives. The narratives of two student-athletes will provide an intimate retelling about the benefits of undergraduate research during and after college.

Study Method

The purpose of this study is to examine the experiences of student-athletes who engage in undergraduate research. Two co-authors were undergraduate student-athletes at a large public university. One is a current student-athlete and the other is a former student-athlete (both will be referred to as students in this study). Conversations with both athletes indicated a shared experience of undergraduate research with differing experiences. To examine their individual and collective experiences, our research question for this study is: How does participation in an undergraduate psychology research lab enhance a student-athletes' academic experience? At the heart of this research, is an emphasis on reflection and storytelling. Multiple conversations and reflection about

the athletes' experiences conducting research indicated a need for deeper understanding of the events that impacted their personnel and academic growth in a psychology research lab as undergraduates. Narrative research methods were used in this study to elicit athletes' stories authentically through self-reflection.

Narrative research or inquiry is a qualitative research method that seeks to enhance our understanding of individuals' lived experiences through stories. Narrative research "uses stories to understand the meaning of human actions and experiences, the changes and challenges of life events, and the difference and complexity of people's actions" (Kim, 2015, p. 11). The emphasis of storytelling is ingrained into our human experience. The telling and retelling of lived experiences leads to knowledge and understanding "that is meaningful, and [informs how] our human actions take place informed by this meaningfulness" (Kim, 2015, p. 190). Narratives can be spoken or written, both of which occur in this study. Researchers have validated the use of narratives as a rigorous research method across multiple disciplines (Lieblich et al., 1998; Ollerenshaw & Creswell, 2002; Remenyi & Williams, 1996). Furthermore, narratives center on individual voices within specific contexts.

Grysmen and Lodi-Smith (2019) suggest that narrative research is an ideal approach to collaborate on research with students, particularly due to an emphasis on rigorous research methods. In this study, we use two students' stories to interpret their lived experiences with a particular phenomenon, undergraduate research opportunities in a psychology research lab. Narrative research in the field of education is used to "interrogate the nature of the dominant curricular stories through which humans have shaped their understanding of education and schooling" (Kim, 2015, p. 19). Both stories provide a lens to challenge preconceived notions about the ability of student-athletes to conduct research as undergraduates and unveil unknown knowledge about the experiences of undergraduate researchers.

Data Collection and Analysis

The structure of data collection and analysis aligns with Clandinin and Connelly's (2000) three-dimensional space approach. There are three elements to this approach: interaction, continuity of temporality, and situation or place.

First, interaction is centered as engaging with participants is central to gathering narratives (Clandinin & Connelly, 2000). To collect stories, researchers engaged in several critical conversations to discuss both students' research experiences. This involved both individual and social connections between the authors to identify potential viewpoints and intentions (Ollerenshaw & Creswell, 2002). Five themes from conversations were drafted to be used for self-reflective journaling: research interest, student-athlete responsibilities, support and resources, challenges and limitations, and personal experiences.

Second, continuity or temporality refers to the context of past, present and future (Clandinin & Connelly, 2000). Students were instructed to engage in critical self-reflection and to capture their reflections using the five themes over a four-week period of time. The five themes were loosely encouraged as a way to frame the reflection. Third, stories that were collected were limited to where they happened as far as physical places (Ollerenshaw & Creswell, 2002). Narratives collected were focused on research experiences primarily, with some attention to influences that led to research opportunities and current impact of the research experience. Reflections were captured electronically and shared with all authors for coding.

Each narrative was coded using inductive coding methods (Syed & Nelson, 2015). All authors reviewed the reflections and provided suggestions through highlights about both narratives. This

includes authors coding their own stories as a point of trustworthiness through member checking. Codes were created using direct quotes from individual narratives and grouped into larger themes. Themes and quotes from the narratives are discussed in the narrative findings section.

