

Student-athletes on Twitter:
A content analysis of media, gender and sentiment

by

Sara Savatovic-Hathorn

B.A., Kansas State University, 2017

A THESIS

submitted in partial fulfillment of the requirements for the degree

MASTER OF SCIENCE

Department of Journalism and Mass Communications
College of Arts and Sciences

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2021

Approved by:
Major Professor
Dr. Jacob Groshek

Copyright

© Sara Savatovic-Hathorn 2021.

Abstract

Social networking sites (SNS) have become the primary communication tool of the 21st century. Every age and demographic is using SNS for different purposes (Pew Research Center, 2019). Not only general society got to make use of it, but also corporations took advantage of it and used it as a part of their marketing, branding, and customer relationship strategies (Leonardi et al., 2013). Indeed, sport teams and organizations are also benefiting from it (Pegoraro, 2010). Moreover, individuals who are heavily involved in online conversations are athletes (Sanderson & Kassing, 2011). The term athletes is very broad, therefore, this study was only focused on student-athletes.

There are over 170,000 student-athletes competing in Division I (D1) National Collegiate Athletic Association (NCAA), the largest and richest out of all the divisions (NCAA, n.d.). To have a more exclusive sample, instead of focusing on the whole NCAA student-athlete population, this thesis only included the sport of basketball. Basketball is a high-revenue sport that fits both men and women, while the Big 12 Conference is one of the strongest conferences in the NCAAs (Ordway, 2020). The decision on the conference selection was due to the author of this study being a former Big 12 Conference student-athlete.

Altogether, this study focused on Big12 Conference basketball student-athletes and aimed to understand how these student-athletes use social networking sites, specifically Twitter. This study used Meltwater, a software platform for media analytics, to determine key metrics, gender disparities and sentiment. Results demonstrate significant differences between males and females, and this thesis went further in describing those findings. Lastly, the findings of this study can be expected to add significant findings to how student-athletes use social media, which can inform future studies and athletic departments on social media use among other athletes.

Table of Contents

List of Figures	v
List of Tables	vi
Acknowledgements	vii
Chapter 1 - Introduction	1
Chapter 2 - Literature Review	4
Social Media and Athletes	4
Twitter and Athletes	6
Gender Disparities in Sports Media	8
Athletes, Activism and Social Media	10
Theoretical Framework: Uses and Gratifications	12
Research Questions and Hypothesis	17
Chapter 3 - Methodology	21
Sample	21
Procedure and Measures	22
Chapter 4 - Results	23
Descriptive Statistics	24
Chapter 5 - Discussion and Implications	45
Chapter 6 - Conclusion	54
Chapter 7 - Future Research	56
References	57

List of Figures

Figure 4.1. Distribution Plots for Tweet Types	32
Figure 4.2. Word Cloud of Theme #1 , Theme #2 and Theme #3.....	34

List of Tables

Table 4.1. Student-Athlete Twitter accounts	24
Table 4.2. Descriptive Statistics by Total Number of Posts and Gender.....	24
Table 4.3. Descriptive Statistics of Overall Reach and Highest Original Post Reach by Gender	27
Table 4.4. Welch’s T-test of Overall Reach and Highest Original Post Reach by Gender	27
Table 4.5. Descriptive Statistics of Highest Original Post Reach by Categories	28
Table 4.6. Contingency Tables of Highest Original Post Reach by Categories	28
Table 4.7. Chi-Squared Test for Highest Original Post Reach by Categories.....	29
Table 4.8. Descriptive Statistics of Number of Followers by Gender	29
Table 4.9. Descriptive Statistics for Tweet Types	31
Table 4.10. Welch’s T-test for Tweet Types and Gender.....	33
Table 4.11. Welch’s T-test for Original Post and Gender	33
Table 4.12. Contingency Tables for Category All Themes and Gender.....	37
Table 4.13. Chi-Square Test for Category All Themes and Gender.....	38
Table 4.14. Descriptive Statistics for Sentiment and Gender	39
Table 4.15. Welch’s T-test of Number of Sentiment and Gender	40
Table 4.16. Linear Regressions for Number of Followers.....	41
Table 4.17. Linear Regressions for Overall Reach.....	42
Table 4.18. Linear Regressions for Negative Sentiment	43
Table 4.19. Linear Regressions for Positive Sentiment.....	44

Acknowledgements

I would first want to thank those who believed in me and gave me an opportunity to be a part of this program. I am grateful to Dr. Jacob Groshek, the chair of my committee, for inspiring my interest in social media analytics, and without whose guidance and support, this thesis would never have come together. Gratitude is also owed to my committee members Dr. Anan Wan and Dr. Katie Olsen, for every feedback, insight, and critique. Everything that you have done for me is greatly appreciated!

In addition, I would like to thank my husband Vashaun for his full love and support and also my dog Cotto for companionship during the writing process. I would like to acknowledge my cohort members, who always provided stimulating discussions and were there for all the help and support. Finally, I would like to thank my family for always cheering for me on, even from miles away, all the way from Serbia.

Chapter 1 - Introduction

Social media has become one of the most powerful and essentials communication tools. Currently, over 72% of US adults use at least one social media site, and every age and demographic is using social media for different purposes (Pew Research, 2019). It has also changed the way people communicate, as it gives users a platform to disseminate information. Further, with the emergence of personal Web publishing, individuals have had the opportunity to become media content producers, not merely consumers (Smith & Sanderson, 2015). Some of the most commonly used social media platforms include Facebook, YouTube, Instagram and Twitter (Perrin & Anderson, 2019). This present study only focused on Twitter, as Twitter enables a quantitative method approach, specifically, social media analysis.

Further, compared to many other sectors, people view sport as a unique experience. Indeed, people get very attached to sports as sports have a special place in their lives (Mullin et al., 2000) and differ from other forms of entertainment. Most importantly, high connectivity and bonding can evoke an emotional response from fans (Mael & Ashforth, 1992). People also have a sense of identity when they relate to their sports teams; some fans can even become depressed or have mood swings because of their team loss (Gwinner & Swanson, 2003).

Additionally, social media provides the opportunity for users to shape their narrative (Jackson, 2019). When it comes to athletes, they are the prominent faces of the sport. Social media allows athletes to be content creators but also to have direct communication with fans and the community. This indicates that athletes are very influential community members and can even serve as their own brand manager and public relations specialist (Frederick, 2017). Therefore, when combined together, both social media and sports can significantly impact people's lives, as both being dominant, widespread, and significant in this present time.

Additionally, numerous studies have analyzed professional athletes (Browning & Sanderson, 2012; Hambrick et al., 2010; Coche, 2016). Besides professional athletes, another impactful group is student-athletes (SAs). Student-athletes participate at the National Collegiate Athletic Association (NCAA). The NCAA has over 1000 colleges and universities, 102 athletic conferences, and three divisions. The biggest, the First Division or D1, has the most student-athletes, more than 170,000 student-athletes who compete for over 6000 sports teams (NCAA, n.d.).

In order to manage this large population, the sample in this thesis only included basketball student-athletes that participated in the Big 12 Conference, as basketball is one of the most popular sports that fit both men and women. Indeed, both programs have a fairly equal online presence, although men's basketball teams seem to have a significantly larger amount of followers (Chen et al., 2016). High-profile student-athletes are in the center of the public eye. Therefore it is important to study how they use social networking sites.

In summary, this study analyzed Twitter posts of the Big 12 Conference, both male and female basketball players. With a goal to determine how they use Twitter through key metrics, themes, gender disparities, and sentiment analysis. Key metrics in this study refer to overall reach, reach of the original post, and categories of the original post. Moreover, the study looked at the number of posts by student-athletes. Additionally, compared the number of followers between male and female student-athletes. Next, it analyzed themes and keywords to determine what student-athletes posted mostly about on their page. Lastly, the study examined a sentiment analysis to identify the sentiment of all content posted by student-athletes.

This study's results can be expected to add significant findings on how basketball student-athletes use Twitter, which can inform future studies of social media use among other athletes.

As the study had numerous basketball players, both sexes represented, and mixed schools across the Midwest region, the study aimed to also generalize findings to most of the DI college basketball population. Further, both the men's and women's basketball programs can benefit from social media tremendously in terms of boosting sales and sharing game-related information. As a certain level of miscommunication between SAs and athletic departments has been found (Boissonneault, 2015), this study also provided the NCAA, athletic departments, and other institutions valuable information for better understanding SAs association with social media.

Chapter 2 - Literature Review

In 2020, over 3.6 billion people were using social media worldwide, and this number is projected to increase to almost 4.41 billion in 2025 (Tankovska et al., 2021). In the past decade, with a massive diffusion of social media, sports organizations and athletes do not have to entirely rely on their news media to get information to the fans, as they can use social media to reach their audiences (Pegoraro, 2010). Teams are benefiting from social media as they not only build engagement with their fans, but also get immediate feedback regarding any issue from any fan across the globe (Mahan, 2011).

Social Media and Athletes

Athletics departments across the country have adopted the use of social media, and they support individual teams in the promotion of their own social media pages. Social media also benefits fan engagement and has impacted the development and improvement of the online community (Blaszka et al., 2018). Athletics departments have indeed recognized the importance of social media to their communities, and many athletic department administrators and coaches are becoming increasingly concerned about the way in which student-athletes utilize social media.

One of the first studies about social media use among student-athletes by Snyder (2013) found that student-athletes enjoy using social media, use it very often and had positive attitudes towards its role in their lives. The most popular social networking sites were Facebook (53%) and Twitter (20%), and three other forms Instagram, Viper, and Tumblr (20%). More importantly, student-athletes who have a higher intensity of social media use tend to allow greater access to their social media profiles or accounts (Snyder, 2013).

Another study on Student-Athletes on Facebook by Lampe and Ellison (2010) have found that student-athletes have positive perceptions about their Facebook use. Student-athletes also felt that they represent themselves well on their Facebook profiles, as some of them use it strategically to present a positive image of themselves online. Facebook has been shown to be a valuable tool for team building in the offseason; but also to coordinate their activities, interact with their fans, and mentor younger social media users (Lampe and Ellison, 2010).

A more recent study of student-athletes and students found they use social media primarily for entertainment purposes (94%). Their preference of social media platforms also differs compared to the earlier studies. Participants ranked social media platforms as follows: Instagram as most important (58.8%), Twitter second (40%), Facebook third (45.9%), and a large group (81.2%) voted for LinkedIn as the least important or least used social media platform (Boissonneault, 2015).

Moreover, extensive use of social media has caused many student-athletes to have been disciplined for personal disclosure and activities on athlete's private social media accounts (Snyder, 2013). Also, Sanderson (2011) noted that according to public relations departments, social media has created many unnecessary problems. Those policies often focus on content restrictions and limitations, and do not teach student-athletes about how to use social media for positive outcomes (Sanderson, 2011). Additionally, student-athletes seem to be aware of social media policies. Benso (2015) found in his study found that over half of the student-athletes confirmed that their specific team had its own social media policy (54.1%), while others either believed their team did not have a social media policy (23.5%) or were not really sure about it (22.4%).

