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Factors Affecting Student-Athletes' Perceptions of Online Privacy Issues on Twitter: A Communication Privacy Management Perspective

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FACTORS AFFECTING STUDENT-ATHLETES' PERCEPTIONS OF
ONLINE PRIVACY ISSUES ON TWITTER: A COMMUNICATION
PRIVACY MANAGEMENT PERSPECTIVE

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by

Amanda Jo Pulido

2014

Dedication

I dedicate my thesis work to my family, who has showed me constant love and support in all of my education and career aspirations. Thank you to my parents and grandparents who have made many sacrifices in order for me to achieve my dreams. To my older sister and brother that never allow me to settle for mediocre expectations. A very special dedication to my baby niece, who gives me a reason to set high standards for life expectations.

I also dedicate this thesis to the UTEP Athletic Department and the student-athletes there. UTEP Athletics has provided me with seven years of education and non-stop learning experiences. They have given me many opportunities to be successful. The student-athletes there inspire me to be a better person and leader.

Lastly, I dedicate this work and give special thanks to my thesis advisor, Dr. Kenneth C. C. Yang, who has continually been a helpful source of knowledge and encouragement. Dr. Yang has put in numerous hours to refine my work and help my process in any way possible. He is one of the main reasons I'm able to obtain my Master's Degree in Communication. Professors like him come once in a blue moon.

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by

AMANDA JO PULIDO, B.A.

THESIS

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Abstract

Based on the communication privacy management perspective, this study examined student-athletes' perceptions of privacy issues on Twitter. This study used an online questionnaire survey to survey 5,576 student-athletes within C-USA. A total of 113 valid responses were used in the statistical analyses. Several linear regression analyses found that student-athletes' perceived control of private information flow on Twitter and their perceptions of choice significantly predicted the total months of using Twitter. Perceived control of private information flow on Twitter also predicts how many times they will check Twitter. Finally, student-athletes' perception of boundary ownership/linkage also predicts the total amount minutes spent on Twitter. Theoretical and managerial implications are discussed.

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Chapter 1: Introduction

1.1 Collegiate Student-Athletes in Sports Communication

Sports communication is at the helm of any sports organization, collegiate or professional. Pedersen, Miloch, and Laucella (2011) defined sports communication as the “process by which people in sport, in a sport setting, or through sport endeavor share symbols as they create meaning through interaction” (p.76). Sports communication underscores the relationships developed between organizations, athletes, fans, and third parties. These relationships were enhanced through the use of television, radio, print publications, and now more evident via the Internet (Wysocki, 2012). Wysocki (2012) claimed that sports communication is a dynamic practice that encompasses different functions within a sports organization to include branding, reputation management, customer service sales, marketing, and sponsorships. With the wide popularity of social media, sports communication is now more accessible, and easier to disperse. Sports organizations are charged with the mission to leave a unique and lasting impression on fans and consumers to solidify their connection with the sports’ brand (Pedersen, Miloch, & Laucella, 2011). The evolutions of sports organizations have increasingly relied on the use of social media to promote brands and teams.

Student-athletes in particular are a useful example when discussing and the role of social media in sports communication. A student-athlete can be defined as “an enrolled student who participates in an organized competitive sport sponsored by the college/university in which he or she is enrolled” (*Defining the Student-Athlete*, 2012). Student-athletes are subjected to balancing the roles of being a student and an athlete at

school (*Defining the Student-Athlete*, 2012). They carry more burdens and are in the spotlight more often than non-student-athletes. They are not professional athletes either.

Social media, in particular Twitter, have provided a convenient platform to observe the lives of student-athletes who can communicate directly with fans and friends without any university's gatekeeping. Hambrick, Simmons, Greenhalgh, and Greenwell (2010) observed that student-athletes use Twitter as an embodiment of their identity online, but doing so may result in many un-intended consequences for athletic departments in universities. Tweets released by collegiate student-athletes often share their private thoughts and speak of unguarded opinions or reactions that can lead to public scandals and controversial arguments. In many cases, collegiate student-athletes have run into the problems of generating negative publicity as discussed below.

Collegiate students-athletes are attracting a lot of attention just like celebrities. Some feel that collegiate student-athletes are employees of an athletic department and here can be a few main reasons: overall they generate revenue, student-athletes at all divisions make multiple appearance in the community, on average Division I football players commit 43.3 hours a week to their sport, they serve as core members of the universities' marketing teams, and interesting enough The University of Alabama reported 143.3 million dollars in athletic revenue last year which is calculated to be more than 25 out of 30 NBA teams, and more than 30 NHL teams (Edelman, 2014). Student-athletes have the opportunity to communicate to the masses via Twitter with the celebrity statues they have been given over the year. This provides them with an exceptional chance to change the balance of sports communication in general. To conclude based on

the above discussion, collegiate student-athletes are an important Twitter user population that needs to be examined more thoroughly.

1.2 Twitter as an Emerging Social Media Platform

Using social media is a popular trend around the world. It has become a part of a global communication phenomenon that has changed the face of mass communication around the globe. The exponential growth of social networks has been observed in the United States, Brazil, Russia, China, France, Germany, Italy, Spain, and the United Kingdom (Hutton & Fosdick, 2011). Hundreds of social networks have been set up on the Internet and social media usage has become a customary communication practice for many individuals. In 2011, social network usage had exceeded 61% of the population across fifty-four countries (Hutton & Fosdick, 2011).

One of the most successful social media platforms is Twitter. It is estimated that, as of November 2013, Twitter has over 230 million monthly users, 500 million tweets sent per day, 76% of Twitter active users are on mobile devices, 77% of Twitter accounts are on mobile devices, and Twitter officially supports more than 35 languages (Twitter Company, 2013). In 2008, Twitter only recorded 1.3 million users, but, as of May 2013, it has grossed to over 554,750,000 users (Twitter Statistics, 2013). As the number of users continues to grow, Twitter has affected how information is created, distributed, and talked about online.

Twitter has become the fastest growing social network platforms on the Internet (Romero, Galuba, Asur, & Huberman, 2011). Twitter allows an individual to update their followers in 140 characters or less to actively create and share content that they have

generated. Twitter users can enter texts or shortened URLs that lead followers to elsewhere on the web. In August 2013 alone, it was recorded that 500 million tweets are sent daily (Twitter Milestones, 2013).

As a popular social media platform, Twitter has many attractive characteristics that will be discussed below. First of all, Twitter is a forum of opinion exchanges. Twitter allows users to maintain a steady flow of information from friends, journalists, and celebrities through sharing daily experiences, opinions, chatter, news, and entertaining commentary to a user's online community (Coppes, 2011; Java, Finin, Song, & Tseng, 2007). Green (2011) claimed that Twitter is equivalent to an online expression of worldviews from one distinct person to another. Java et al. (2007) observed tweets being broadly categorized into informational, navigational, and transactional. Informational tweets are those sharing daily experiences, commentaries, and opinions to inform the public. Navigational tweets contain links to allow other users to navigate to a website, a video, a picture, or a different users' profile. Transactional tweets encourage interactions among users.

Secondly, Twitter users are empowered to play interchangeable roles. Twitter users can be an information source or a seeker. As a source of information, a Twitter user can employ conventions like the @ prefix to refer to a Twitter user and make reference to that person and establish a dialogue (Gillen & Merchant, 2013). The @ prefix is an information seeker because it refers to other users. They also make use of # hashtag to categorize events and create trends that those users can follow or add too. The # hashtag is an information source as it is used as a search engine.

Thirdly, Twitter can contribute to the formation of a user's identity, on the basis of what content a user disperses, retweets, and follows. A Twitter user's profile presents identity-related information such as favorites, friends, photos, videos, and status updates (Green, 2011). Twitter users decide how to represent themselves and thus to form their online identity on the basis of their activities (Vitak, 2012).

1.3 Online Privacy Issues Related to Student-Athletes' Twitter Usage

Twitter blurs the line between the public and private domains when the use of controversial language practices is communicated across online and offline platforms (Gillen & Merchant, 2013). The users make Twitter highly interactive and possible to publish personal information quickly (Qi & Edgar-Nevil, 2011). Several controversial incidents have demonstrated the unexpected consequences of Twitter use among collegiate student-athletes. In January 2012, sexually graphic and racially sensitive tweets led to high school cornerback Yuri Wright being expelled from his private school and losing his scholarship to Michigan (Paulson, 2012). In October 2012, Western Kentucky University suspended running back Antonio Andrews after he tweeted critical comments about the team's fans (Paulson, 2012). In December 2012, Lehigh University wide receiver Ryan Spadola was suspended for retweeting a racial slur (Paulson, 2012). Jaz Reynolds, Oklahoma receiver tweeted insensitively about the University of Texas' library shooting when he said, "Hey everyone in Austin, tx...kill yourself #evillaugh," and this had its repercussions (Strategically Communicating, 2011). And, of course, the story that captivated sports news was North Carolina's football program that lost 15 scholarships after an investigation based on a player's tweet (Paulson, 2012). In the following

sections, I will use three recent case studies to demonstrate how Twitter has changed communication behaviors among student-athletes.