Authors and Context

Noumea and Kelly's stories are the foundation of this study. They both attended a large, public institution in the southeast that participates in Division I sports within the NCAA. Noumea is a fourth-year tennis player and an international student. She majored in psychology and conducted research in a psychology lab. Kelly, too, was a psychology major before she graduated. A member of the soccer team, Kelly's experiences as an undergraduate researcher influenced her post-graduation plans.

Limitations

Limitations of this study include the selection of student-athletes who could participate in this study. The student-athletes selected was based on convenience. The lead authors identified student-athletes who 1) had an experience with undergraduate research and 2) identified an interest in pursuing a graduate degree. Noumea and Kelly were selected based on proximity (close relationship with lead authors) and a shared experience in the same undergraduate major.

Narrative Findings

This section will be organized into three themes: student-athlete experiences, personal growth, and lessons learned. Each theme will highlight individual codes and define each code through stories.

Student-Athlete Experiences

Kelly and Noumea alluded to the importance of their student-athlete experience in relation to time constraints and personal benefits of being an athlete. Noumea discussed the balance of academic expectations and athletic responsibilities.

Also, there are events during the year to acknowledge student-athletes who uphold high standards in their academics and athletics. After the Fall semester, I declared a second major: Sociology. I was still unaware of what I wanted to do with my degrees after college, although to strengthen my application after college, I decided together with my athletic student advisor that if possible, with my tennis schedule, I would try to pursue two majors at Virginia Commonwealth University in 3.5 years.

Although it can be considered that being a student-athlete gives its own responsibilities that need to be followed and can take up time of your schedule that otherwise could have been used to have an internship or a part-time job. There is some flexibility that can be discussed with coaches to allow you to gain this experience. However, it depends on the opinion of your coach. Together with having two majors, a General Business minor I added in the Spring semester, and a busy tennis schedule that includes traveling, I found that during the school semester I would not have time for something next to it [internship].

Noumea's story highlights two things. First, athletic responsibilities require discussions with advisors and coaches in order for student-athletes to pursue their academic goals. Noumea was ambitious, taking on a double major while seeking out employment and playing tennis. Her story reveals the importance of awareness of what opportunities are available despite a restricted schedule. Further, Noumea revealed the influence of a coach on academic decisions. This may be due to time constraints and team responsibilities.

Kelly, too, discussed the challenge of pursuing her academic goals and balancing her athletic responsibilities. In fact, she highlighted a need for student-athletes to have support from the athletic department to pursue their goals due to demanding expectations.

Student-athletes need to be encouraged to find their passion outside of playing sports and find people who share that passion as well. Student-athletes need to be relentlessly encouraged to expand their professional skills while in undergrad. (After all, student-athletes practice key characteristics every day that are essential in the professional world.) However, in order to succeed at this, the athletic department (administration and every coaching staff) must find value in this concept collectively. Coaches will mandate practices and film sessions to improve their players' craft in their sport. Administration will mandate volunteer hours in order for the student-athletes to play an active role in the community and serve as role models. Advisors will mandate study hall hours to ensure success in the classroom.

Kelly's story indicates possible strain for student-athletes who seek ambitious academic goals while desiring balance with their athletic responsibilities. Further, she reveals additional challenges to schedules: volunteer work, sport meetings outside of practice, and advising meetings. She continued this part of the story with an expectation that support from the athletic department is imperative for student-athlete success.

If the student-athlete experience is a priority for the university, the student athlete's future should be looked after with the utmost seriousness. Opportunities to expand their professional skills are essential. One should be able to do the best they can for their future, as well as perform successfully as a student-athlete... with the proper help from their administration and coaches.

Both Kelly and Noumea illuminated a struggle for balance with academic and athletic responsibilities and a need for support to find that balance from athletic department administrators and coaches. Kelly further explained that, "Even the student-athletes that are driven to do the most and do it all well - the concept is the same - student-athletes need extra help." Kelly's words suggest a need among student-athletes for more support to pursue their goals. Many student-athletes are extremely driven and very successful both academically and athletically, but as both Kelly and Noumea pointed out, even the most successful student-athletes still need help.