Social media is everywhere, and every person around the world can access it. It has also become a crucial component of sports organizations, athletes, fans and it affects the sports industry as a whole. Student-athletes, the main faces of the sport, have positive attitudes toward social media and use it frequently. Although there were brief explanations regarding social media policies, issues are still occurring even when student-athletes think that they know all necessary information about rules and policies. Therefore, it was important to explore how SAs use social media and analyze the content that they were creating. By knowing it, it will be easier to create policies that will prevent potential harm to a student-athlete or an organization as a whole.

Twitter and Athletes

Twitter has been one of the most popular social media platforms in recent years (Browning & Sanderson, 2012). There were over 320 million active users as of February 2019 (Cheplygina et al., 2020). Twitter account is linked to a username let up by the @ symbol and users are able to post content in messages called “tweets” (Sanderson & Kassing, 2011). According to a 2019 Pew Research Center survey, around one-in-five U.S. adults (22%) use Twitter. Twitter users are also younger, more likely to identify as Democrats, more highly educated and have higher incomes than U.S. adults overall (Hughes & Wojcik, 2019).

Further, Twitter is an innovative tool, as it gives people a convenient opportunity to notify and update their followers in seconds, just from their cellular or tablet. Twitter users had the highest bridging social capital, followed by Instagram, Facebook, and Snapchat (Phua et al., 2017). Lastly, Twitter users as often share opinions relative to the public about political values, particularly when it comes to views having to do with race, immigration and gender (Wojcik & Hughes, 2019).

In regard to sports and athletes, relationships with fans can be built and maintained through Twitter as a way to keep fans informed and close to the players and organization. Twitter provides fans with the opportunity to interact with their favorite athletes. Therefore, it brings fans closer than they have ever been before establishing a relationship with their favorite athlete (Witkemper, Lim & Waldburger, 2012). Hence, there is a high proportion of direct interaction between athletes and their fans, which differs from traditional media communications (Hambrick et al. 2010). Although many celebrities, journalists and other media personnel engaged in tweeting, the group that has adopted Twitter as a communication tool, the most are actually athletes (Sanderson & Kassing, 2011).

Browning & Sanderson (2012) found that Twitter is a beneficial communicative tool for student-athletes but also presents challenges, as it can cause fan attacks via this social media platform. Additionally, they found that student-athletes used Twitter in three primary ways: keeping in contact, communicating with followers and accessing information. Student-athletes shared that Twitter was a valuable and convenient resource to keep in contact with others, allowed them to stay connected to their teammates and celebrities, and to keep up-to-date on game information, which at times they actually did during the game to search out what people were saying about them after games (Browning & Sanderson, 2012).

When it comes to the number of followers or popularity on Twitter, a study by Li et al. (2017) found that each student-athlete had on average 1829 followers, while male student-athletes had significantly more followers than female student-athletes. Additionally, they found that male and female student-athletes demonstrated different approaches in selecting their profile pictures on Twitter. Males were using more athletic features in their profiles, while females more often used personal pictures that contained other individuals.

Student-athletes use Twitter frequently and strategically to communicate with friends, followers, and fans. Indeed, they also used it to produce content, access, as well as share information. With an advance in media intelligence, it is now possible to analyze student-athletes content in many different aspects, which this study also performed.

Gender Disparities in Sports Media

To better understand gender disparities in these present days, it is necessary to provide an overview of gender discrimination in mass media that started early before social media. An extensive body of research since the 1980s has examined the underrepresentation of women's sport in the mass media, showing that men's sport is generally considered as the top of sporting value and achievement and women's sports are considered less worthy of attention (Biscomb & Matheson, 2019; Bruce, 2015).

Additionally, well-established research findings on gender in sports media manifest that besides the lack of coverage of women's sport, it also lacks the respectful and serious coverage of women's sport. Indeed, media coverage of female athletes still falls behind that of male athletes. This trend has been seen across various media platforms including print and televised news media (Duncan, Messner, & Williams, 1991; Fink, 2015; Frisby, 2017; Martin & McDonald, 2012). Thus, when sportswomen do receive media coverage they are often underestimated and undervalued by focusing on their physical characteristics or describing them as sex objects; emphasizing femininity; minimizing their accomplishments and skill level through unfavorable comparisons with men; and/or discussing their personal lives or using denigrating humor (Biscomb and Matheson, 2019; Christopherson et al., 2002; Kane et al., 2013).

Kian et al. (2008) examined print-media portrayals of women's and men's basketball teams during the 2006 March Madness tournament. The findings show the exclusion and trivialization of female athletes in many instances. First, more than three-quarters of the articles were focused on men's basketball. Next, during the women's tournament, men's tournament would be frequently mentioned, while there was no reference to women's tournament another way around. Also, women basketball athletes would often get compared to male athletes. Female athletes would receive comments such as "She must have played with boys to get that good," when finding a reason for her excellent performances (Kian et al., 2008)

Further, Yang et al. (2020) analyzed gender differences in the representation of female and male athletes on social media during the 2018 Commonwealth Games. The study found Twitter users provided a relatively equal amount of coverage of female and male athletes. However, it was also shown a pattern of sexualization and discrimination of female athletes. Females were 2.84 times more likely to be referred to as girls compared to male athletes as boys. The analysis shows that sexy was used in comparison with girls and women but not with boys and men. Some examples of gendered tweets include: "You beautiful golden girls" and "the Aussie women play some sexy rugby." Female athletes were also 2.71 times more likely to be referred to as mothers than males as fathers. Frame setting was present in tweets as the results show that male athletes were 1.72 times more likely be described as young and 1.21 times as heroes.

Although for many years women athletes have been underrepresented and misrepresented in mass media, there has been a shift towards more positive coverage and representation, especially on social media. Some of the recent studies, Coche (2016), confirm a more positive online presence. The Twitter analysis showed that stories about female athletes linked in the

tweets were mostly serious interviews, news reports and feature stories, which generally did not trivialize the athletes. Most visuals depicted female players in a professional manner with no hint of hyper sexualization, while still attempting to show the athlete under an artistic light with poses and portraits (Coche, 2016). This contrasts greatly with previous findings in studies of traditional media.

Lastly, Chen et al. (2016) analyzed differences in official athletic website coverage and social media use between men's and women's basketball teams. They found that men's basketball programs received slightly more written articles on the website than women's teams (53% vs. 47%). On the other side, the Twitter analysis of the post volume found that women's programs had a greater amount of all tweets, although men's programs had 3.7 times more Twitter followers. Additionally, Instagram and the use of empowering hashtags, demonstrate that social media provide an opportunity to challenge gender stereotypes in women's sports and thereby illustrate that social media users are willing to create their own frames around women athletes (Pegoraro et al., 2018).

Over the years there has been seen an obvious pattern of extreme underrepresentation of women athletes in sports media. Although social media have challenged the stereotypical portrayal of women's athletes, females are still not seen as equal in popularity or fan following. Therefore, this study compared male and female basketball student-athletes in terms of the number of followers, tweet reach and sentiment.

Athletes, Activism and Social Media

Athletes, in general, have been involved in activism since the beginning of the 20th century. According to Edwards (2016a, 2016b), there are four major waves of black athletes'

activism through history. The first wave represents a time frame from the early 20th century until World War II. Some of the most famous activists of that era were Jesse Owens and Jack Johnson (Edwards, 2016b). The second wave included time from the end of World War II to the 1960s. The third wave included boxing legend Muhammad Ali, and it happened around the Civil Rights Movement. The last, fourth wave, is this present era (Edwards, 2016a).

The most recent example of athletics activism started in 2016, when Colin Kaepernick, a professional NFL player, decided to sit down during the National Anthem, stating that he did not want to show pride in an America that persecutes people of color (Chan, 2016). Initially, his team and the NFL supported Kaepernick's decision, stating that it is the player's decision to participate in the National Anthem. Kaepernick switched from sitting down to taking a knee for the remainder of games in his career to show respect for the troops.

Further, Kaepernick inspired other athletes to sit, kneel, or even raise the Black Power fists, during the National Anthem, including former teammate Eric Reid, former NFL player Nate Boyer, Denver Broncos player Brandon Marshall, and the United States soccer player Megan Rapinoe, among others (Jackson, 2019). Besides professional athletes and teams, college teams and student-athletes have also used social media to protest against racial injustice.

Although large public access to social media provides publicity, it also means that dynamics can also go against the athletes at a high speed (Yan et al. 2018). Athletes as a whole, in many cases serve as influencers and can impact the whole community and the university. They can have a positive impact but also a negative one which in some cases has fatal consequences toward the organization. As the case of disseminating information by way of social media increases, athletic department administrators and coaches are becoming increasingly concerned

about the way in which student-athletes utilize social media (Hutchens, 2012). There have been multiple instances where student-athletes were involved in racial scandals.

A Marquette student-athlete has been removed from their team the exposure on social media where they were seen using after a racial slur on the video (Wells, 2021). The freshman from Georgia State University, received social media backlash and urging from school officials to expel her for social media postings that included a racially offensive caption (Raisa Habersham, 2018). A student-athlete from Southeastern University had been dismissed for posing racial comments on social media. The University released a statement about a zero-tolerance policy when it comes to racism (“Inappropriate social media post under investigation,” 2020). Due to the higher involvement of student-athletes on social media, and their willingness to share political beliefs on social media, coaches have been watching their every step, even starting from high school (Edelson, 2017).

Concluding, student-athletes are heavy users of social media platforms. They seem to enjoy their online popularity and use it for different purposes, mostly for entertainment purposes. There were three major social networking sites that student-athletes use the most often; Instagram, Twitter and Facebook. Additionally, athletes have also been seen as activists and have taken important influential roles. However, many have been penalized because of their involvement in racial slurs. Therefore, it was important to determine if student-athletes posted content related to activism and social injustice.

Theoretical Framework: Uses and Gratifications

Uses and Gratifications Theory is a media theory with an approach to understanding why and how people decide to use specific media in order to satisfy their social or psychological

needs and motives (Baran & Davis, 2011). Further, the approach assumes that people use media with a purpose, self-awareness and intention in their media consumption and are motivated to select media content based on if and how it satisfies a need (Katz, Blumler, & Gurevitch, 1974). Lastly, this theory makes an effort to explain the uses and purpose of the media to individuals, groups, and society as a whole; it asks the question "what do people do with media" (Ruggiero, 2000).

The studies often focus on benefits and motives for using media, and the basic questions remains unchanged and it is "Why do people become involved in one particular type of mediated communication or another, and what gratifications do they receive from it?" (Ruggiero, 2000). Therefore, it is clear that the widespread adoption of social media has completely changed the way that individuals around the world communicate (Moody, 2010).

In one of the first studies of the 21st century, Ruggiero (2000) identified three key benefits of online use: interactivity, demassification, and asynchronicity. Interactivity represents the level of control on the communication process and "significantly strengthens the core U&G notion of active user" (Ruggiero, 2000, p. 15) because interactivity in mass communication has long been considered "the degree to which participants in the communication process have control over, and can change roles in their mutual discourse" (Williams, Rice, and Rogers, 1988, p. 10). Next, demassification is "the ability of the media user to select from a wide menu. Unlike traditional mass media, new media like the Internet provide selectivity characteristics that allow individuals to tailor messages to their needs" (Ruggiero, 2000, p. 16). Lastly, asynchronicity or the concept of messages being accessible at a time after they are sent means that mediated messages that may be staggered in time. Senders and receivers of electronic messages can read mail at different times and still interact at their convenience (Williams et al., 1988). It also means

the ability of an individual to send, receive, save, or retrieve messages at her or his convenience (Chamberlain, 1994). With electronic mail [e-mail] and the Internet, an individual has the potential to store, duplicate, or print graphics and text, or transfer them to an online Web page or the e-mail of another individual. Once messages are digitized, manipulation of media becomes infinite, allowing the individual much more control than traditional means” (Ruggiero, 2000, p. 16).