1.3.1 Case Study #1

In 2012, two University of Michigan football players earned their team secondary NCAA violations. Roy Roundtree tweeted, “S/O to my lil brotha Mike McCray @MJM92013 for committing to Michigan today.” According to NCAA bylaws, it is prohibited for players from publicly contacting unsigned recruits (Meinke, 2012, p.1). After that Kenny Demens followed suit and tweeted, “@MJM92013 Welcome to the Maize & Blue my dog.” Despite the fact that these tweets were not vulgar, discriminating, or incriminating, they carried the potential to harm the student-athletes’ careers, as well as the athletic department (Meinke, 2012, p.1). The tweets of student-athletes wield influence on public media sources, which can in turn leave student-athletes and/or their athletic departments to face punishment or public ridicule.

1.3.2 Case Study #2

In 2011, Western Kentucky University sophomore running back Anthony Andrews wrote a stream of contentious tweets that led to his suspension. He tweeted concerning the lack of support from the Western Kentucky fan base (Stephens, 2011, p.1) as shown in the following excerpts from Andrew’s Twitter account:

One thing I can say bout #UKfans is they loyal. No matter how sorry they team is they always support them. Can’t say that bout #WKUfans smh

Same ppl who said we suck and will never win a game are the same mf trying party wit us and saying we knew ya'll could do it! #Fallback

These tweets reflected badly on the student-athlete because it portrays his image to be non-supportive of his fan base. The tweets create negative perceptions of the team and athletic department. Andrews was suspended from games and asked to deliver a public apology via Twitter. The tweets differed from those of Case Study #1 yet both carry a heavy weight when dealing with the reputation of an athletic department and its student-athletes.

1.3.3 Case Study #3

The NCAA placed a 2012-2013 post-season ban on the football program at the University of North Carolina at Chapel Hill, and also stripped the program of 15 scholarships (Krammer, 2012). The reason for this severe penalty was due to several tweets that revealed that a couple of the football players had received impermissible benefits and committed academic frauds (Krammer, 2012). Former North Carolina defensive linemen Marvin Austin released tweets venting his frustration about an ongoing situation concerning North Carolina's ways of conducting business (*Observer Sports*, 2011) below:

I'm so heated right now...justice will prevail...even if I have to spill the beans (Observer Sports, 2011, p.1).

Twitter I'm not bitter I just don't like the way my friend, teammate, brother was misled, misused, and ostracized from the program for the same reason that others got suspended and are able to play for because I

know exactly the details in each case and its noway that this young man should have his dream snatched from him like the #ncaa has done. I can tell you so many stories that would be mind boggling in comparison (Observer Sports, 2011, p.1).

Marvin posted more tweets to vent his frustration, and also revealed allegations made against North Carolina. His tweets left dramatic effects on the team and administration.

Three cases above demonstrate various un-intended consequences of student-athletes' Twitter uses. The tension is attributed to the concerns "between the rights of athletes to express and promote themselves as individuals, and the requirement of sports' governing bodies, leagues and clubs that they conform to common and shared protocols of public comment," because of the fear of tarnished reputation based on inappropriate statements (Hutchins, 2010, p.248).

The merging of public and private "spaces" on Twitter has blurred lines of privacy and public viewpoints. On one hand, individuals are protected under the constitution to freely speak one's mind. On the other hand, when individuals practice this on Twitter, they are subjected to public scrutiny and or punishment. The First Amendment does not protect individuals from the consequences and repercussions of free speech because it is neither a literal nor an absolute right (Penrose, 2013). The contestation of both sides partially explains the situations collegiate student-athletes put themselves in with the misuse of Twitter. The unexpected consequences that arise because of a controversial tweet fall under the blurred lines concept of the public and private spectrum of Twitter.

1.3.4 Restrictive Measures and Privacy Concerns of Student-Athletes

In response to the misuse of Twitter, college coaches began to monitor and impose restrictions on student-athletes' Twitter uses. The rationale behind controlling student-athletes' Twitter uses is based on economic justifications. In 2010 alone, the Southeastern Conference earned over \$1 billion in athletic receipts (Hauer, 2013). The Big Ten conference brought in over \$900 million (Hauer, 2013). Revenue is a strong incentive for athletic administrators to support monitoring and bans of social media accounts (Gay, 2012).

For example, the University of Kentucky and the University of Louisville track players' social media account with Centrix Social, a social monitoring software, to supply coaches with email alerts whenever a student-athlete tweets a taboo word from the trigger list defined by these universities (Laird, 2012). Some examples are "beer bong," "doobie," and "agent" (Laird, 2012, p.3). Other athletic departments use similar monitoring software such as Varsity Monitor and UDiligence to alert coaches immediately once questionable words appear in tweets (Paulson, 2012).

In addition to relying on a software-based solution, other universities implement social media policies to enable athletic administration or coaches to monitor student-athletes' Twitter accounts. The University of Michigan has recently set up social media policies and guidelines through their compliance office to restrict their student-athletes from modifying their account settings. In order to participate in sports, student-athletes are required to consent to the guidelines and abide by these restrictive social media policies. Furthermore, several universities have completely banned their student-athletes from using social media, including Villanova men's basketball, Mississippi State men's

basketball, New Mexico men's basketball, Miami men's football, South Carolina men's football, Iowa men's football, Boise State's men's football, Kansas men's football (Shear, 2011).

These restrictive measures on student-athletes' Twitter usage may have legal ramifications regarding infringement on personal privacy. Privacy is originally defined as "personal information that an individual deems important and unattainable by the general population" (Timm & Duven, 2008, p. 90). As a result of the ubiquitous use of mobile devices, and the insurmountable access to the Internet, many new risks have emerged concerning privacy (Timm & Duven, 2008). Privacy is a notion that encompasses personal autonomy, democratic participation, identity management, and social coordination (Mohamed, 2010). To better address privacy issues on social media, a new term, network privacy, was coined to refer to "privacy based on the expected accessibility of personal information to social constituencies" and [to] "maintaining online identities" (Levin & Abril, 2009, p.1045).

Despite many instances of Twitter misuse among college student-athletes, they sometimes choose to tweet inappropriate contents with negative public relations consequences for athletic departments and universities (Sanderson & Browning, 2013). Student-athletes are likely to perceive any measures to restrict their social media uses as practicing censorship and infringement on their privacy rights (Sheffer, Schultz, & Bishop, 2012). However, it is also possible that student-athletes are not fully aware of the negative consequences of their Twitter uses. A recent study by University of Southern Mississippi confirmed that student-athletes responded that they received no training on the proper use of Twitter (Sanderson & Browning, 2013). There is a high degree of

uncertainty about universities' social media policies because NCAA has no set policies, they vary from university to university, which leaves student-athletes to turn to peer norms for proper usage.

The regulations of collegiate student-athletes' Twitter uses also lead to some concerns about the infringement of their freedom of speech (Penrose, 2013). In a recent survey of Conference USA and SEC student-athletes, 85 percent of student-athletes did not feel restricted in their use of social media. Older athletes felt they had less control over their social media than when compared with how younger athletes felt. In terms of gender, female athletes believed that they controlled their social media more than did male athletes (Sheffer, Schultz, & Bishop, 2012).

1.4 Objectives of this Study

There is a lack of programmatic study on whether or not student-athletes perceive that Twitter restrictions are an infringement of personal privacy. There appears to be a disconnection between how universities and student-athletes perceive privacy issues. This thesis aims to contribute to the growing body of communication research that examines the potentially negative consequences associated with social media usage on student-athletes' lives (Child & Agyeman-Budu, 2010; Child et al., 2012; Child et al., 2009). In particular, student-athletes' perceptions of any privacy issues on Twitter were examined through a questionnaire survey. Therefore, the objectives of this research are to explore student-athletes' perceptions of emerging privacy issues related to the blurring lines of personal and public communications as a result of Twitter.

Chapter 2: Literature Review and Theoretical Framework

Ample research can be found on the categorization of privacy online (Papacharissi & Fernback, 2005; Yang, 2013; Yao, Rice, & Wallis, 2007). For example, Yang (2013) characterized the concept of online privacy as “multi-dimensional and complicated,” and may evoke different levels of concern (p. 3). Yao et al. (2007) identified four areas of online privacy: 1) unauthorized secondary use of personal information; 2) improper access of digitally stored personal information; 3) collection of personal information; 4) errors in collected personal information. Apparently, these descriptive approaches to study privacy will not be sufficient to understand how collegiate student-athletes perceive privacy issues. After reviewing the literature, my study employed the Communication Privacy Management Theory (henceforth, CPM) to study how people manage their privacy in social media.

CPM has frequently been used as a framework to study electronic commerce (Metzger, 2007), exploring coordination and ownership between friends (Kennedy-Lightsey et al., 2012), cross-cultural differences in communication (Gibbs & Cho, 2010), management and rule development in blogging (Child & Agyeman-Budu, 2010), different stages of social media use, and communications in families (Child et al., 2012). CPM has been applied extensively to communication research that examines how individuals disclose information within interpersonal relationship, family settings, instructional relationships, and face-to-face communication (Catlett, 2007). The following discussion provides a brief discussion of its theoretical assumptions and model.