Research Internship Experience

Kelly and Noumea were both psychology majors. The concentration Kelly chose required an internship (either research or professional), but Noumea's concentration listed the experience as an option. They both decided to participate in a research internship, one where they worked directly with a professor throughout a semester on a research-focused project. Noumea discussed the benefits of this opportunity.

What I noticed from my conversations with my mother and other students is that they have focused on finding an internship to get more experience or even having a part-time job in the field of Psychology. I am aware that I realized rather late that strengthening my application for graduate school or future job positions would require me to gain experience besides acquiring my bachelor's degree.

Noumea's story suggests that having a meaningful research experience was pivotal for her future plans. However, as an international student, she faced additional challenges to secure the opportunity. She shared, "The difficulties I had to face in these opportunities as an international student-athlete were that some professors only provided internships during the school year or that

you need the means of transportation.” Noumea expressed both a desire and an obstacle to participating in a research internship as an international student. To overcome this, she shared her personal sacrifice.

Together with having 2 majors, a General Business major I added in the Spring semester, and a busy tennis schedule that includes traveling, I found that during the school semester I would not have time for something next to it [the internship]. That’s when I decided that I would have to stay in the summer if I wanted to take an internship. Not only is this a sacrifice of my summer vacation, but also the time spent away from my family and friends in the [home country]. Furthermore, finding an internship was challenging since it is advised but not required by the Department of Psychology.

Noumea shares her sacrifice of not visiting her home country in order to have the opportunity to participate in undergraduate research during the summer. Her story highlights the challenges that not only student-athletes, but also international students may face to secure research opportunities. Psychology is the largest major at the university and, with a limited number of internships available, Noumea points out another obstacle that student-athletes with an interest in internship opportunities may face. She also highlights another challenge she had to overcome in order to identify and secure support for the internship.

Besides, all the internships that were mentioned at the [internship] fair were unpaid and work towards credit for graduating college. Since it works towards credit you need to pay for the internship course, which would need the approval of the coaches and the athletic department. At the end of the Spring semester when I found an internship, I got the approval of the coaches and the athletic department that they would financially support me to acquire experience and strengthen my knowledge for future graduate school.

Noumea’s story discussed the research internship as an additional cost, requiring multiple levels of approval, and aligning with her future goal of attending graduate school. This suggests that student-athletes with similar backgrounds may face a multilayered process to acquire research opportunities.

Kelly also highlighted what she did to create an opportunity for the research internship: “I had to form relationships with professors, ask to meet with many of them outside of class and inside my impossible schedule.” She discussed the benefits of her internship experience and how it related to her professional aspirations.

I not only learned what the psychology field was like, the amount of energy it takes to conduct a study, and conduct the study well... I learned how and what to do before, during, and after applying to graduate school. I learned what kind of graduate school was right for me, and why. (The field of psychology has many branches, and paths to choose from.) I learned the unwritten rules of the application process. I learned how to organize my life to achieve my ultimate goals. I learned the characteristics of a qualified candidate for a doctoral program and practiced those characteristics. I can confidently say these were not facts I could acquire from Google, and trust me, I looked. I needed people. I needed to form important relationships. I needed to find the facts by talking to the people who had experiences that I could learn from... but I needed to do that for the right reasons.

Kelly appears to have had many positive experiences as a result of her internship experiences. The benefits of her participation encouraged her to pursue graduate school. Noumea also shared her growth in skills as a result of her research experiences.

I was responsible for doing the recruitment of the participants, carrying out experiments, having weekly meetings with my group, and training together/other undergraduate research assistants. The internship required me to be available for 15-20 hours a week. During this time, I have learned how it is to conduct research and to read scientific papers to strengthen the knowledge of the particular study we were conducting.

Noumea and Kelly's research internship experiences demonstrate the positive benefits of research experiences, skills development, and positive impact on post-graduation plans.