Further, this study will group student-athletes’ tweets into six categories derived from two studies. Seo and Green (2008) examined the motives for using sports-related websites, and Clavio (2008) studied the use of intercollegiate athletics message boards to see what they had in common in following categories: interactivity, diversion, information sharing, content, fanship, and promotional. Further, the categories are defined as following. Interactivity is defined as a professional athlete's direct communication with fellow athletes and fans (Clavio, 2008). Next, diversion is non-sports-related information provided by professional athletes. Tweets in the diversion category can range from stories about friends and families to conversations about favorite movies and restaurants (Clavio, 2008). Further, information sharing is insight into an athlete's teammates, team, or sport, such as details about practices and training sessions or recent competitive events and results (Clavio, 2008). Content includes links to pictures, videos, and other websites such as an athlete's blog or a team's official website (Seo and Green, 2008). Fanship occurs when athletes discuss sports other than their own teams and teammates (Seo and Green, 2008). Lastly, promotional is publicity regarding sponsorships, upcoming games, and related promotions such as discounted tickets or giveaways (Seo and Green, 2008).

Additionally, study by Whiting & Williams, (2013) used a uses and gratifications approach in their quantitative study to explaining why people use social media. They found ten

uses and gratifications of athletic social media: social interaction, information seeking, pass time, entertainment, relaxation, communicatory utility, convenience utility, expression of opinion, information sharing, and surveillance/knowledge about others. Some similar uses were found by Hambrick et al. (2010), who performed a content-analysis of professional athletes' tweets, and found that Twitter was used in six ways: interactivity, diversion, information sharing, linking to content, fanship, and promotion.

Hambrick et al. (2010) analyzed Twitter use among professional athletes who use Twitter to communicate with fans and other players. In summary, the analyzed tweets in their study were placed into one of six categories, and the interactivity and diversion categories contained 62% of all tweets. Athletes with the most followers and those who posted the most had more of their tweets categorized as interactivity. Athletes with the fewest followers also had more of their tweets in the interactivity category. They found that the category with the most tweets was interactivity (671 tweets or 34%), indicating that athletes use Twitter as a medium for direct interpersonal communication with friends and fans. Professional athletes in this study often follow other athletes on Twitter and comment on their tweets. Diversion, or non-sport-related communication, had the second highest number of tweets (545 tweets or 28%). Although professional athletes earn their living playing sports, they weren't tweeting only about sports. They also engage in non-sport-related conversations and frequently tweet about those activities, by sharing their hobbies and things they do on a daily basis. Information sharing, or providing insights directly related to the athlete's team or sport, had significantly fewer tweets than the prior non-sport-related categories, with only 15% of all tweets. Athletes use Twitter to discuss their latest sports-related activities, whether practices, games, or other events. Content (254, 13%) had the next highest number of tweets; athletes used Twitter to direct readers to personal picture,

websites, and blogs located elsewhere on the Internet. The promotional category had relatively few tweets (102,5%); athletes did not devote much communication to promoting or publicizing upcoming sport-related events and activities (Hambriek et al., 2010).

Many studies have applied the uses and gratifications approach when studying how and why student-athletes use social media. The thesis used Seo and Green's (2008) and Clavio's (2008) model to determine which of six categories student-athletes tweet about the most: interactivity, diversion, information sharing, content, fanship, or promotional.

Research Questions and Hypothesis

Social media use has been tremendously impactful in many ways when it comes to student-athletes. They use it frequently and primarily for entertainment, interactivity, and branding purposes. Racism and issues of social justice have also been topics of conversation that student-athletes engaged in online. Throughout history, women athletes were underestimated and undervalued but also have lacked coverage. In modern times of social media, female athletes have significantly lacked behind males in terms of the number of followers. The following research questions and a hypothesis aim to provide a better understanding of how basketball student-athletes use Twitter, with the hope that student-athletes social media use more broadly can be conceptualized more fully.

RQ1a: What are the Key Metrics of basketball student-athletes Twitter accounts?

To answer the RQ1, the study looked at overall posts' reach and the original post with the highest reach and categories. First, this study analyzed the reach of overall posts which included all four types of tweets: original, retweets, quote-tweets and reply. The overall reach refers to the number of potential users who saw someone's post and how large their audience is. This was used to determine popularity but also to see whether there was a difference in tweet's reach between male and female student-athletes.

RQ1b: What are the categories of original post created by basketball student-athletes?

Next, the study looked at the original tweet created by a student-athlete that had the highest reach. The original tweet type is the one that student-athletes compose themselves.

Additionally, Seo and Green's (2008) and Clavio's (2008) model was applied to discover the original tweet's category. Six categories derived from two studies were diversion, interactivity, information sharing, content, fanship and promotional. Therefore, this research question also determined what type of content student-athletes post about when composing original posts.

RQ2: What is the overall number of followers for male and female basketball student-athletes?

The question was important to provide details about the number of followers between basketball student-athletes. Also, it identified the lowest and the highest number of followers received among males and females.

H1: There will be a statically significant difference in number of followers between male and female student-athletes.

Throughout history, there has been shown a pattern of underrepresentation of female athletes. Previous studies of social media followers in sports found that male athletes and men teams receive more popularity in terms of followers. Li et al. (2017) found that male student-athletes had significantly more followers than female student-athletes. Additionally, Chen et al. (2016) looked at basketball programs within the Southeastern Conference (SEC) and compared the number of followers. They found that both programs had a fairly equal online presence, but men's basketball teams had a significantly larger amount of followers (Chen et al., 2016). Therefore, a hypothesis was introduced with an assumption that male student-athletes in this study would also have a significantly higher number of followers.

RQ3a: What keywords basketball student-athletes post the most about?

This question aimed to identify what tweet types basketball student-athletes use the most. The types of tweets include original tweet, retweet, reply and quote tweet. By answering this question this study determined what the overall content of posts was and in what way they chose to engage in Twitter conversations, whether they used Twitter to create content, reply to followers and friends or rather to just share it. According to the Pew Research Center, the median user tweets just twice each month, but a small cohort of extremely active Twitter users posts with much greater regularity. As a result, much of the content posted by Americans on Twitter reflects a small number of authors. The 10% of users who are most active in terms of tweeting are responsible for 80% of all tweets created by U.S. users (Wojcik & Hughes, 2019).

Next, to determine what student-athletes post about the most, the keyword analysis was performed. The keyword analysis enables identifying of the most commonly used words out of all postings by a specific user.

RQ3b: What categories basketball student-athletes post the most about?

Moreover, each keyword was placed into a category that it represents to determine an overall type of content that student-athletes post on their page. Additionally, due to recent involvement in activism, the keyword analysis was also a distinguish if student-athletes tweet about BlackLivesMatter (BLM) social movement.

RQ4: How does the sentiment compare between men and women tweets?

Sentiment explains a type of an attitude presented in a tweet. Meltwater is able to categorizes users' posts into not rated, neutral, negative and positive options. Therefore, the study will perform a sentiment analysis to determine if there is a differences in sentiment between male and female basketball student-athletes. Additionally, will perform a linear regressions analysis, to determine variables that drive positivity and negativity.

RQ5a: What variables drive popularity, specifically overall reach and number of followers?

This question determined the variables that play a key role in driving popularity. It included seven predictor variables included gender, number of posts, retweet, quote tweet, reply, negative and positive sentiment.

RQ5b: What are the variables that drive sentiment, specifically negativity or positivity?

It was important to analyze what predictor variables are responsible for influencing sentiment. This model included six predictor variables gender, number of posts, number of followers, retweet, quote tweet, and reply.

Chapter 3 - Methodology

Sample

With over 170,000 athletes the NCAA DI has the biggest student-athlete population. Basketball is a high revenue sports that fits both men and women. There is an enormous number of basketball in the NCAA DI, around 19,000 men and 16,000 women (NCAA, 2020). The sample of 35,000 basketball student-athletes would be too large to analyze. Therefore, there was a need for downsizing the sample. The NCAA has five autonomy conferences or Power Five conferences. Following are the largest and wealthiest ones in the NCAA; Atlantic Coast Conference, Big Ten Conference, Big 12 Conference, Pacific 12 Conference and Southeastern Conference (Brutlag Hosick, 2019). The author of this thesis is a former student-athlete who participated in the Big-12 Conference and therefore the sample includes only those student-athletes participating in the Big 12 Conference.

The Big 12 Conference, is one most successful conferences in the NCAA, with 63 NCAA team titles and 689 individual national championships (Big12Sports, n.d.). The conference consists of 10 schools: Baylor, Iowa State, Kansas, Kansas State, Oklahoma, Oklahoma State, TCU, Texas, Texas Tech and West Virginia.

Further, out of all teams participating in the Big 12 Conference the discussion came to basketball. The reason is the popularity but also as this is a sport that has both male and female athletes. Additionally, each of Big 12 schools have both men and women basketball team with up to 15 players per team (Big12Sports, n.d.).

The selection of athletes whose Tweets would be analyzed in this study is determined by the school's starting lineup of the games played between January 20th and January 30th. Each school was represented by 10 players, five from men's and five from women's teams, makes the

total of 100 basketball players that were analyzed in this study. Lastly, the study included a time frame of one year and collected tweets posted by student-athletes between February 1st 2020 and February 1st 2021.

Procedure and Measures

Twitter (<https://twitter.com>) is a microblogging platform, which initially allowed users to “tweet” or write a 140-character post, however in the recent years Twitter evolved to 280 characters (Developer Twitter, n.d.). Through Meltwater (<https://www.meltwater.com>) software for media intelligence, Twitter data of student-athletes tweets was collected. Meltwater allows identification of Tweet’s type and it is divided in three groups; Original Tweet, Reply, Retweet and Quote-tweet. An original tweet is created by the user. Retweet (RT) means sharing a tweet that was originally made by someone else. Quote-tweet is sharing a tweet by someone else in a quote, while adding your own comments (Cheplygina et al., 2020). Next, Meltwater also provides data about the overall reach of tweets. The Reach is defined as the number of potential unique Twitter accounts that received these Tweets (Stephen, 2019). Further, this study reviewed original tweets posted by a student-athlete, and filtered the settings to sort tweets by reach to identify an original tweet that received the highest reach. Then, that specific tweet was analyzed to determine a category of the original post and what student-athletes tweet about. Additionally, a keyword analysis in Meltwater was performed to identify the most frequently used keywords which will also give an idea about themes what student-athletes are posting. Moreover, this study examined the sentiment analysis of all tweets posted by student-athletes to determine whether tweets had more positive or negative sentiment. The last analysis performed had a goal to identify what drives popularity and sentiment.