2.1 Communication Privacy Management Theory

CPM illuminates the factors that explain how individuals react on various levels of disclosure and how they regulate the release of personal information (Child & Agyeman-Budu, 2010). This theory allows its users to develop a measure that charts how people implement rules and boundaries that preserve personal privacy (Child et al., 2009). CPM accounts for many situations where privacy is considered as the core of consumers' decision-making process (Child et al., 2009). Individuals decide which type of scheme they want to follow when they disclose information. Student-athletes have the same decision-making process when they release information on Twitter.

CPM provides a better understanding of the importance of revealing and concealing information online and accounts for why people disclose information. Privacy management is not purely individualized because it is shared amongst partners who take part in the communication process. The sharing of information occurs amongst friends, family members, teammates, online communities, and much more. The theory assumes that privacy management is not individualized because sharing information is not individualized. For example, Twitter allows multiple people to share, own, and disclose information, but it also calls for multiple people to manage their privacy as well.

One of the key concepts in CPM is how boundaries are established by individuals and organizations to help users become aware of the risks that individuals expose themselves to when disclosing information. Multiple behaviors serve as framing devices for understanding how individuals implement boundaries. Managing individual privacy is made possible when boundaries are set forth by individuals. However, boundaries are contingent on situations. Individual users have control over the boundaries

that they place and over the people that they allow within those bounds. Individuals interact with friends, strangers, or both online and this shapes what type of information that they share. It also affects what type of boundaries must be set in order to control personal information. According to CPM, boundary coordination is determined by permeability, ownership, and linkage. Permeability refers to the amount and depth of disclosure. When people want a significant amount of control over their information, they tighten their boundaries, so no important information is leaked out (Child et al., 2009). Ownership within a boundary comes with rules that help to protect against privacy intrusion (Child et al., 2009). Boundary linkages identify who else owns the information (Child et al., 2009). Establishing such linkages helps identify who has rights to information and who does not. Permeability, ownership, and linkage help us to understand the dimensions of privacy management.

The theoretical assumptions of CPM are that a system of rules is used by individuals to manage boundaries and control information related to their own disclosure and sharing decisions. Wu, Huang, Yen, and Popova (2012) concluded that individuals, “perform simple risk-benefit calculation when deciding whether or not to disclose their personal information,” and “if the benefits of disclosure outweigh the risks,” then people are more likely to disclose information (p. 891). Waters and Ackerman (2011) extended CPM to study how individual Facebook users assess the perceived consequences of disclosing information. Their study found that better relationship management and psychological well-being were cited as the positive effect of using Facebook, while taking up too much personal time was perceived to be the negative consequence (Waters &

Ackerman, 2011). This study also revealed that gender played a role in the extent of information disclosure.

Similarly, Gibbs and Cho (2010) also found that Facebook users weighed the risks and benefits of disclosure to determine how to set their boundaries. Benefits include relationship development and the potential to find new friends, while the risks included being misjudged by others, damaging relationships, and physical security of oneself (Gibbs & Cho, 2010). Their study was useful to understand the relationship between risk and benefits of information disclosure online and can be applied to investigate student-athlete perceived privacy risk. Some risks include the feeling of being judged or worse misjudged, which could have prominent effects on the way student-athletes disclose on Twitter (Gibbs & Cho, 2010).

CPM identified five different components related to how individual users make decisions about the disclosure of private information on Twitter: (1) daily lives and entertainment; (2) social identity; (3) competence; (4) socio-economic status and education; and (5) health (Jin, 2013). First of all, daily lives and entertainment refers to favorite foods, restaurants, music, movie, and travel destinations that are indicated as the most frequent and safest form of information disclosure on Twitter. However, users are less likely to discuss their mental and physical health with their followers. Secondly, social identity refers to what social groups a person identifies with. Thirdly, competence refers to and an individual's successes. Fourthly, socio-economic status and education pertains to income and educational level. Fifthly, the health component is related to medical conditions a person may have, or family medical conditions (Jin, 2013).

Because the decision to manage an individual's privacy rules is contingent on the external environment, factors that shape Twitter users' perceived benefits and risks of personal information disclosure should be examined. Child and Petronio (2009) found that over time people adjust their privacy rules and perceptions to accommodate their changing needs. Jin (2013) found that the amount of tweets positively correlates with the number of people a user follows and the number of people following a user. Jin (2013) argued that the intention to project a unique identity online is vital to understand the extent of information disclosure.

Six theoretical propositions help explain how individual users manage their privacy: (1) people believe that their private information belongs to them; (2) people believe that they have control over the flow of that information; (3) people develop and use privacy rules based on criteria that are important to them in order to control their information; (4) when individuals grant access to their private information through disclosure, they enter into a collective ownership and share responsibilities over that information; (5) in the collective ownership process, privacy rules are agreed upon; (6) and boundary turbulence occurs when violations or mistakes occur when trying to regulate private information (Child, Pearson & Petronio, 2009).

These six propositions explain the relationships between the following key dependent variables in this study: 1) perceived control of private information flow (on Twitter); 2) boundary ownership of private information (on Twitter); 3) perceptions of how privacy rules, regulations, and criteria are developed. These variables are likely to affect college student-athletes' usage behavior of Twitter. Demographics are used as control variables in the study.

2.2.1 Variable 1: Perceived Control of Private Information Flow on Twitter

Perceived control in a social media environment is conceptually defined as “the belief of a person in the electronic environment acting only in such ways as explicitly allowed for by the individual” (Spiekermann, 2005, p. 5). Twitter users have the power to make decisions in order to receive desirable outcomes. Individuals exert user-generated control over information within their means according to regulations they set forth.

Operationally defined, perceived control has been measured in the past by 15 items that were developed and separated into six factors/constructs (Spiekermann, 2005). The first construct, control, is measured by three items: (1) *I feel that I can steer the intelligent environment in a way I feel is right*; (2) *Thanks to <the PET> the electronic environment and its reading devices will have to subdue my will*; and (3) *Due to <the PET> I perceive perfect control over the activity of my chips*. These items were answered by a 5-point Likert scale (Spiekermann, 2005, p. 6). The second construct, contingency, is measured by two items: (1) *Thanks to <the PET> I could determine myself whether or not I'll interact with the intelligent environment*; and (2) *Through <the PET>, services are put at my disposition when I want them* (Spiekermann, 2005).

The third factor, helplessness, is measured by two items: (1) *I could imagine that if the electronic environment set out to scan me, it would be able to do so despite <the PET>*; and (2) *<The PET> will finally not be able to effectively protect me from being read by the electronic environment*. The fourth factor, choice, is measured by two items: (1) *Due to <the PET> it is still my decision whether or not the intelligent environment recognizes me*; and (2) *Through <the PET> I finally have the choice whether or not I am being scanned or not*. The fifth factor, information, is measured by two items: (1)

Through <the PET> I would always be informed of whether and in what form the electronic environment recognizes me; and (2) Using <the PET> I would always know when and by whom I have been read out. The last factor, ease, is measured by four items: (1) *To learn to use <the PET> would be easy for me;* (2) *It would be easy for me to learn skillful use of <the PET>;* (3) *I would find <the PET> easy to use;* and (4) *Due to <the PET> the information exchange between my chips and reading devices would be clearly defined* (Spiekermann, 2005). Respondents ranked the 15 questions an order of decreasing relatedness to the conceptual definition (Spiekermann, 2005).

2.2.2 Variable 2: Boundary Ownership of Private Information on Twitter

Boundary ownership can be conceptually defined as the “rights, privileges, and amount of responsibilities accruing to co-owners of private information revealed during Twitter-related activities” (Jin, 2013, p. 816). Scholars who studied communication ownership and coordination reasoned that “individuals believe they own their private information and have a right to control whether the information is disclosed as well as to whom it is disclosed” (Child, Haridakis, & Petronio, 2012, p. 1860). Twitter users frequently equate their ownership rights with the propensity at which boundaries they disclose private information (Child, Haridakis, & Petronio, 2012). Thus, information identified or thought to be private lies within an individual’s privacy boundary and will be protected by that individual’s capability to understand all risks involved with disclosure decisions.

Operationally defined, boundary ownership was measured by 9 statements in a similar study that examined other new media platforms (such as blogs): (1) *I am certain*

that all the information I reveal on my blog remains under my control; (2) When I reveal personal information on my blog I expect it won't be repeated anywhere; (3) Once information is on my blog, it seems I have no control over what happens to it; (4) I have limited personal information on my blog; (5) I use shorthand (e.g. pseudonyms or limited details) when discussing sensitive information so others have limited access to know my personal information; (6) If I think that information I posted really looks too private, I might delete it; (7) I usually am slow to talk about recent events because people might talk; (8) I don't blog about certain topics because I worry who has access; and (9) Seeing intimate details about someone else, makes me feel I should keep their information private (Child, Pearson, & Petronio, 2009, p. 2084).

2.2.3 Variable 3: Perceptions of how privacy rules, regulations, and criteria are developed

This variable is conceptually defined as whether or not Twitter users believe that the process of privacy rules, regulations, and criteria development is exercised and stipulated to allow them to feel that they have control over their information (Child, Pearson, & Petronio, 2009). Twitter users determined privacy rules and regulations at both personal and collective levels after considering cultural choice, gender, and motivation (Child, Haridakis, & Petronio, 2012; Waters & Ackerman, 2011). On Twitter, privacy rules are developed by the users themselves and are not like those on other media platforms (Metzger, 2007).