Discussion

The purpose of this study was to investigate the experiences of student-athletes who engage in undergraduate research. Noumea and Kelly's stories reveal challenges and successes associated with participation in undergraduate research opportunities. Both women had shared experiences: Division I student-athletes, same institution, time constraints, and the same major. However, Noumea's experiences as an international student illuminated further challenges of personal sacrifice to benefit from this opportunity. The findings demonstrate that undergraduate research opportunities are not monolithic. Even for those fortunate to participate in it, they have had varied experiences.

Research demonstrates that women are more likely to engage socially than males in college (Melendez, 2009). The women in this study engaged in undergraduate research not only for the social aspect but also to align with their career aspirations. In fact, engaging in research enhanced their confidence, increased their readiness for graduate school, and provided them with professional experiences not offered by their athletic participation. Challenges related to time constraints, multi-layered and competing responsibilities often made it difficult for Noumea and Kelly to easily consider engaging in research. We posit that the skills gained in research or a research internship are equally important as athletic responsibilities. Kelly and Noumea were able to envision themselves in academic and professional spaces after graduation as a result of engaging in research. Kelly shared that the research environment provided her with "the most essential and impactful skills for my future". This demonstrates the importance of this opportunity as a priority for their development rather than an option only if it fits within their athletic responsibilities.

Student-athlete development is often a priority for student-athlete academic advisors, student-athlete development offices, and student-athletes, but in order to truly make it a holistic experience that is valued, it must also be a priority for the coaches as well. Degree planning, community outreach, obtaining valuable experience through research opportunities or internships, and preparing for graduate school or a career after college are all essential parts of student development. Both Noumea and Kelly sometimes felt on their own while navigating the many levels of figuring out how to obtain an internship and realizing too late the value of presenting at a conference. Early and individualized career planning will help prepare student-athletes with this but adding an intentional focus on helping student-athletes develop relationships with their professors, advisors and other administrators on campus would make a tremendous difference. Implementing this change means we have to care enough to step outside of our comfort zone in order to cultivate relationships with one another that encourage the pursuit of the student-athletes' life passions. This is bigger than sports. This not only ensures the success of the student and the athlete, but also the future professional.

Perspectives for Practice

Faculty and Administrative Perspective

Athletic departments have to continue to emphasize the complete student-athlete experience. Traditionally, there has been a focus on preparing students and student-athletes for life after college,

which may include graduate school preparation, career fairs, and other programming events – but the majority of programming has been taking place towards the end of a student-athlete collegiate experience. It is inspiring to see the change, focusing on the entire student-athlete experience, starting with the first semester in college. It's never too early to start building skills and experiences for life after college. This is seen in general student programming as well, with four-year plans becoming more and more common, outlining what type of experiences would be ideal during each year of college.

There has to be an intentional effort towards informing and encouraging student-athletes to participate not only in development of programming, but specifically in undergraduate research experiences. This holistic approach has to be communicated often and to everyone in the department, so the coaches are also aware and can also encourage these experiences. If there is enough value placed upon it, there is a greater chance that the student-athletes will be aware and dive into different opportunities earlier in their career. Additionally, due to the limited number of perspectives shared, this may limit the generalization of our findings and provides an opportunity for future research on this topic.

Student-Athlete Perspective

Student-athletes have incredibly busy schedules and high demands and expectations to meet, and many are far from home, but they also have many resources for help and support. Further, they have to take responsibility to plan their professional futures much earlier than their senior year. There are several opportunities for professional development and relationship building. Four years as a student-athlete can appear daunting, a mentor developed through meaningful relationships can be helpful. Relationships with faculty members, coaches, academic advisors, and the student-athlete development office are significant. Those relationships help build awareness about research opportunities and provide guidance for post-graduation planning. In addition, having an individualized four-year development plan for each student-athlete would help tremendously. This would help with ensuring that student-athletes don't start their career planning too late in their college career. Athletic departments can identify opportunities and share them with students earlier to assist with schedule conflicts and other challenges that may arise. Athletic coaches are encouraged to make space for student-athletes who express an interest in research opportunities that may conflict with athletic responsibilities.

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