Chapter 4 - Results

The data collection included gathering tweets posted by student-athletes between February 1st 2020 and February 1st 2021. The process started by searching for 10 basketball student-athletes, five men and five women, who played as a starting lineup for their respective teams. Then, the author manually searched for the Twitter accounts of each athlete. Each account was separately placed into Meltwater for further analysis. To analyze data and determine significance, the study used JASP Version 0.14.1. The results show that out of 100 student-athletes chosen for the study, 88 student-athletes ($N=88$) had public accounts available for analysis in this study, 45 female ($N=45$) and 43 male ($N=43$) student-athletes. The rest, 12 student-athletes either didn't have an account, had a private or locked account, or haven't used an account in the last year. Schools where all ten basketball players had Twitter accounts were Baylor, Oklahoma State University (OSU), Texas Christian University (TCU), and Texas Tech University (TTU). Oklahoma State University (OSU), University of Texas (UT), and West Virginia University (WVU) had nine student-athletes represented in the study. Kansas State University (KSU) had eight, University of Kansas (KU) had seven, and lastly, University of Oklahoma (OU) had six players with a Twitter account.

Further, a descriptive analysis was performed to determine how often each student-athlete posted in a year. In addition, an overall posting refers to a student-athlete sharing all tweet types on their timeline. All tweet types include an original tweet, retweet, reply, and quote tweet. As a result, a descriptive analysis showed that female players had slightly higher posting frequency, on average 434 tweets ($N=45$, $M=434.378$, $SD=569$), while males had on average 383 tweets ($N=43$, $M=383.372$, $SD=918$). A student-athlete with the highest number of posts on men's side had 6,010 posts, while on the women's side had 2,850 posts. Regarding the fewer amount of

overall postings, a male student-athlete had a total of seven, while a female student-athlete had 13 posts.

Table 4.1.

Student-Athlete Twitter accounts

Descriptive Statistics

	Twitter Name									
	Baylor	ISU	KSU	KU	OSU	OU	TCU	TTU	UT	WVU
Valid	10	9	8	7	10	6	10	10	9	9
Missing	0	1	2	3	0	4	0	0	1	1

Table 4.2.

Descriptive Statistics by Total Number of Posts and Gender

Descriptive Statistics

Descriptive Statistics

	Total # of posts	
	F	M
Valid	45	43
Missing	5	7
Mean	434.378	383.372
Median	185.000	163.000
Std. Deviation	569.302	918.634
Minimum	13.000	7.000
Maximum	2850.000	6010.000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable Gender

RQ1a: What are the Key Metrics of basketball student-athletes Twitter accounts?

To answer the first research question, it is necessary to first identify crucial terms. An overall reach indicates a number of potential users that saw tweets that a student-athlete posted. Postings refer to all types of tweets; original tweet, retweet, quote tweet, and reply. To determine the overall reach of student-athletes' posts, a descriptive analysis was performed.

The sample size (N=61) for was smaller than the projected of 88 (N=88) student-athletes, due to technical limitations imposed by the Meltwater data collection system. Regarding overall reach, male student-athletes (N=41, M=24415.3, SD=28.717) had three times higher overall reach than female student-athletes (N=20, M=7739.5, SD=4.341). Individually looking, a male student-athlete with the greatest overall reach had a total of 156,000 users that saw his posts. On the other side, the greatest reach among female student-athletes was significantly lower, with only 20,700 users that saw her content. Distribution plots show that the majority of female student-athletes received reach between 5,000 and 10,000 while male athletes had a majority of reach between 0 and 30,000.

Further, an independent samples t-test was conducted to compare difference in overall reach between male and female basketball student-athletes. The results show that there is a statistically significant difference between overall reach and gender, where male basketball players (M= M=24415.3, SD=28,718) received higher reach than female basketball players (M=7739.5, SD=4,341); $t(43.634) = -2.573, p < .05$.

Additionally, to determine themes that student-athletes tweeted about, a thematic analysis of original posts were performed. The original post refers to a tweet created by a student-athlete and doesn't include a retweet, reply, or quote tweet. The sample consisted of 78 athletes (N=78) of those who had composed original tweets. However, not every student-athlete had created an

original tweet. Therefore, those who did not create original posts were not included in this analysis. Male student-athletes (N=41) had a slightly higher number of original posts than female (N=37) student-athletes. Distribution plots show that the majority of female players are grouped between 0-3,000 of the amount of reach received, while the majority of male players received 0-10,000 reach.

An independent t-test was performed here as well to compare differences in numbers of the original post with the highest reach between males and females. The results indicate a statistically significant difference in the reach of the highest original post between female basketball players (M=2,021.1, SD=3105) who received less reach than male basketball players (M=6,715.9, SD=10,471.4); $t(48.894)=-2.624$, $p<.05$.

RQ1b: What are the categories of original posts created by basketball student-athletes?

To determine categories of the original post with a highest reach, the application of Seo and Green (2008) and Clavio's (2008) model was used to classify tweets into one of six categories; interactivity, diversion, information sharing, content, fanship, or promotional. The descriptive analysis of the categories of the original tweets show that student-athletes posted about Diversion (N=38) the most, the next was Content (N=25) and Interactivity (N=11). Categories less represented were Fanship (N=3), and Information Sharing (N=1). The category that received the highest individual reach was Content with 161,100 followed by Interactivity 57,900 , Diversion 33,900 , Fanship 7,830 and lastly Information Sharing 7,000. Contingency tables reported percentages of categories used in original tweets; Diversion 48.7%, Content 32%, Interactivity 14.1%, Fanship 3.8% and Information Sharing 1.28%.

Lastly, a Chi-Square test was performed to examine the relations between category of the post and gender. The relation between these variables was statistically significant, $X^2(4)=9.717$, $p<.05$. To compare each category, females created posted that included Content in 36.8% of their tweets males had Content in 27.5%. Diversion was posted in 57.8% of females tweets, while 40% in males tweets. Fanship was included in 0% of females tweets and in 7.5% of males tweets. Information Sharing counted for 0 of females tweets while 2.5% of males tweets. Lastly, Interactivity was a category found in 5.26% of females and 22.5% of males tweets.

Table 4.3.

Descriptive Statistics of Overall Reach and Highest Original Post Reach by Gender

Descriptive Statistics

	Overall Reach		Highest Original Post Reach	
	F	M	F	M
Valid	20	41	38	42
Missing	30	9	12	8
Mean	7730.500	24415.341	1996.105	6743.405
Median	7145.000	15400.000	1050.000	3450.000
Std. Deviation	4341.313	28717.942	3066.667	10309.211
Minimum	1290.000	1849.000	72.000	362.000
Maximum	20700.000	156000.000	18400.000	57900.000

Table 4.4.

Welch's T-test of Overall Reach and Highest Original Post Reach by Gender

Independent Samples T-Test

	t	df	p
Overall Reach	-3.636	43.634	< .001
Highest Original Post Reach	-2.848	48.894	0.006

Note. Welch's t-test.

Table 4.5.*Descriptive Statistics of Highest Original Post Reach by Categories***Descriptive Statistics**

	Highest Original Post Reach				
	Content	Diversion	Fanship	Information Sharing	Interactivity
Valid	25	38	3	1	11
Missing	0	0	0	0	0
Mean	3161.240	4159.737	5303.333	7000.000	7977.636
Median	1600.000	1725.000	6020.000	7000.000	1960.000
Std. Deviation	4156.366	6690.261	2951.005	NaN	16908.847
Minimum	72.000	139.000	2060.000	7000.000	417.000
Maximum	16100.000	33900.000	7830.000	7000.000	57900.000

Note. Excluded 23 rows from the analysis that correspond to the missing values of the split-by variable Category the post

Table 4.6.*Contingency Tables of Highest Original Post Reach by Categories***Contingency Tables**

Category the post		Gender		Total
		F	M	
Content	Count	14.000	11.000	25.000
	% within column	36.842 %	27.500 %	32.051 %
Diversion	Count	22.000	16.000	38.000
	% within column	57.895 %	40.000 %	48.718 %
Fanship	Count	0.000	3.000	3.000
	% within column	0.000 %	7.500 %	3.846 %
Information Sharing	Count	0.000	1.000	1.000
	% within column	0.000 %	2.500 %	1.282 %
Interactivity	Count	2.000	9.000	11.000
	% within column	5.263 %	22.500 %	14.103 %
Total	Count	38.000	40.000	78.000
	% within column	100.000 %	100.000 %	100.000 %

Table 4.7.*Chi-Squared Test for Highest Original Post Reach by Categories*

Chi-Squared Tests			
	Value	df	p
X ²	9.717	4	0.045
N	78		

RQ2: What is the overall number of followers for male and female basketball student-athletes?

The second research question looked at the overall following of student-athletes, male players (M=6676.047, SD=10241.557) had more followers than female (M=1843.889, SD=2901.039) ones. The highest number of followers on the men's side had 58,700 followers, while on the women's side had 18,700 followers. The distribution plots also show the difference in the number of followers. The majority of men's followers were clustered between 0-10,000 while women were between 0-2,000 followers.

Table 4.8.*Descriptive Statistics of Number of Followers by Gender***Descriptive Statistics**

	Number of Followers (#)	
	F	M
Valid	45	43
Missing	5	7
Mean	1843.889	6676.047
Median	1042.000	3437.000
Std. Deviation	2901.039	10241.557

Descriptive Statistics

	Number of Followers (#)	
	F	M
Minimum	57.000	316.000
Maximum	18700.000	58700.000

H1: There will be a statically significant difference in number of followers between male and female student-athletes.

To determine if there is a statistically significant difference in the number of followers between male and women basketball student-athletes the Welch's t-test analyses was performed. The findings indicate that there is a significant difference in number of followers between male ($N = 43$, $M=6676.047$, $SD=10241.557$) and female ($N=45$, $M=1843.889$, $SD=2901.039$) basketball student-athletes. Therefore, male basketball players received significantly higher following than female basketball players $t(48.416)=-2.982$, $p<.05$ and H1 was supported.

Additionally, a Pearson correlation coefficient was computed to assess the relationship between the reach and number of followers. There was strong positive correlation between the two variables, $r = 0.993$, $p < .001$. The results show us that the higher the number of followers is, the higher will the reach be or when the number of followers increase, the reach will follow.

RQ3a: What keywords basketball student-athletes post the most about?

Meltwater is competent to identify all four tweet types and divide them into four different groups; original tweet, retweet, reply, and quote tweet. All tweet types combined together count for 100% of user's tweets. Then, Meltwater breaks down by percentages of how often a user

posted the specific tweet type. An analysis of descriptive statistics was performed to determine the median of the most commonly used tweet types. The retweet option is the most frequently used type of tweet when student-athletes post content on their page. Altogether, a retweet type counted for 52% (M=52) of total postings. The next most often used tweet type was a quote tweet, and it accounted for 23,5% (M=23.5) of all tweets. Then, student-athletes used a reply on average 12.5% (M=12.5). The least used tweet type was an original post, with only 6% (M=6) of use. Distribution plots confirm that retweets were the most popular option of a student-athlete's postings.