Operationally, the perceptions of how these rules and criteria are developed were measured by three different factors (Child, Pearson, & Petronio, 2009). The first factor,

boundary permeability, was measured by six statements: (1) *When I face challenges in my life, I feel comfortable talking about them on my blog*; (2) *I like my blog entries to be long and detailed*; (3) *I like to discuss work concerns on my blog*; (4) *I often tell intimate personal things on my blog*; (5) *I share information with people whom I don't know in my day-to-day life*; (6) *I update my blog frequently* (Child et al., 2009, p. 284).

The second factor, boundary ownership, was measured by six questions: (1) *I have limited personal information on my blog*; (2) *I use shorthand (e.g. pseudonyms or limited details) when discussing sensitive information so others have limited access to know my personal information*; (3) *If I think that information I posted really looks to private, I might delete it*; (4) *I usually am slow to talk about recent events because people might talk*; (5) *I don't blog about certain topics because I worry who has access*; and (6) *Seeing intimate details about someone else, makes me feel I should keep their information private* (Child et al., 2009, p. 2084). The last factor, boundary linkages, was divided into six statements: (1) *I create a profile on my blog so that other bloggers can link to me with similar interests*; (2) *I try to let people know my best interest on my blog so I can find friends*; (3) *I allow people with a profile or picture I like to access my blog*; (4) *I comment on blogs to have others check out my blog*; (5) *I allow access of my blog through any of these: directories, key word searches, or weblog rings*; (6) *I regularly link to interesting websites to increase traffic on my blog* (Child et al., 2009, p. 2084).

2.2.4 Dependent Variable: Twitter Usage Behaviors

Twitter usage behaviors refer to the intensity of Twitter use that was often measured by “frequency of use of Twitter and use of Twitter for socializing and information gathering/spreading determines Twitter usage behaviors” (Hughes et al., 2012, p. 564). The variable was also measured by daily and weekly use such as asking: (1) how many days a week an individual uses Twitter, (2) how many times a day an individual accesses Twitter, and (3) on the days that individual uses Twitter, how much time is spent using Twitter in hours and minutes (Johnson & Yang, 2009). A positive correlation between Twitter usage and information gratifications obtained, ranging from (1) obtaining information, (2) giving and receiving advice, (3) learning interesting things, (4) meeting new people, (5) sharing information with others, to (6) participating in discussions (Johnson & Yang, 2009, p.32).

Operationally defined, Twitter usage behaviors was measured by asking the amount of time spent: (1) *Amount of time with an account (6 months, 1 year, 2 years, 3 years, greater than 3 years)*; (2) *How often is the account checked (less than a few times per month, a few times per month, a few times per week, daily, more than 3 times per day, more than 5 times per day)*; and (3) *The average time spent on Facebook (up to 5 minutes, 15 minutes, 30 minutes, 1 hour, more than 1 hour)* (Debatin et al, 2009, p. 90).

2.2.5 Control Variable: Demographics

Demographics such as gender, age or college status, race/ethnicity, sport type, and training versus monitoring were often used in the examination of their moderating role among Twitter users (Fogel & Nehmad, 2009; Jin, 2013; Sanderson & Browning, 2013).

As for gender, women were found to disclose more information than were men (Metzger, 2007). Qualitative inquiry on how male student-athletes from the SEC and C-USA universities responded to questions about self-disclosure revealed that female student-athletes are more likely to disclose. Waters and Ackerman (2011) found that gender played a role in explaining voluntary disclosure behaviors on Facebook and showed that females were more likely to disclose information than were males.

Other important demographic variables include age, ethnicity, status in the program, awareness of related privacy rules, training about proper Twitter usage, year in college, and type(s) of sport. Older student-athletes felt less control than did younger student-athletes (Sheffer, Schutz, & Bishop, 2012). The status in the program has been measured with the categories of “freshmen,” “sophomore,” “junior,” “senior,” or “other” (Fogel & Nehmad, 2009, p.156). Race and ethnicity do not typically play a role in Twitter usage (Fogel & Nehmed, 2013). Race and ethnicity have been measured by the categories of “African-American,” “Hispanic-American,” “Asian/Asian-American,” “South Asian,” “White” and “Other” (Fogel & Nehmed, 2013, p. 156).

Chapter 3: Method

3.1 Method Selection

A self-administered online questionnaire survey was used to collect empirical data for this project. The survey was disseminated amongst collegiate student-athletes nationwide. The aims of this research were to collect data to help answer whether privacy concerns affect the way student-athletes tweet and conduct themselves on Twitter.

An online questionnaire survey is appropriate for this project for the following reasons. First, a questionnaire survey is suitable to assess attitudes and characteristics on a wide range of topics among different samples (Wrench, Maddox, Richmond, & McCroskey, 2008). Online questionnaire surveys are also flexible and can be easily administered (Wrench et al., 2008). They are also cost efficient and dependable to collect data from participants from a national sample and to answer sensitive questions. Online surveys also eliminate paper costs. Past research using CPM also pointed out that other benefits of questionnaire survey include the ability to collect high quality data in light of time and budgetary constraints (Child, Pearson, & Petronio, 2009; Debatin, Lovejoy, Horn, & Hughes, 2009; Fogel & Nehmad, 2009; Jin, 2013). Online surveys also allow researchers to send out a large quantity of surveys via chat rooms, social networks, and email (Wright, 2005). This data collection method allows the possibility to access to unique populations, groups of people that are difficult to get in touch with (Wright, 2005).

3.2 Sampling Method and Procedures

The research instrument was distributed among a national sample of student-athletes on intercollegiate athletic teams. Initial telephone contacts were made to secure email lists to send out a recruitment flyer. A total of 14 universities were selected to take part in the study. The student-athlete population at these universities ranges from University of North Carolina at Charlotte (n=376), East Carolina University (n=430), Florida Atlantic University (n=447), Florida International University (N=415), Louisiana Tech (n=289), Marshall (n=359), Middle Tennessee (n=351), North Texas University (n=330), Old Dominion University (n=468), Rice University (n=378), Southern Mississippi University (n=360), Tulane University (n=321), University of Alabama at Birmingham (n=370), and University of Texas at San Antonio (n=383). The university where the largest number of participants was collected is where the author studied. This university has a student population for Fall 2013 is 23,003 students, 86% of which are undergraduates (UTEP Facts, 2013). 54 percent of the student population is female and 78 percent is Hispanic (UTEP Facts, 2013). Student-athletes make up one percent of this population, but are rare on university campuses, which make them a unique population to study.

In the three-week data collection period, there were 22 students outside of UTEP who participated in this study after 3 rounds of recruitment. After eliminating invalid/incomplete surveys and those who were not active Twitter users, there were 9 students athletes who were from University of North Carolina at Charlotte (n=3), Florida International University (n=2), and other (n=4). The small number of participants from

other universities is likely to render the national representative sample less meaningful, which is considered a research limitation that will be explored later in Chapter 5.

A total of 150 student-athletes were from the host university. After removing incomplete/invalid surveys and those who were not active Twitter users, there were a total of 104 valid surveys from the host university. Combined with outside data and the host university, there were a total of 113 student-athletes surveyed.

3.2.1. Sample Characteristics

The final sample was composed of 113 valid responses. These surveys were used in the final analysis. The gender division was 45.1% of our sample was female (n=51), while 54.9% of them were male (n=62). The average age of the sample was 20.46 years old with a standard deviation of 1.81. The age group 18-22 made up 89.3% of the overall sample, while ages 23-27 made up the other 10.7%.

Among 113 participants in the sample, 36.3% of the sample (n=41) self-described themselves as White (n=31, 27.4 %) while described themselves as African-American. A portion of the population described themselves as Hispanic (n=27, 23.9%) and an even smaller percent described themselves as Asian American (n=4, 3.5%). 8.8% (n=10) marked other as their race/ethnicity.

Sports Type of the Participants

The student-athletes in the sample belong to the following sports: football (n=41, 37.6%), soccer (n=17, 15.6%), track and field (n=14, 12.8%), softball (n=14, 12.8%), volleyball (n=8, 7.3%), golf (n=5, 4.6%), and basketball (n=4, 3.7%).

Social Media Usage Behaviors

In terms of the participants' Twitter usage behaviors, on average, participants have owned a Twitter account for 33.44 months ($SD=17.55$). Participants who have owned their Twitter account from zero to five months make up 6% of the population. Participants who have owned a Twitter account from 12 months to 24 months equal 23.5% of the population. Those who have owned a Twitter account for 25 months to 48 months account for 48.3% of the sample. The remaining 22.2% has owned a Twitter account between 49 months and 72 months.

In an ordinary week, participants reported to have checked their Twitter account on average 41.27 times per week ($SD=37.07$). 73.1% reported checking their Twitter accounts from 0-25 times a week, which made up the majority of the population. Some participants (26.9%) indicated that they checked their Twitter accounts from 28 to 150 times per week.

In terms of the minutes spent on checking Twitter per day participants reported to have spent on average about 45.84 minutes ($SD=38.84$) checking their Twitter account each day.

3.3 Instrument Development

The first part of the online questionnaire survey included approval by the Institutional Review Board that must be signed by the participants before the study. The second part of the instrument included a 38-question survey. The beginning part of the survey asked a screening question to determine whether a participant is an active user or not. Eligibility was determined whether participants have a Twitter account, and if they have logged on to it to navigate the website within the last 30 days, which had defined

common Twitter users in previous studies (such as Waters & Ackerman, 2011). The screening question on the instrument read, *“Have you signed on to your Twitter account within the last 30 days,”* and is answered by either a “yes” or “no.” If answering “yes,” the participant was allowed to continue. If answering “no,” the participant was stopped.

The online questionnaire survey also evaluated the participants’ Twitter perceptions of private-related issues and their management of privacy, using 32 five-point Likert scales. The first 11 statements were adapted from Spiekermann (2005) and related to the concept of “perceived control of their Twitter account.” Some statements include: *“I have perfect control of my Twitter account,”* and *“I have the choice to accept followers,”* plus others to help understand the levels of perceived control Twitter users feel that they have.

The next group of statements included eight questions discussing “ownership perceptions of private information spread on Twitter.” The questions were adapted from Child, Pearson, and Petronio (2009) to examine whether Twitter users feel about their rights, privileges, and responsibilities when they spread information on Twitter. Examples of these statements include: *“When I reveal personal information on my Twitter I expect it won’t be repeated anywhere,”* and *“Seeing intimate details about someone else, makes me feel I should keep their information private.”*

The next 8 questions discussed the concept of “rules, regulations, or criteria participants might use on Twitter” (Child et al., 2009). Examples of these statements include *“I discuss team issues,”* and *“I have criteria for who I follow on Twitter.”* These questions were adopted from previous studies of CPM that observe common rules used by individuals to manage their privacy.

Four Likert scale statements were used to deal with participants' perceptions of privacy and their thoughts concerning college-imposed control. These questions include the following: *"I feel my privacy is violated when the athletic department monitors my Twitter account,"* and *"I think banning Twitter from student-athletes is a direct infringement of their personal privacy."* These are statements were used in order to get an understanding of privacy perceptions concerning control of Twitter accounts.

Participants' Twitter usage behaviors were evaluated by five statements adapted from Debatin et al.'s Facebook study (2009). Twitter usage is measured by determining how often a participant accesses Twitter on a weekly and daily basis, as well as how long the participant has owned an account. This section looked into exploratory questions such *"Have you received Twitter training or education on campus,"* and whether participants have private or public profiles.

Four questions collected participants' demographics such as gender, age, race/ethnicity, and type of sport concluded the whole survey. These questions were adapted from similar studies on new media platforms (Fogel & Nehmad, 2009; Jin, 2013; Sanderson & Browning, 2013).

3.3.1 Pretest of the Instrument

A group of three faculty experts served as reviewers of the questionnaire to ensure face and content validity and to remove any potential problems of wording and layout. Suggestions and recommendations from the expert panel were used to revise the survey questionnaire before administration. Faculty experts advised to make the instrument available online. There were some numbering issues on the instrument that needed to be

cleared up. The race and ethnicities section were asked to be expanded to cover more categories.

3.3.2. Reliability Tests

Cronbach's α is the most common tool used to assess the internal consistency reliability of an instrument. α coefficients range in value from zero to one and should usually be greater than 0.70 in order to provide good support for reliability (Wrench et al., 2008). α coefficients were run to test scale reliability of thirty-two 5-point Likert statements ($\alpha=0.75$). All statements were kept because the removal of any statement did not significantly increase reliability. For example, removing question number 19, "*I usually am slow to tweet about recent events because people might talk,*" the instrument could increase its reliability, but only to 0.76. In the end, all of the statements were kept.

Chapter 4: Findings and Discussion

4.1 Preliminary Data Manipulation

I used an exploratory factor analysis procedure to extract common factors from the 32 Likert statements. Using Varimax Rotation and Principal Component Analysis, a total of nine common factors were extracted which accounted for 68.56% of the variance. In Table 4.1, nine factors were extracted with Eigenvalues greater than 1.0. The first factor had 11 items loaded most heavily (with factor loadings from -0.44 to 0.88). The second factor had four items (with factor loadings from 0.60 to 0.87), the third factor had four items loaded (with factor loadings from 0.42 to 0.72), the fourth factor consisted of three items (with factor loadings from -0.37 to 0.86), the fifth factor had two items (with factor loadings from 0.70 to 0.83), the sixth factor had two items (with factor loadings from -0.72 to 0.61), the seventh factor had three items (with factor loadings from -0.60 to 0.62), the eighth factor had one item of 0.80, and the last factor had two items (with a factor loading from -0.56 to 0.73) (Refer to Table 4.1 and Table 4.2)

Table 4.1
Exploratory Factor Analysis using PCA with Varimax Rotation

Component (Factor)	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
F1	6.76	21.13	21.13
F2	2.87	8.97	30.10
F3	2.19	6.85	36.95
F4	2.08	6.51	43.46
F5	2.03	6.34	49.79
F6	1.59	4.98	54.78
F7	1.59	4.97	59.75
F8	1.53	4.79	64.54
F9	1.38	4.32	68.86

Table 4.2
Rotated Component Matrix

	Component (Factor)								
	F1	F 2	F3	F 4	F 5	F 6	F7	F8	F9
I determine who I follow.	.88	.02	-.18	.08	-.17	-.01	.02	-.00	-.12
I feel I can steer my Twitter activity in a way I feel is right.	.88	-.06	.01	.02	-.02	-.03	-.02	.05	-.06
I have the choice to change my privacy settings.	.86	-.12	-.04	.01	.06	.03	.13	.08	.02
I have perfect control of my Twitter account.	.82	-.10	.13	-.06	.10	.05	-.05	.08	.02
I tweet when I want.	.81	-.07	-.14	.03	.05	.03	.17	.03	-.01
I have the choice to interact with other users.	.79	-.03	.02	.34	-.08	-.07	-.01	-.10	-.10
I determine for myself who I interact with.	.78	.10	.04	.18	-.06	.07	-.15	-.11	-.19
All the information I reveal on Twitter remains under my control.	.70	-.10	.18	.07	.27	.18	-.01	-.14	.02
I have limited personal information on my Twitter.	.58	.00	-.19	.24	-.17	-.08	.31	.15	.10
I have allowed the athletic department access to my tweets.	.52	-.40	.16	-.05	.13	.22	.05	.17	.07
I discuss issues with the athletic department on my Twitter.	-.44	.23	.30	-.18	.16	.11	.30	-.17	.32
The athletic department should not dictate what I can say on Twitter.	-.04	.87	.11	.06	.09	-.05	.01	-.12	-.01
I feel it would be unfair to be punished for a tweet.	-.11	.80	.17	.01	.29	-.07	-.09	-.06	.00
I feel my privacy is violated when the athletic department monitors my Twitter account.	-.17	.70	-.14	-.10	-.01	.19	.17	.04	.05
Banning Twitter from student-athletes is a direct infringement of their personal privacy.	.09	.60	.05	.01	-.14	.44	-.18	.40	-.16
My Twitter entries are detailed.	-.09	-.07	.72	-.01	.19	.11	.06	.10	-.07

I comment on a tweet to have others check out my Twitter.	-.05	.20	.72	.09	-.06	.06	.03	-.19	.16
I have criteria for who I follow on Twitter.	.06	-.15	.57	.18	-.19	-.18	-.16	.44	.13
I feel comfortable talking about challenges in my life on Twitter.	.19	.23	.42	.05	.05	.36	.31	-.19	-.06
I have the choice to accept followers.	.20	.08	.03	.86	-.03	.03	.06	-.08	.12
I determine who follows me.	.20	-.06	.12	.85	.11	.04	.04	.10	.02
I try to let people know my best interest on my Twitter.	.18	.25	.27	-.37	-.22	.21	-.25	-.14	.35
All the information I reveal on Twitter won't be repeated anywhere.	.18	.08	.14	-.01	.83	-.05	-.06	-.03	.00
I don't tweet about certain topics because I worry who has access to my tweets.	.09	-.16	.05	-.08	.70	-.23	.04	.21	.13
I usually am slow to tweet about recent events because people might talk.	-.09	.06	.07	-.11	-.25	-.72	.22	.24	.02
I discuss sports concerns on my Twitter.	.04	.13	.39	-.08	-.03	.61	.19	.05	-.00
I use shorthand when discussing sensitive personal information on my Twitter.	.10	-.02	.01	.22	-.03	-.03	.62	.25	.04
Once information is on my Twitter account, I have no control over what happens to it.	.22	-.06	.15	-.09	.48	-.09	.60	-.02	-.11
I discuss team issues on Twitter.	-.33	.31	.19	-.20	.07	.20	.41	-.30	.31
If the information I posted looks too private, I delete it.	.02	-.04	-.03	-.00	-.13	-.10	.21	.79	.08
When others release information on Twitter, it should be kept private.	-.04	-.01	.08	.19	-.18	-.03	.09	.13	.73
If someone was looking for me on	.46	.13	.07	.05	-.22	.12	.16	-.01	-.56

Twitter, they could
find me.