Lastly, Welch's t-test was performed to determine significance between tweet type and gender. Out of four tweet types, the only statistical significance was found between the original tweet type and gender $t(59.3)=-2996$, $p=0.004$. Indicating that female student-athletes have created less original posts than male student-athletes.

Table 4.9.

Descriptive Statistics for Tweet Types

Descriptive Statistics				
	Original Post %	Retweet%	Reply %	Quote Tweet %
Valid	88	88	88	88
Mean	9.534	51.114	16.000	22.216
Median	6.000	52.000	12.500	23.500
Std. Deviation	11.747	20.483	14.171	10.731
Minimum	0.000	0.000	0.000	0.000
Maximum	71.000	94.000	75.000	50.000

Figure 4.1.

Distribution Plots for Tweet Types

Distribution Plots

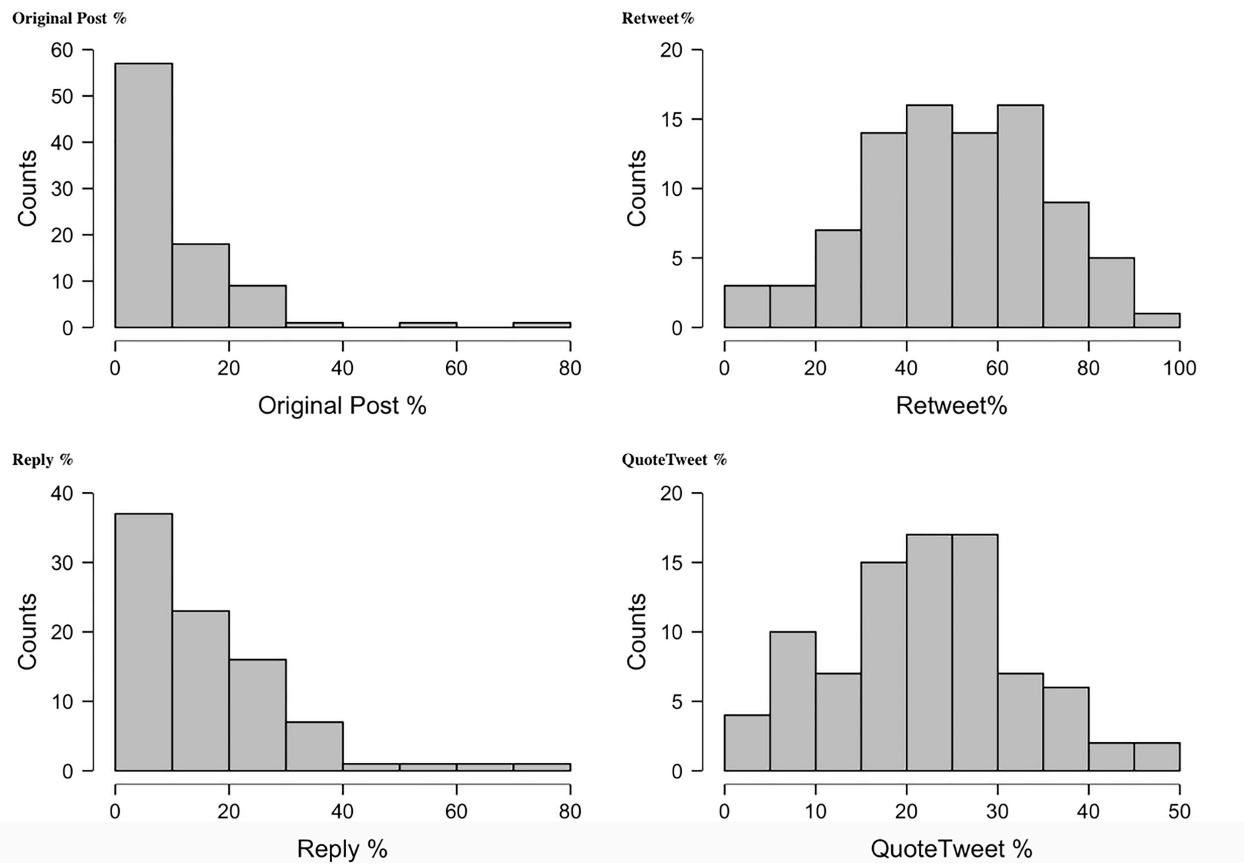


Table 4.10.*Welch's T-test for Tweet Types and Gender***Independent Samples T-Test**

	t	df	p
Original Post %	-2.996	59.276	0.004
Retweet%	1.904	81.537	0.061
Reply %	0.089	80.462	0.929
Quote Tweet %	0.164	85.200	0.871

Note. Welch's t-test.**Table 4.11.***Welch's T-test for Original Post and Gender***Independent Samples T-Test**

	t	df	p
Original Post %	-2.996	59.276	0.002

Note. Welch's t-test.*Note.* For all tests, the alternative hypothesis specifies that group *F* is less than group *M*.

To determine the most commonly used themes, Meltwater was able to identify the most frequently used keywords from every tweet posted by a student-athlete. For each athlete, the top three keywords were used for themes analysis. The number one most commonly used keyword from every user was entered into the Theme #1 column, the second most-often used keyword was entered into the Theme #2 column, and the third most prevalent keyword was entered into the Theme #3 column. Then, each of the three themes was placed into a Contingency table to determine the frequency distribution of the variance. Theme #1 had a total of 37 different

Examples of Game keyword:

RT @KStateMBB: “We really desire getting better at basketball. Really love the **game**.”

📺 Mike McGuirl #KStateMBB x EMAW t.co/J03PCzCBYB

QT @CoachLoweryKSU: & 7 ; There will be a **game** 6! #NBAFinals

RT @KStateMBB: The **game**-winner 📺 Every Angle

| @FoxHomeLLC 📺 #KStateMBB x EMAW t.co/OYMU1SmRA2

No **game** but ima get this work t.co/c4Yu8h3Jil

Examples of Season keyword:

QT @MattSteffe: Factsss!! Everything Different ¹⁰⁰ ; Hair way better

this **season** @TheDH11 ❤️❤️

This man said "I need a vacation" during the **season** 😂

The **Season** is Really Over... Back To Work 🙏📺¹⁰⁰

Examples of Points keyword:

RT @LadyRaiderWBB: From long range! 🔥🔥 @vivian_gray_30 knocks down her first triple as a Lady Raider and she's got nine **points** early! t.co/2doXZpZAqn

RT @CourtsideFilms: 21 **points** 6 assists & 4 steals for Kysre Gondrezick in the win over ISU! @KysreRae t.co/KkyQEBmEh1

Examples of Team keyword:

RT @kalibboone32: I'm with the winnin' **team**, they make sure I'm not in last place
💕 t.co/rYp6qXz0BE

RT @overtime: Oklahoma State hoops **team** going CRAZY on the trampoline
😂 @CadeCunningham_ (via @averyanderson3_) t.co/N1mjydaJ1

RT @TexasTechMBB: What were we doing by a 🔥 out in the wilderness? Simply stated, bonding as a **team** on our annual retreat and enjoying a #FiresideChat. t.co/bgSrLdJnjJ

Examples of Life keyword:

QT @africanarchives: Real **life** fear ; A visual reminder of what Ruby Bridges faced every day and why what she did was so powerful. t.co/FoTULkXdbS

Just got off FT w/ one of my brothers hooping overseas & asked him how it was. He said “go get in the gym right now & get to the league because this is not the **life** you want” 🙏🙏 sir
yes sir

RT @mxmx24: Healthy reminder: black people do not have to be scholars or in highly skilled positions to be worthy of **life**

RT @skaijackson: I’m at a place in my **life** where I will not deal with anything I don’t have to.. my happiness and peace is my main priority in my **life**

RT @clytlr: imagine falling in love and it works out for the rest of your **life**>>>

@TEYANATAYLOR please don’t stop making music 🙏🙏 i need you in my **life**

RQ3b: What categories basketball student-athletes post the most about?

Due to the high number of keywords, additionally, each keyword was assorted into a generalizable category. The author used inductive categorization to create eight groups: activism, appreciation, family, life, other, place, religion, and sports. Activism, included keywords such as justice, police, black lives matter, change, etc. Appreciation, referred to a keyword such as love, happiness and life. Family, contained keywords such as family, brother and friends. Other, included words such as everything and hair. Place, referred to country and city. Religion,

involved Jesus and God. The sports category had the most keywords such as game, teammate, season, points, rebound, basketball, etc.

Out of all eight categories, sports was by far the most frequently used in student-athletes postings. Student-athletes posed about sports-related topics 69.343 % of the time. The second most common posted topic was activism, 12.409 % of the time. The third one was family 7.664 %, followed by life 4.380 %, appreciation 1.825 %, place 2.190 %, other 1.460 % and lastly religion 0.730 %. Further, a chi-square test was run to examine this data. The relation between these variables was not significant, $X^2(8) = 12.935$, $p = 0.114$.

Table 4.12.

Contingency Tables for Category All Themes and Gender

Contingency Tables

		Gender		
		F	M	Total
activism	Count	24.000	10.000	34.000
	% within column	17.021 %	7.519 %	12.409 %
appreciation	Count	1.000	4.000	5.000
	% within column	0.709 %	3.008 %	1.825 %
family	Count	7.000	14.000	21.000
	% within column	4.965 %	10.526 %	7.664 %
life	Count	5.000	7.000	12.000
	% within column	3.546 %	5.263 %	4.380 %
other	Count	3.000	1.000	4.000

Contingency Tables

		Gender		
Category	All Themes	F	M	Total
place	% within column	2.128 %	0.752 %	1.460 %
	Count	2.000	4.000	6.000
	% within column	1.418 %	3.008 %	2.190 %
religion	Count	1.000	1.000	2.000
	% within column	0.709 %	0.752 %	0.730 %
sports	Count	98.000	91.000	189.000
	% within column	69.504 %	68.421 %	69.343 %
Total	Count	141.000	133.000	274.000
	% within column	100.000 %	100.000 %	100.000 %

Table 4.13.

Chi-Square Test for Category All Themes and Gender

Chi-Squared Tests

	Value	df	p
X ²	12.935	8	0.114
N	274		

RQ4: How does the sentiment compare between men and women tweets?

The sentiment analysis includes four types negative, positive, neutral and not rated and it collectively counts for 100%. For this purpose, only negative and positive sentiment were considered. A descriptive analysis showed that both male (N=45, M=28.378, SD= 10.826) and female (N=43, M=26.442, SD= 12.111) players had relatively equal amount of positive sentiment. Which means the percentage of all their tweets had a positive sentiment was 28% for females compared to 26% for males.

Although positivity percentages of tweets were relatively the same, negativity was seen more in women's posts. Tweets posted by female players (N=45, M=45.556, SD=13.691) received slightly higher negative sentiment than male players (N=43, M=36.605, SD=18.572). Out of all tweets females had 45% while men had 36% of negative sentiment.

Further, Welch's t-test indicated a statistically significant association between sentiment and gender. There was no statistically significant difference between positive sentiment and gender. However, female basketball student-athletes (N=45, M=43) had significantly more negative sentiment on their twitter postings $t(77.1)=2.564$, $p<.05$ than male basketball (N = 43, M=38).

Table 4.14.