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Before explaining the composition of these nine factors, I conducted several reliability tests to ensure factors included for later discussion have met minimum reliability level of 0.7. Extracted factors with a low reliability coefficient were removed for further discussion. Cronbach's α is the most common tool used to assess the internal consistency reliability. In the end, I selected four factors that have an acceptable alpha coefficient of 0.7: *perceived control of privacy information on Twitter* ($\alpha=0.92$) (Factor 1), *perception of how privacy rules and regulations, and criteria* ($\alpha=0.78$) (Factor 2), *perceived choice of Twitter* ($\alpha=0.61$) (Factor 4), and *boundary ownership of private information on Twitter* ($\alpha=0.84$) (Factor 5).

Factor 1: *Perceived Control of Private Information on Twitter*

Perceived control of private information factor (Cronbach's $\alpha=0.92$) was composed of eleven Likert scale statements with the following factor loadings in the parentheses: *I determine who I follow* (Factor loading=0.88), *I feel I can steer my Twitter activity in a way I feel is right* (Factor loading=0.88), *I have the choice to change my privacy settings* (Factor loading=0.86), *I have perfect control of my Twitter account* (Factor loading=0.82), *I tweet when I want* (Factor loading=0.81), *I have the choice to interact with other users* (Factor loading=0.79), *I determine for myself who I interact with* (Factor loading=0.78), *All the information I reveal on Twitter remains under my control* (Factor loading=0.70), *I have limited personal information on my Twitter*

(Factor loading=0.58), *I have allowed the athletic department access to my tweets* (Factor loading=0.52), and *I discuss issues with the athletic department on my Twitter* (Factor loading=-0.44). It is clear that these factors report on a user's perception of the control that they possess on Twitter.

Factor 2: *Perception of How Privacy Rules: Boundary Linkage*

The second factor was named *Perception of How Privacy Rules and Regulations, and Criteria* (Cronbach's alpha=0.78). It was composed of four questions including, *The athletic department should not dictate what I can say on Twitter* (Factor loading=0.87), *I feel it would be unfair to be punished for a tweet* (Factor loading=0.80), *I feel my privacy is violated when the athletic department monitors my Twitter account* (Factor loading=0.70), and *Banning Twitter from student-athletes is a direct infringement of their personal privacy* (Factor loading=0.60).

Factor 4: *Perceived Control of Private Information Flow (Choice)*

The fourth factor was a sub-dimension of Factor 1 with its strong emphasis on *Choice*, according to past literature that often groups both factors together. So, I named this factor as *Perceived Control of Private Information Flow (Choice)* (Cronbach's alpha=0.61). It was composed of three questions in this group: *I have the choice to accept followers* (Factor loading=0.86), *I determine who follows me* (Factor loading=0.85), and *I try to let people know my best interest on my Twitter* (Factor loading=-0.37).

Factor 5: *Boundary Ownership of Private Information on Twitter*

The fifth factor was labeled *Boundary Ownership of Private information on Twitter* (Cronbach's $\alpha=0.84$). It was composed of two questions including: *All the information I reveal on Twitter won't be repeated anywhere* (Factor loading=0.83), and *I don't Tweet about certain topics because I worry who has access to my tweets* (Factor loading=0.70)

Table 4.3
Descriptive Statistics of Extracted Factors

Factor	Mean	S.D.
Factor 1: Perceived Control of Private Information (Cronbach's $\alpha=0.92$)		
I determine who I follow.	4.48	0.84
I feel I can steer my Twitter activity in a way I feel is right.	4.26	0.95
I have the choice to change my privacy settings.	4.47	0.84
I have perfect control of my Twitter account.	4.22	0.95
I tweet when I want.	4.38	0.99
I have the choice to interact with other users.	4.29	0.88
I determine for myself who I interact with.	4.26	1.00
All the information I reveal on Twitter remains under my control.	3.98	1.25
I have limited personal information on my Twitter.	4.10	0.93
I have allowed the athletic departments access to my tweets.	3.93	1.23
I discuss issues with the athletic department on my Twitter.	1.53	0.85
Composite Index	4.24	0.76
Factor 2: Perceptions of Privacy Rules: Boundary Linkage (Cronbach's $\alpha=0.78$)		
The athletic department should not dictate what I can say on Twitter.	3.04	1.18
I feel it would be unfair to be punished for a tweet.	3.04	1.30
I feel my privacy is violated when the athletic department monitors my Twitter account.	2.69	1.21
Banning Twitter from student-athletes is a direct infringement of their personal privacy.	4.00	1.10
Composite Index	3.19	0.93
Factor 4: Perceived Control of Private Information Flow (Choice) (Cronbach's $\alpha=0.84$)		
I have the choice to accept followers.	3.44	1.51
I determine who follows me.	3.43	1.49
I try to let people know my best interest on Twitter	3.19	1.18

	Composite Index	3.44	1.38
Factor 5: Boundary Ownership (Cronbach's alpha=0.61)			
All the information I reveal on Twitter won't be repeated anywhere.		2.53	1.18
I don't tweet about certain topics because I worry who has access to my tweets		2.23	1.23
	Composite Index	2.38	1.02

My research examined whether perceived control of private information on Twitter, boundary ownership of private information on Twitter, perception of privacy rule-making, and choice (as one type of perceived control) affect the Twitter usage behaviors of collegiate student-athletes as measured by daily use (measured by minutes of using Twitter account), weekly inquiry (measured by the times of checking Twitter account), and number of months users have owned a Twitter account. Specifically, the thesis project aims to examine the following research questions:

Research Question 1: How does perceived control of privacy information on Twitter affect the Twitter usage behaviors of collegiate student-athletes?

Research Question 2: How does boundary ownership of private information on Twitter affect the Twitter usage behaviors of collegiate student-athletes?

Research Question 3: How does the perception of how privacy rules, regulations, and criteria are developed affect Twitter usage behaviors of collegiate student-athletes?

Research Question 4: How do their demographics affect the relationships stated in the above research questions?

4.2 Will perceptions of privacy-related issues on Twitter affect the Twitter usage behaviors of collegiate student-athletes as measured by total months of using Twitter?

To provide insights into the first three research questions, I employed a linear regression model to examine the effects of four extracted privacy-related factors on total month using Twitter. Overall, the regression model does not generate a statistically significant model ($F=1.60$, $df=4/94$, $p>0.05$). Only one out of four factors on privacy perceptions produced significant influence on their Twitter usage behavior. Athletes' perceived control of private information flow (choice) to determine who can follow them on Twitter significantly predict total months they use Twitter ($\beta = -0.23$, $t = -2.09$, $p < 0.05$). The negative β coefficient suggests that the more that they perceive that their privacy was affected, the shorter period of time that they used Twitter (Refer to Table 4.4).

Table 4.4
Regression Analysis:
Effects of Privacy Perceptions on Twitter Usage as Measured by Total Months with a Twitter Account

Multiple R: 0.25			
R Square: 0.06			
Adjusted R square: 0.02			
Standard Error: 17.33			
F Value: 1.60			
Durbin-Watson = 2.06			
	df	Sum of Squares	Mean Square
Regression	4	1918.61	479.65
Residual	94	28257.83	300.61
Total	98	30176.44	
Factor	Unstandardized Coefficients β	Standardized Coefficients β	t

Perceptions of Privacy Rules: Boundary Linkage	- .60	-.03	-.31
Perceived Control of Private Information Flow (Choice)	-2.88	-.23*	-2.09
Boundary Ownership: Ownership	2.14	.13	1.25
Perceived Control of Private Information	3.42	0.15	1.25

Notations: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

The results suggest that the more important student-athletes believe that they should have more control over whom they chose to be followed by, and who they decide to share personal information with such as their best interest, the fewer months they will actually use or own Twitter. The inverse relationship clearly demonstrates student-athletes' growing privacy concerns are likely to influence their Twitter usage as measured by total months. The other three factors, however, did not affect the total months student-athletes had a Twitter account. It seems that those who emphasize the importance of choosing their followers tend to use Twitter less because they feel their privacy is at risk.

To explain this phenomenon, I have referred to Catlett's (2007) analysis of female university students' communicative management of privacy on Facebook. The results from her in-depth interviews of 13 university female students argue the existence of a privacy paradox in which individuals' stated privacy concerns still lead to their willingness to provide personal information (Spiekermann, Grosslags, & Berendt, 2001, cited in Catlett, 2007). Similar to the paradox, this study found that users who perceive

the importance of having control over their Twitter account tend to make less use of it. Those who do not perceive the importance of having control over accepting followers or being able to determine who follows them tend to own a Twitter account for a longer period of time. Similarly, Catlett (2007) found that users who were less knowledgeable of their privacy control reported having thinner boundaries for their private information, than those who were more conscious about others' ability to co-own and control their information. I speculate that Twitter users are often concerned about managing their privacy by establishing rules for up keeping their representation of self. The more emphasis a user places on maintaining control of their image or account, the shorter he or she will stay on a blogging site like Twitter. In other words, if a user believes in the importance of controlling their choice, then the fewer months the individual will own a Twitter account.