Descriptive Statistics for Sentiment and Gender

Descriptive Statistics

	Negative sentiment %		Positive sentiment %	
	F	M	F	M
Valid	45	43	45	43
Mean	45.556	36.605	28.378	26.442
Median	43.000	38.000	26.000	26.000
Std. Deviation	13.691	18.572	10.826	12.111
Minimum	16.000	8.000	7.000	6.000
Maximum	84.000	71.000	57.000	57.000

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable Gender

Table 4.15.

Welch's T-test of Number of Sentiment and Gender

Independent Samples T-Test

	t	df	p
Positive sentiment %	0.789	83.920	0.216
Negative sentiment %	2.564	77.100	0.006

Note. Welch's t-test.

Note. For all tests, the alternative hypothesis specifies that group *F* is greater than group *M*.

The last analysis performed in this study was multiple linear regressions were performed,

The last set analysis performed in this study were multiple linear ordinary least squared (OLS) regressions. The purpose for these analyses was to predict the value of a dependent variable based on the value of an independent variable. These regression models were performed individually for four outcome variables: number of followers, overall reach, negative and positive sentiment. The predictor variables included gender, number of posts, retweet, quote tweet, reply, and in some models, negative and positive sentiment. If two variables are closely related, such as number of followers and overall reach, and negative sentiment and positive sentiment are, they will not be able to be put together in the model due to collinearity issues.

RQ5a: What variables drive popularity, specifically overall reach and number of followers?

First, to determine what influences the outcome variable number of followers, eight predictive variables were included. However, the variable overall reach was excluded due to the strong positive correlation ($r=0.993$) between the two variables (cf., 4.10.).

Results of the multiple linear regression indicate that there was significant overall effect between gender, positive sentiment, negative sentiment, total number of posts, retweet, quote

tweet and reply ($F(7, 50) = 2.135, p < .05$). Therefore, the overall model is statistically significant and the adjusted R^2 is 0.157 indicating that the model explains roughly 16% of the variance in number of followers. The individual predictor was examined further and indicated that gender ($\beta = 4979.249, p = 0.005$) was the only significant predictor in the model, while every other predictor variable were not statistically significant. Since males were coded 1, and females were coded 0, this suggests that when controlling for all other factors, gender, or in this case males student-athletes, is associated with 4,979.249 more followers when compared to female athletes.

Table 4.16.

Linear Regressions for Number of Followers

Coefficients

Model	Unstandardized	Standard Error	Standardized	t	p
1 (Intercept)	2922.594	7112.275	0.411	0.682	
Total # of posts	1.303	1.069	0.126	1.218	0.227
Gender #	4979.249	1741.910	0.321	2.859	0.005
Negative sentiment %	93.682	58.817	0.202	1.593	0.115
Positive sentiment %	52.750	78.335	0.077	0.673	0.503
Retweet%	-100.733	68.134	-0.265	-1.478	0.143
Reply %	-86.512	89.706	-0.157	-0.964	0.338
Quote Tweet %	-20.521	104.024	-0.028	-0.197	0.844

The next multiple regression model aimed to determine the predictive power of overall reach by including seven predictable variables gender. The overall model was not statistically significant ($F(5, 53) = 1.553, p > .05$) and the adjusted R^2 is .17 indicating that the model explains

roughly 17% of the variance in overall reach. This indicated that none of the independent variables can be used to predict the dependent variable, overall reach.

Table 4.17.

Linear Regressions for Overall Reach

Coefficients

Model	Unstandardized	Standard Error	Standardized	t	p
1 (Intercept)	1570.374	26599.072		0.059	0.953
Total # of posts	3.389	3.640	0.118	0.931	0.356
Gender #	16788.118	7034.666	0.320	2.386	0.021
Negative sentiment %	191.461	209.619	0.139	0.913	0.365
Positive sentiment %	201.582	296.011	0.094	0.681	0.499
Retweet%	-222.949	238.031	-0.200	-0.937	0.353
Reply %	-108.467	329.126	-0.065	-0.330	0.743
QuoteTweet %	209.569	407.958	0.090	0.514	0.610

RQ5b: What are the variables that drive sentiment, specifically negativity or positivity?

Further, the following two models aim to determine the variables that can predict the sentiment of postings. The first model, included an outcome variable negative sentiment and the six predictable variables gender, number of followers, total number of posts, retweet, reply and quote tweet. The overall model is statistically significant ($F(6, 81) = 3.997$, $p < .05$) and the adjusted R^2 is .228 indicating that the model explains roughly 22% of the variance in negative sentiment. Out of all variables only one was statistically significant. The individual predictor was examined further and indicated that retweet ($\beta = 0.423$, $p = 0.002$) was significant predictor in the model. This indicates that for every percentage increase in retweet, there will be an increase of

0.423 percent of negativity, or negative sentiment of postings. Another, predictor that was close to being statistically significant was gender ($\beta = -6.964$, $p = 0.057$). As males were coded 1 while females were coded 0, this indicates that females would get higher percentage of negative sentiment or that males can expect to have 6.69% less negative sentiment than females. Concluding that female student-athletes had significantly more negative in their overall Twitter posts.

Table 4.18

Linear Regressions for Negative Sentiment

Coefficients

Model	Unstandardized	Standard Error	Standardized	t	p
1 (Intercept)	13.549	13.533		1.001	0.320
Total # of posts	-0.001	0.002	-0.051	-0.512	0.610
Gender #	-6.964	3.600	-0.209	-1.935	0.057
Retweet%	0.423	0.132	0.516	3.207	0.002
Reply %	0.177	0.182	0.150	0.977	0.331
Quote Tweet %	0.256	0.211	0.164	1.212	0.229
Number of Followers (#)	3.265e -4	2.254e -4	0.152	1.448	0.151

The last model, included an outcome variable positive sentiment and the same six predictable variables of gender, number of followers, total number of posts, retweet, reply and quote tweet. The overall model was not statistically significant ($F(6, 81) = 0.563$, $p > 0.05$) and the adjusted R^2 is .040 indicating that the model explains roughly 4% of the variance in positive sentiment. Additionally, none of the independent variables were found statistically significant in predicting what drives positive sentiment.

Table 4.19.*Linear Regressions for Positive Sentiment***Coefficients**

Model	Unstandardized	Standard Error	Standardized	t	p
1 (Intercept)	28.073	10.292		2.728	0.008
Total # of posts	-0.001	0.002	-0.066	-0.601	0.550
Gender #	-2.033	2.737	-0.089	-0.743	0.460
Retweet%	-0.006	0.100	-0.011	-0.060	0.952
Reply %	0.118	0.138	0.146	0.852	0.397
Quote Tweet %	-0.037	0.160	-0.035	-0.230	0.818
Number of Followers (#)	2.962e -6	1.714e -4	0.002	0.017	0.986

Chapter 5 - Discussion and Implications

The present study is an effort to explore how basketball student-athletes use Twitter through social media analysis during one year, from February 1st, 2020 till February 1st, 2021, and done through the lens of uses and gratifications theory. From the literature, social media has been one of the most essential communication tools of recent times. Many sports organizations are using it to their advantage and for multiple other different purposes. One of the primary purposes is to provide publicity for their teams, therefore sports organizations do not have to rely on traditional media outlets to do it for them (Pegoraro, 2010).

There are many positive outcomes that social media brings. However, there are negative ones too. When it is not used properly, student-athletes could quickly get into trouble and receive a public backlash on their platforms, and in the worst case scenario, even get expelled from the university (Raisa Habersham, 2018; Snyder, 2013; Wells, 2021). Therefore, it was necessary to perform a study on how student-athletes use social networking sites to communicate, not only to understand them better but also to inform sports organizations so they can have a proactive plan ready in case a communication crisis happens.

Due to the considerably high number of student-athletes within the NCAA, this study focused only on basketball student-athletes in the Big 12 Conference. To narrow down the sample size even further, it only included the starting line-up, five student-athletes per team or ten per school, to make a total sample size of 100 student-athletes.

However, some student-athletes didn't have Twitter accounts, had them locked or their accounts were private. Therefore, the final sample size contained 88 basketball student-athletes with available accounts, 45 female and 43 male basketball student-athletes. The number of student-athletes who didn't have social media accounts was quite a surprise considering the fact

that student-athletes enjoy using social media, use it very frequently and have positive perceptions about their interactivity on the platforms (Lampe & Ellison, 2010; Snyder, 2013). The appropriate assumption for the reason for fewer Twitter account, could be the shift in preferences of social networking sites, in the recent years, from Facebook and Twitter toward Instagram.

Besides having slightly more accounts represented in the study, female basketball student-athletes seemed to be more active and post more than male basketball student-athletes. The number of posts refers to all Tweet types: original tweet, retweet, reply and quote tweet. On average, females had a higher number of total posts in a year, with an average 434 Tweets, while males posted on average 383 Tweets. However, some basketball student-athletes had much greater or fewer number of posts than the average. The one with the greatest number of posts on the male side had a total of 6,010 posts which is more than two times more than a female one with 2,850 posts.

Additionally, when it comes to the number of followers and overall reach, the results go in favor of male student-athletes. In terms of followers, who are defined as the subscribers to a Twitter account (Bruns & Stieglitz, 2014) male SAs had more followers than female SAs. Males had on average three times more followers or 6,676 compared to females who had 1,844.

When comparing a student-athlete who had the most followers among genders, the results remained the same. A male student-athlete had a total of 58,700 followers, while the female had three times less or 18,700 followers. From the literature, similarly, Li et al. (2017) that found in their study that males also had a significantly greater number of followers.

In regards to overall reach, which refers to the amount of potential users who saw postings by a student-athlete, males again received more popularity. The overall postings include

all Tweet types an original tweet, retweet, reply, and quote tweet. Additionally, the results indicate that males had three times higher reach than females. Specifically, males had on average a reach of 24,415.3 while females had 7,739.5.

Although the exposure that social media has given women's sports and athletes the opportunities now to appeal to a new and possibly larger audience (Pegoraro, 2010), the popularity still goes toward males. Even though, females even had on average more posts than male basketball student-athletes, they still received significantly lower number of followers and overall reach. The results suggest the reason behind the higher reach among males is influenced by the greater number of followers. Therefore, those with a higher number of followers will have a higher overall reach, as followers drive reach and vice versa.

Further, to get even more insightful findings of overall postings, a key metrics analysis was performed to determine the most commonly used Tweet types. When posting content on their timelines, student-athlete used a retweet option the most out of all Tweet types. The 52% of total postings were retweets, followed by quote tweets 23,5%, replies 12.5% and original post 6%. This shows that basketball student-athletes chose to retweet more often instead of creating their own content.

Another reason for a high retweet usage might be because student-athletes would retweet content they were being mentioned in. Many people that follow sports post about players and their performances. Therefore, players often chose to retweet their own statistics and highlights. Although student-athletes retweeted posts related to their team and their performances in the majority of cases, they also retweeted content not related to sports, such as activism and life-related matters.

Besides the overall reach, this study also focused on the original post's reach or a post that was created by a student-athlete and excluded other types of posts. However, similar to an overall reach, results indicated that males received higher reach to their original posts than females. Additionally, each original post was analyzed to determine the original Tweet's category of a post. The categorization was derived from the Seo and Green (2008) and Clavio (2008) model, therefore, each Tweet was placed into one of the six categories.

When creating an original post, diversion counted for almost half of the original post with 48.7%. This indicates that student-athletes create posts that are not related to sports. They talk about food, personal love life, social justice, lyrics, society, etc. The second most commonly used category was content, and it was present in 32% of original Tweets. It shows that basketball student-athletes create original posts and often add photos, videos, or links. Lastly, interactivity counted for 14.3% indicating that players compose original posts to engage with fans, teammates, and followers.

Overall, these three themes together contained 95% of total original posts. It shows that when players decide to create an original tweet, they mostly tweet about topics not related to sports, include visuals in their posts, and often interact with others. The study by Hambrick et al. (2010) applied the same categories but analyzed Twitter accounts of professional athletes. Similarly to this study, Hambrick et al. (2010) found that interactivity and diversion categories were the most included in 62% of all Tweets.

However, Content in their study was highlighted in only 13% of the Tweets, compared to this thesis, where Content was included in 32% of Tweets. This indicates that posting Tweets with Content has increased significantly compared to ten years ago. As this analysis showed that

there was a trend of including graphics in the Tweets, therefore, Twitter is not used primarily to communicate through text, but through visuals too.

Lastly, the results also found that there was a statistically significant difference between categories and gender. Female players Tweeted more about content and diversion. This indicates that female players are more likely to include photos or videos in their posts and engage in conversations about non-sports-related topics. On the other side, male players Tweeted more about categories: interactivity, fanship, and information sharing. This suggests that males are more likely to engage in online conversations overall and talk about sports with their followers and share insights about training, practices, and results. The promotional category was not represented in student-athletes Tweets, which was expected due to student-athletes being considered amateurs.

The previous analysis focused on only the highest original post. Therefore, to get an overall idea of what all content posted by student-athletes is about, a keywords analysis was performed. This analysis included all Tweet types; original tweet, retweet, reply, and quote tweet. Out of a total of 140 different keywords found in the analysis of all postings by student-athletes, five keywords that appeared the most in Tweets were game, season, points, team, and life. Some less represented keywords were career, country, family, justice, love, change, etc. From observing the keywords, the assumption can be made that student-athletes were posting primarily about sports.

To have a better idea or to get a summary of all keywords, eight additional themes were created, and each keyword was placed in the category where it belongs. Those eight categories included activism, appreciation, family, life, other, place, religion, and sports. It was found that student-athletes post about sports content nearly 70% of the time. Many of these posts included

retweets of post-game stats, highlights, and interviews. The second most represented category was activism that was included in 12.4% of posts. Student-athletes used all Tweet types to post content about social injustice, police brutality, even gun violence. The third most commonly posted category was family with 7.664 %, followed by life 4.380 %, place 2.190 %, appreciation 1.825 %, other 1.460 %, and religion 0.730 %.

When a student-athlete posted a Tweet that belongs to a family category, it included the actual word family or mentioned family members, and close friends in their Tweets. The life category counted for all instances where student-athletes posted about experiences, situations, and everyday activities. The place category was represented in examples of keywords; country and city. When mentioning these keywords, it often referred to the specific city or was used as a ranking comparison such as “number one player in the country.”

The appreciation category included tweets where student-athletes expressed thankfulness and gratitude toward fans or life. The category other, referred to all tweets that weren’t able to be placed into any of the categories. Lastly, when players posted about religion, they did it in a way to thank God for another day or mention Jesus. Overall, there wasn’t a statistically significant difference between overall postings and gender, however females seem to talk more about activism than males.

The keyword analysis of all posts found that student-athletes posted the most about sports, compared to the original post-analysis where was found that they Tweeted the most about diversion. The reason for mixed results might come from a Tweet type. As retweet is the most commonly used Tweet type and counts for 52% of all posts, the all posts analysis highlights sports content because many players use it to retweet their stats, highlights, and team mentions.

Additionally, this study wanted to find out the sentiment of Tweets posted by student-athletes, therefore, a sentiment analysis was performed. The results show that there was not a statistically significant difference between positive sentiment and gender. However, female players had significantly more negative sentiment in their postings. As it was found that females talk more about activism and social injustice, there could be a connection between these two variables.

Lastly, four multiple linear regression analysis were performed to find out how independent variables predict the specific outcome variables; number of followers, overall reach, positive sentiment and negative sentiment. Popularity is measured by both number of followers and overall reach, because these two variables are very similar in terms of collinearity.

For the first variable, number of followers, it was found there was only one statistically significant predictable variable, gender. Indicating that when the number of follower increases, male student-athletes can see a greater increase compared to female student-athletes.

The second multiple linear regression analysis did not find any independent variable significant to an outcome variable, overall reach. The two dependent variables overall reach and number of followers are in essence explaining popularity. When we compare the previous two dependent variables, to determine what drives popularity, the results showed the important predictor variable for the number of followers was gender, while a statistically significant predictor for the overall reach wasn't found.

The last two multiple linear regression analysis aimed to determine what predicts the outcome variables, negative sentiment and positive sentiment. The only one statistically significant predictors, when it comes to negative sentiment was retweet. Suggesting that, for every percentage increase in retweet, there will be an increase of 0.423 percent of negativity, or

negative sentiment of postings. Gender was another predictor variable that was very close to being significant. Indicating that overall postings of females sentiment will be more negative by a measure of 6.69%. However, there was not a statistically significant predictor that can determine positive sentiment.

This study provided some valuable findings that can inform sports organizations, teams, and the sports community about how student-athletes use Twitter, one of today's most essential communication tools. All eyes are constantly monitoring student-athletes not only on the court but also off the court. Especially with the number of followers and reach they receive, student-athletes have to be careful about how they represent themselves on social media.

Additionally, this study informed readers about the themes that student-athletes Tweet about. Therefore, teams can create policies and educational material to teach student-athletes how to use social networking sites in the best possible way. Student-athletes not only posted about sport-related content, they were also engaged in many serious conversations, such as social injustice. This finding is relevant especially as in these present days of social media fight for social injustice especially on social media platforms.

From the literature, there has been many instances of student-athletes being involved in a racial slur that later led to a social media backlash and many times a student-athlete would even get expelled from the university. Hence, sports teams can really take some time to create strategies on how to avoid potential crisis communication or racism scandals, by educating student-athletes on these topics from early on. Also, identifying those, can help them to reach out to their athletes and make them feel accepted and understood.

When it comes to gender disparities, this study supports previous literature, as in terms of popularity, it has been found that males do receive more public attention when it comes to

following and reach. Therefore, teams can work on creating more publicity opportunities for female student-athletes so they feel fairly and equally included.

Lastly, findings from the multiple linear ordinary least squared (OLS) regressions indicate that teams should pay close attention to those student-athletes that have a high number of followers, as the higher the amount of followers are, the higher the overall reach of their Tweets will be. This is critical because if a student-athlete posts something that isn't appropriate, a large audience will be able to see their post, and then fixing a bad public relations would be much harder.

Chapter 6 - Conclusion

Social media has drastically changed the way that society communicates, and it did not exclude sports. Therefore, it allowed student-athletes to bypass the gatekeeping of traditional media, to brand themselves however they like and interact with fans (Pegoraro, 2010). Additionally, it enabled student-athletes to express their opinion on important subjects that matter to them, such as racism and issues of social justice.

This exploratory study of Twitter use among basketball student-athletes in the Big 12 Conference found that a few significant differences between male and female basketball student-athletes. Males received more popularity, specifically, three times more followers and three times higher reach. Females were more active users, when it comes to the total amount of total posts. On the other side, males created more original posts, while other Tweet types of retweet, reply, and quote tweet were equally used.

Altogether, the most commonly used themes when creating original posts were diversion, content, and interactivity. These three themes counted for the 95% of total original posts. Additionally, males talked more about fanship, information sharing, and interactivity, while females Tweeted more about content and diversion. On the other hand, when looking at the overall posts that included all Tweet types, basketball student-athletes posted sports-related content the most, followed by activism and family. Both males and females posted all categories equally the same, the only category that was significantly more posted by females was activism.

Further, the sentiment analysis showed that posts by females received more negative sentiment than content posted by males. Regarding positive sentiment, there was no statistically significant difference between males and females. To determine what drives popularity, or the number of followers compared to overall reach, the results suggest that gender is the only

significant variable in predicting the number of followers, while there was not a significant variable that predicts an overall reach. For the sentiment, the only significant variable was a retweet, and it was a predictor of negative sentiment.

Chapter 7 - Future Research

This study was an overview of a Twitter use by basketball student-athletes. Future studies can go more extensive into analyzing followers, reach, gender disparities, and sentiment. Additionally, research would benefit from performing the same analysis but consisting of a larger sample size. Another option would be including multiple different NCAA conferences across the US or considering all teams instead of only focusing on basketball. As it was found that basketball-student athletes post about activism, future studies can do a Twitter analysis of student-athletes and activism. Additionally, it would be beneficial to look at other platforms other than Twitter, such as Instagram, as it is one of the most frequently used social media platforms today.

Lastly, there were a few limitations in this study. First, not all student-athletes had a Twitter account. Therefore, the sample size was smaller than projected. Additionally, in the middle of data collection, Meltwater unexpectedly encountered issues and lost data of overall reach. That is the reason why the reach data of certain players was missing.

References

- About. (n.d.). Retrieved April 16, 2021, from <https://www.ncaa.org/about?division=d1>
- Baran, S., & Davis, D. (2011). *Mass communication theory: Foundations, ferment, and future*. Nelson Education.
- Big 12 conference. (n.d.). Retrieved April 16, 2021, from <https://big12sports.com/>
- Biscomb, K., & Matheson, H. (2019). Are the times changing enough? Print media trends across four decades. *International Review for the Sociology of Sport*, 54(3), 259-281.
- Blaszka, M., Cianfrone, B. A., & Walsh, P. (2018). An analysis of collegiate athletic departments social media practices, strategies and challenges. *Journal of Contemporary Athletics*, 12(4), 271-290.
- Boissonneault, E. (2015). Student-Athletes' Attitudes and Beliefs Towards Social Media. Retrieved from: <https://digitalcommons.winthrop.edu/graduatetheses/8/>
- Browning, B., & Sanderson, J. (2012). The positives and negatives of Twitter: Exploring how student-athletes use Twitter and respond to critical tweets. *International Journal of Sport Communication*, 5(4), 503-521.
- Bruce, T. (2015). Assessing the sociology of sport: On media and representations of sportswomen. *International Review for the Sociology of Sport*, 50(4-5), 380-384.
- Bruns, A., & Stieglitz, S. (2014). Metrics for understanding communication on Twitter. Twitter and society [Digital Formations, Volume 89], 69-82.
- Brutlag Hosick, M. (2019, January 16). 2019 convention Legislation: AUTONOMY CONFERENCES. Retrieved April 16, 2021, from <https://www.ncaa.org/about/resources/media-center/news/2019-convention-legislation-autonomy-conferences>
- Chamberlain, M. A. (1994). New technologies in health communication: Progress or panacea?. *American Behavioral Scientist*, 38(2), 271-284.
- Chen, S., Duncan, T., Street, E., Hesterberg, B., Steve Chen, D. S. M., & is an undergraduate Sport, B. H. (2016). Differences in official athletic website coverage and social media use between men's and women's basketball teams. *Sport J*, 49.
- Cheplygina, V., Hermans, F., Albers, C., Bielczyk, N., & Smeets, I. (2020). Ten simple rules for getting started on Twitter as a scientist.
- Christopherson N, Janning M and McConnell E (2002) Two kicks forward, one kick back. *Sociology of Sport Journal* 19: 170-188.