Those users in control do not feel the need to make use of social media. Control related to privacy is extremely important because having control allows for the standardization of privacy. Child and Agyeman-Budu's (2010) study shows that bloggers spend more time blogging in order to enact control over different privacy management rules to regulate their information. Child and Agyeman-Budu (2010) found that the need to allow greater boundary permeability in blogging is motivated by the need to more actively maintain a certain impression of themselves. Having a better perception of control allows for the management of privacy to be a lot easier and more normalized. The drive for control over self-representation through disclosing personal information leads to the need to use social media in order to limit and avoid misinterpretations of one's self. I feel [that] bloggers and Twitter users will spend more time on social media sites because

they feel satisfied with their virtual self, so they participate in constant updates that shape their decision to disclose personal information.

It is likely that, due to the extensive amount of experience savvy social media users often have, they become more knowledgeable about potential privacy infringement problems and feel less tolerant of losing control over an individual privacy, regardless of what social media companies have claimed. To explain this, according to Moore and McElroy (2012), experience is an important predictor of social media usage; they found the longer a person has been on a social media site, the more in control that person feels important over their private information. I speculate from my findings that student-athletes who perceive the importance of making choice and privacy control tend to use social media less. It is likely that student-athletes will perceive being on a social media site for a long period of time leaves a person vulnerable to intrusion and misinterpretation. It is likely that the length of owning Twitter will make users experience more frequently privacy concerns and thus less trusting of their social media sites. Sheffer, Schultz, and Bishop (2012) offer a similar observation that more experienced social media users are more aware of the dangers of privacy infringement. With unclear distinctions of what is suitable for student-athletes to disclose on Twitter, it is safer from privacy infringements to stay away from the site. My study revealed that student-athletes that perceive personal choice as important to them own a Twitter account for a shorter amount of time, compared with those who think otherwise. Given that student-athletes value their own privacy management, it is likely when and if athletic departments put regulations on Twitter, this will create a decrease in Twitter usage.

4.3 Will perceptions of privacy-related issues on Twitter affect the Twitter usage behaviors of collegiate student-athletes as measured by the frequency of checking Twitter?

To examine whether student-athletes' privacy perceptions of Twitter affect their social media usage, I employed another linear regression model to examine the effects of four extracted privacy-related factors on the frequency of checking Twitter. The regression model has generated a statistically significant model ($F=34.61$, $df=4/102$, $p<0.001$). These four extracted privacy perceptions account of 58% of variance in student-athletes' frequency of Twitter usage per week. One out of four factors on privacy perceptions produced significant influence on their usage frequency. Athletes' perceived control of private information flow on Twitter significantly predicted the frequency per week using Twitter ($\beta= 0.82$, $t= 3.16$, $p<0.01$). The positive β coefficient suggested that the more that the Twitter users believed that] they have full control over what private information will flow on Twitter, the more frequently that they will use Twitter (Refer to Table 4.5).

Table 4.5
Regression Analysis:
Effects of Privacy Perceptions on Twitter Usage as Measured by Frequency

Multiple R: 0.76			
R Square: 0.58			
Adjusted R square: 0.56			
Standard Error: 36.76			
F Value:34.61			
Durbin-Watson= 2.21			
	df	Sum of Squares	Mean Square
Regression	4	187054.99	46763.75
Residual	102	137840.01	1351.37
Total	106	324895.00	

Factor	Unstandardized Coefficients β	Standard- ized Coefficients β	t
Perceptions of Privacy Rules: Boundary Linkage	2.37	.14	.69
Perceived Control of Private Information Flow (Choice)	-3.18	-.21	-1.16
Boundary Ownership: Ownership	.09	0.00	.03
Perceived Control of Private Information	10.45	.82**	3.16

Notations: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

The results suggest that the more that the student-athletes perceived that they have control over their private information flow on Twitter, the more frequently that they will check their Twitter account in an ordinary week. The findings reported in this model support what past CPM researchers have often identified; that is, the importance of users' self-perceived control of private information in affecting their decision-making process for self-disclosure. To explain this, Browning and Sanderson (2012) found that student-athletes use social media to meet three needs: 1) keeping in contact; 2) communicating with followers; 3) assessing information. One of the most important reasons for social media use is to gauge the social discussion about themselves and their team (Browning & Sanderson, 2012). It was reported that student-athletes check their Twitter accounts because there was a strong need to see what people were saying about them (Browning &

Sanderson, 2012). Although Browning and Sanderson (2012) did not study the relationship between privacy perceptions and social media usage behaviors, their study deals with their own identity through the disclosure of personal information. In particular, student-athletes often need to respond to their fans. Therefore, I speculate that in order to shape their own image on Twitter, student-athletes need to control over any critical tweets or messages in order to maintain personal control over their private information on Twitter. Student-athletes participate in using strategies for making decisions to remain in control of their private information to project a positive image in front of their fans. Therefore, when they feel more content with the privacy protection in the social media site, they are more likely to use it more frequently.

Past studies on social media usage have consistently found the importance of ensuring personal privacy relies on generating a sense of trust (Shin, 2010; Valenzuela, Park, & Kee, 2009; Wu et al., 2012). Trusting social media is likely to lead to higher levels of usage (Valenzuela et al., 2009). Valenzuela et al. (2009) reported that college students' Facebook usage relies heavily on their social trust in the site. Social media sites reduce uncertainties about others by intentionally disclosing other users' motives and behaviors, which is necessary for developing trust in a relationship (Valenzuela, Park, & Kee, 2009). Their study revealed positive relationships between the intensity of Facebook use and trust on the site, and concluded that the greater the trust and perceived control on a social media site, the higher the intensity of college students Facebook use was found (Valenzuela, Park, & Kee, 2009). There was a positive and significant relationship between Facebook usage and social trust (Valenzuela, Park, & Kee, 2009). Yang (2013) studied the relationship between social media usage, online privacy concerns, trust, and

prior negative experiences with social media among young Americans. Similarly, Yang's (2013) study found that privacy infringement influences the amount of social media usage. Users' perceived risks were found to influence their trust in online companies and subsequently reduced their usage (Yang, 2013). Valenzuela et al. (2009) and my results lead me to speculate that the high levels of use of social networking sites are particularly strong for trusting individuals. I, thus, speculate that those who perceive that they have high levels of control over their private information on Twitter trust the site that they are on and use Twitter more frequently.

Shin (2010) proposes that perceived privacy and security are antecedents of trust that affects usage of social media. His study implies that trust is related to a user's perceived privacy and that it plays a role in the willingness of a user to make use of and share within social networking communities. Shin (2010) also confirms the positive relationship between trust, privacy, and social media usage; that is, a users' trust in social media will lead to less privacy concerns. His research states that trust plays a significant role in determining a user's behavior with regards to disclosing information on a social networking site (Shin, 2010). Similar positive relationships are also reported in Yang (2013) in which online information privacy concerns negatively predict users' trust in social media, while the level of trust positively predicts their usage. It is evident that trust is important in explaining social media usage. Because social media users tend to focus on vulnerability of privacy breaches, it is likely that the higher levels of Twitter usage are based on users' strong trust that their own privacy will not be breached.

As explained above, it is extremely likely that student-athletes are concerned about whether they have control over their privacy on social media. My findings

demonstrate that student-athletes tend to use Twitter more often in an ordinary week if they feel in control of who access their tweets—which appears to motivate them to. Student-athletes reported a high level of control over their personal Twitter accounts is likely to lead to a high level of trust in the social media, resulting in more usage (Yang, 2013). My findings correspond with what CPM suggests that users believe that their ability to control their private information is critical to their own privacy management strategies. Yang's (2013) survey empirically examined these relationships by confirming that online information privacy concerns positively predict users' perceived risk and subsequent social media usage. Therefore, I speculate that when student-athletes believe that their privacy is better protected, they are more likely to use the social media more frequently and with greater longevity. Concurred with Browning and Sanderson (2012), if student-athletes feel that they can control their social media activities, their tweeting, the amount of personal information that they put on Twitter, who they interact with, and the changing of their privacy settings, the more likely that they will check their Twitter account more often during an ordinary week. Their findings concur with my study using a student-athlete population.

4.4 Will perceptions of privacy-related issues on Twitter affect the Twitter usage behaviors of collegiate student-athletes as measured by total minutes spent on Twitter?

To empirically test the first three research questions, I also employed a linear regression model to examine the effects of four extracted privacy-related factors on the amount of minutes using Twitter. The results also suggest that participants' perceptions

of their privacy rules-making on Twitter did predict student-athletes' Twitter usage, as measured by how many minutes they spent using Twitter per day ($\beta=-0.21^*$). However, it did not predict minutes spent on Twitter each day ($\beta=0.09$). The negative β coefficients indicated that the less student-athletes perceive that they took part in the rule-making over private information on Twitter, the more that they will use Twitter (Refer to Table 4.6).