- Clavio, G. (2008). *Uses and gratifications of Internet collegiate sport message board users* (Doctoral dissertation, Indiana University).
- Clavio, G., & Kian, T. M. (2010). Uses and gratifications of a retired female athlete's Twitter followers. *International Journal of Sport Communication*, 3, 485-500.
- Coche, R. (2016). Promoting women's soccer through social media: how the US federation used Twitter for the 2011 World Cup. *Soccer & Society*, 17(1), 90-108.
- Counting characters | Twitter developer. (n.d.). Retrieved April 16, 2021, from <https://developer.twitter.com/en/docs/counting-characters>
- Demographics of Social Media Users and Adoption in the United States. (2019, June 12). Retrieved from <https://www.pewinternet.org/fact-sheet/social-media/>
- Division I schools. (2020, August 19). Retrieved April 16, 2021, from <https://www.ncaa.org/about/division-i-schools>
- Duncan, M. C., Messner, M. A., Williams, L., & Wilson, W. V. (1991). Coverage of women's sports in four daily newspapers. Los Angeles, CA: The Amateur Athletic Foundation of Los Angeles. *Women, Media and Sport, Challenging gender values*, Sage Publications, Thousand Oaks.
- Edelson, S. (2017). Navigating social media in sports. *Asbury Park Press*. Retrieved from <https://er.lib.k-state.edu/login?url=https://www-proquest-com.er.lib.k-state.edu/newspapers/navigating-social-media-sports/docview/1964412741/se-2?accountid=11789>
- Edwards, H. (2016a, November). The fourth wave: Black athlete protests in the second decade of the 21st century. In *Invited key note at NASSS Annual Meeting in Tampa, FL*.
- Edwards, H. (2016b). The promise and limits of leveraging Black athlete power potential to compel campus change. *Journal of Higher Education Athletics & Innovation*, (1), 4-13.
- Fink, J. S. (2015). Female athletes, women's sport, and the sport media commercial complex: Have we really "come a long way, baby"? *Sport management review*, 18(3), 331-342.
- Frederick, E. (2017). Malice in the Digital Palace: A Commentary on Athletes, Social Media, and Defamation. *J. Legal Aspects Sport*, 27, 79.
- Frisby, C. (2017). Sexualization and objectification of female athletes on sport magazine covers: Improvement, consistency, or decline. *International Journal of Humanities and Social Science*, 7(6), 21-32.
- Gwinner, K., & Swanson, S. R. (2003). A model of fan identification: Antecedents and sponsorship outcomes. *Journal of services marketing*.

- Hambrick, M., Simmons, J., Greenhalgh, G. & Greenwell, T. (2010). Understanding athletes' use of Twitter: a content analysis of athlete tweets, *International Journal of Sport Journal of Sport Communication*, 3(4), 501– 514.
- Hughes, A., & Wojcik, S. (2020, September 16). 10 facts about Americans and Twitter. Retrieved April 16, 2021, from <https://www.pewresearch.org/fact-tank/2019/08/02/10-facts-about-americans-and-twitter/>
- Hutchens, Neal. "You Can't Post That... Or Can You? Legal Issues Related to College and University Students' Online Speech." *Journal of Student Affairs Research and Practice* 49, no. 1 (2012): 1-15.
- Inappropriate social media post under investigation. (2020). *University Wire* Retrieved from <https://er.lib.k-state.edu/login?url=https://www-proquest-com.er.lib.k-state.edu/wire-feeds/inappropriate-social-media-post-under/docview/2417164728/se-2?accountid=11789>
- Jackson, J. F. (2019). # BlackLivesMatter: a mixed methods exploratory study of Tweets and individuals participating in the Black Lives Matter movement.
- JASP Team (2020). JASP (Version 0.14.1)[Computer software].
- Kane, M. J., LaVoi, N. M., & Fink, J. S. (2013). Exploring elite female athletes' interpretations of sport media images: A window into the construction of social identity and "selling sex" in women's sports. *Communication & Sport*, 1(3), 269-298.
- Katz, E., Blumler, J.G., & Gurevitch, M. (1974). Utilization of mass communication by the individual. In J.G. Blumler & E. Katz (Eds.), *Uses of mass communications* (vol. III, pp. 19–32). Beverly Hills, CA: Sage.
- Kian, E. M., Vincent, J., & Mondello, M. (2008). Masculine hegemonic hoops: An analysis of media coverage of March Madness. *Sociology of Sport Journal*, 25(2), 223-242.
- Lampe, C., & Ellison, N. B. (2010, February). Student athletes on Facebook. In *Proceedings of the 2010 ACM conference on Computer supported cooperative work* (pp. 193-196). doi.10.1145/1718918.1718954
- Leonardi, P.M., Huysman, M. & Steinfield, C. (2013). Enterprise Social Media: Definition, history and prospects for the study of social technologies in organizations, *Journal of Computer-Mediated Communication*, 19(1), 1–19.
- Li, B., Stokowski, S., Dittmore, S. W., Malmo, J. R., & Rolfe, D. T. (2017). A case study of self-representation on Twitter: A gender analysis of how student-athletes portray themselves. *Global Sport Business Journal*, 5(1), 61-75.
- Mael, F. & Ashforth, B. (1992), Alumni and their alma mater: a partial test of the reformulated model of organizational identification, *Journal of Organizational Behavior*, 13 (2), 103-123.

- Mahan, J. (2011). Examining the predictors of consumer response to sport marketing via digital...????
- Martin, A., & McDonald, M. G. (2012). Covering women's sport? An analysis of Sports Illustrated covers from 1987-2009 and ESPN The Magazine covers from 1998-2009. *Graduate Journal of Sport, Exercise & Physical Education Research*, 1, 81-97.
- Men's basketball: Probability of competing beyond high school. (2020, April 20). Retrieved April 16, 2021, from <https://www.ncaa.org/about/resources/research/mens-basketball-probability-competing-beyond-high-school>
- Mullin, B., Hardy, S. & Sutton, W. (2000). Sport Marketing, 2nd ed., Human Kinetics, Leeds.
- Muniz, A. and O'Guinn, T. (2001). A brand community, *Journal of Consumer Research*, 27(4), 412-432.
- Ordway, D. (2020). Power five colleges use football, basketball revenue on Money-losing sports. Retrieved April 16, 2021, from <https://journalistsresource.org/studies/society/education/college-sports-power-five-revenue/>
- Pegoraro, A. (2010). Look who's talking—Athletes on Twitter: A case study. *International journal of sport communication*, 3(4), 501-514.
- Pegoraro, A., Comeau, G. S., & Frederick, E. L. (2018). # SheBelieves: the use of Instagram to frame the US Women's Soccer Team during# FIFAWWC. *Sport in Society*, 21(7), 1063-1077.
- Perrin, A., & Anderson, M. (2021, April 07). Share of U.S. adults using social media, including Facebook, is mostly unchanged SINCE 2018. Retrieved April 16, 2021, from <https://www.pewresearch.org/fact-tank/2019/04/10/share-of-u-s-adults-using-social-media-including-facebook-is-mostly-unchanged-since-2018/>
- Phua, J., Jin, S. V., & Kim, J. J. (2017). Uses and gratifications of social networking sites for bridging and bonding social capital: A comparison of Facebook, Twitter, Instagram, and Snapchat. *Computers in human behavior*, 72, 115-122.
- Raisa Habersham Raisa.H. (2018, Feb 05). SOCIAL MEDIA: Ex-georgia state soccer player apologizes for controversial post: Freshman used racial slur in social media message. *The Atlanta Journal - Constitution* Retrieved from <https://er.lib.k-state.edu/login?url=https://www-proquest-com.er.lib.k-state.edu/newspapers/social-media-ex-georgia-state-soccer-player/docview/1993908029/se-2?accountid=11789>
- Ruggiero, T.E., (2000), Uses and gratifications theory in the 21st century, *Mass Communication and Society*, 3(1), 3-37.
- Sahin, C. (2018). Social Media Addiction Scale-Student Form: The Reliability and Validity Study. *Turkish Online Journal of Educational Technology-TOJET*, 17(1), 169-182.

- Sanderson, J., & Kassing, J. W. (2011). Tweets and blogs. *Sports media: Transformation, integration, consumption*, 114.
- Seo, W. J., & Green, B. C. (2008). Development of the motivation scale for sport online consumption. *Journal of Sport Management*, 22(1), 82-109.
- Snyder, E. M. (2013). *An Analysis of NCAA Division I Student Athlete Social Media Use, Privacy Management, and Perceptions of Social Media Policies*. ProQuest LLC. 789 East Eisenhower Parkway, PO Box 1346, Ann Arbor, MI 48106.
- Stephen, G. (2019). Comparative Analysis of Twitter Analytics of Ifla and Oclc Tweets Using Union Metrics Tweet Reach Online Tool—a Pilot Study. *Library Philosophy and Practice*, 1-12.
- Tankovska, H. (2021, January 28). Number of social media Users 2025. Retrieved April 16, 2021, from <https://www.statista.com/statistics/278414/number-of-worldwide-social-network-users/>
- Thompson, A. J., Martin, A. J., Gee, S., & Geurin, A. N. (2018). Building brand and fan relationships through social media. *Sport, Business and Management: An International Journal*, 8(3), 235-256
- Toffoletti, K., & Thorpe, H. (2018). Female athletes' self-representation on social media: A feminist analysis of neoliberal marketing strategies in “economies of visibility”. *Feminism & Psychology*, 28(1), 11-31.
- Wells, B. (2021, Feb 16). Marquette student-athlete removed from team after racial slur video surfaces on social media. *University Wire* Retrieved from <https://er.lib.k-state.edu/login?url=https://www-proquest-com.er.lib.k-state.edu/wire-feeds/marquette-student-athlete-removed-team-after/docview/2489843311/se-2?accountid=11789>
- Whiting, A., & Williams, D. (2013). Why people use social media: a uses and gratifications approach. *Qualitative Market Research: An International Journal*, 16(4), 362-369.
- Witkemper, C., Lim, C. H., & Waldburger, A. (2012). Social media and sports marketing: Examining the motivations and constraints of Twitter users. *Sport Marketing Quarterly*, 21(3).
- Yan, G., Pegoraro, A., & Watanabe, N. M. (2018). Student-athletes' organization of activism at the University of Missouri: Resource mobilization on Twitter. *Journal of Sport Management*, 32(1), 24-37.
- Yang, E. C. L., Hayes, M., Chen, J., Riot, C., & Khoo-Lattimore, C. (2020). A Social Media Analysis of the Gendered Representations of Female and Male Athletes During the 2018 Commonwealth Games. *International Journal of Sport Communication*, 1(aop), 1-26.