I employed a linear regression model to examine the effects of four extracted factors on how many minutes student-athletes check their Twitter per day. The total regression model has generated a statistically significant model ($F=57.90$, $df=4/109$, $p<0.001$). These four extracted privacy perceptions account of 68% of variance in student-athletes' total minutes spent on Twitter per day. Only one out of four factors on privacy perceptions produced a significant influence on their amount of usage as measured by minutes. Athletes' boundary ownership/boundary linkage on Twitter significantly predicts total minutes using Twitter (β coefficient= 0.49, $t= 3.51$, $p<0.01$). The positive β coefficient suggests that the more the Twitter user believes they own the[ir] private information on Twitter, the more that they will use Twitter frequently as measured by minutes on Twitter per day (Refer to Table 4.6).

Table 4.6

Regression Analysis:

Effects of Privacy Perceptions on Twitter Usage as Measured by Total Minutes Spent on Twitter)

Multiple R: 0.83
R Square: 0.68
Adjusted R square: 0.67
Standard Error: 34.54
F Value:57.90
Durbin-Watson= 1.21

	df	Sum of Squares	Mean Square
Regression	4	276383.28	69095.82
Residual	109	130066.72	1193.27
Total	113	406450.00	

Factor	Unstandardized Coefficients β	Standard- ized Coefficients β	t
Perceptions of Privacy Rules: Boundary Linkage	3.85	0.21	1.27
Perceived Control of Private Information Flow (Choice)	3.57	0.22	1.44
Boundary Ownership: Ownership	11.30	0.48**	3.51
Perceived Control of Private Information	-.94	-.07	-.32

Notations: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

To explain these findings, I relied on Kennedy-Lightsey et al. (2012) that argued that managing privacy is easiest when there are boundaries around private information and when ownership is established. Once boundaries are crossed and violated, disclosers are reported to have either negative or positive emotional responses, depending on how they perceive the risk level and the ownership of information by the receiver. Their findings also suggested that disclosures of private information resulted in a negative emotional reaction when they perceived that their friends have less ownership under hypothetical dissemination of higher-risk information. Furthermore, they also discovered that a person's sense of ownership motivates them to create boundaries that will control the spread of their private information to others (Kennedy-Lightsey et al., 2012).

However, their study merely examined ownership of information between friends and did not examine the relationship between a person's perception of ownership and social media usage behavior in a different context. However, it is likely the same boundary coordination is likely to play a role in student-athlete users' Twitter privacy management in social media. I speculate that student-athletes participate in creating ownership and boundary barriers around their information on Twitter in order to avoid boundary turbulence, or unwanted attention from the media or athletic administrators.

My study revealed that student-athletes do not tweet about certain topics because they worry who has access to their tweets proving that ownership of information is important to them. A recent presentation by Sanderson and Browning (2014) recommends informing student-athletes to be responsible for their own tweets might be more effective at controlling Twitters than implementing software- or administrator-based restrictive measures. On the basis of CPM, once student-athletes are made aware that their tweets are not completely private and under their control, student-athletes are likely to be more careful about their social media behaviors. Therefore, the lack of fully-controlled boundaries are likely to affect student-athletes' disclosure of their own private information on Twitter. As Yang (2013) pointed out, concerns over information privacy and trust are likely to affect their social media usage behaviors. Consistent with past literature, concerns over personal privacy and a lack of boundaries are likely to influence the amount of minutes that they spend on Twitter a day.

My study measured the concept of boundary ownership by asking whether student-athletes assure that their information remains on Twitter and who can follow their Twitter account to learn about their personal information and thoughts. My findings suggested

the importance of feeling ownership and its effect on social media usage. The practice of sharing private information in public forum is a definite sign for individuals who spend a lot of time on social media. Users who believe in boundary ownership are likely to practice more self-monitoring on social media sites, which in turns determines the amount of time that they use Twitter (Child & Agyeman-Budu, 2010). Child and Agyeman-Budu (2010) attributed this positive relationship to bloggers with higher self-monitoring skills to have a more private orientation towards their blogging practices. It is likely that student-athletes will also self-monitor their actions on Twitter due to similar privacy concerns for ownership of their information resulting in an increased Twitter usage.

On the other hand, Child, Haridakis, and Petronio (2012) found that more experienced users have learned to navigate the social media site by using rules that they have created to allow them to enjoy the benefits of social media. Privacy rules and policies are often considered as one type of boundary-setting practice. For example, Facebook's privacy policy in 2011 states the following rules:

Facebook is about sharing. Our privacy controls give you the power to decide what and how much you share” (cited in Fuchs, 2014, p. 166).

Twitter privacy policy also states, in terms of information sharing and disclosure, “Your Consent: We may share or disclose your information at your direction, such as when you authorize a third-party web client or application to access your Twitter account (Twitter, 2014).

Highly experienced student-athletes' users are likely to make the most use of these privacy rules and policies to allow student-athlete users to set up and control their

boundaries and information ownership. It is likely that users who feel a strong sense of control over their privacy set up and control their boundary ownership concerning what information that they disclose, and that they are more likely to trust a particular social media outlet, leading to more minutes spent on it. With the full knowledge of these privacy boundaries, I speculate that this creates less turbulence and or problems on the site for users making—thus, the site more useful. When a user knows how to properly own an account and control it, the more frequent his or her use will be (Child & Agyeman-Budu, 2010).

Kennedy-Lightsey et al. (2012) observed that people who reveal more information on blogs have increased their perceptions of ownership of their information. Their study reported that boundary ownership and coordination are used to satisfy the tensions of protecting risky information (Kennedy-Lightsey et al., 2012). Boundaries adapt and change dependent on situations that individual users employ to manage their privacy. The control of boundaries allows individuals to maintain and upkeep communication practices through determining to whom private information can be disclosed (Petronio, 2002).

In conclusion, boundary ownership is a significant factor in determining student-athletes' Twitter usage because it allows for rules to be intermixed with owners and co-owners of private information (Petronio, 2002). Owners of private information have to choose how to manage their privacy, and control who gets access to their personal information. Creating boundaries over private information sets a precedent of what is to be expected from communication exchanges and thus minimizing risk to an unwanted exposure (Petronio, 2002). Boundary change is based on the decision of private

information owners to determine what constitutes a proper boundary for information disclosure. It is important to understand that boundaries are used to keep private information separate from public spheres as a communication privacy management practice. It is up to the owner to decide whether to allow private information into a public sphere, and whether or not they want a co-owner to their information (Petronio, 2002). Therefore, I reason when student-athletes' boundaries on Twitter are expanded from one sole owner of private information to multiple, choice for privacy management are then moved from individually based choices to collective ones. When rules or boundaries are broken, anger, mistrust, and uncertainty can occur leading student-athletes to use Twitter for fewer minutes a day because they are lacking a sense of ownership.

The lack of significant results in the other three factors in this study is likely to be that Twitter has been named the most trustworthy website in 2014 for the second year in a row (Burnham, 2014). This was decided on the criteria of domain and brand protection, privacy, and security (Burnham, 2014). The Online Trust Alliance reviewed 800 different websites and Twitter was nabbed number one for its commitment toward responsible management to consumer data and privacy (Burnham, 2014). With these rankings that are committed to online trust, the amount of times users access Twitter a day has to be increasing. Twitter is gaining a lot of momentum over other social media sites. More people are beginning to trust it, giving them less privacy concerns, and raising the amount of users and usage.

4.5 How do their demographics affect the relationships stated in the above research questions?

Given the homogeneous nature of student-athlete sample, I further examined participants' gender and ethnicity to determine if student-athletes' privacy perceptions will continue to predict their social media usage behaviors. The results of hierarchical regression analyses were used to estimate the incremental and total variance associated with the variable groups and are reported in Table 4.7, 4.8, and 4.9. The final betas for individual variables from the final regression equation are also reported in the same tables.

A total of six independent variables were selected and grouped into two blocks separately. Four private-related perceptions variables were entered in the first block. Demographic variables (e.g., gender and ethnicity) and these four factors were entered in the second block. This approach offered the most conservative test possible and ensured that any effects attributable to consumers' privacy perceptions would not be due to their relationship with other factors included in the model.

Four private-related perceptual variables accounted for only 6% of the variance in the total month of owning a Twitter account. As indicated in Table 4.6, only one factor (*Perceived Control of Private Information Flow (Choice)*) was statistically significant ($\beta=-0.23$, $t=-2.09$, $p<0.05$). Demographics (i.e., gender and ethnicity) and three other perceptual variables as a group only accounted for 8% of the variance in their social media usage. As indicated in the second block (Model 2) in Table 4.7, variables such as gender ($\beta=-0.04$, $t=-0.38$, $p>0.05$) and ethnicity ($\beta=-0.11$, $t=-1.05$, $p>0.05$) were not statistically significant in the model. *Perceived Control of Private Information Flow*

(Choice) ($\beta=-0.24$, $t=-2.19$, $p<0.05$), however, continued to be significant in the second model. Findings suggested that all demographic variables did not predict social media usage (Refer to Table 4.7).

Table 4. 7
Hierarchical Regression Analysis:
The Effect of Gender on the Relationships between Privacy Perceptions and Twitter
Usage Behaviors as Measured by Total Months

	R square	Standardized β	T
Model 1: $F= 1.60$, $df= 4/94$, $p>0.05$			
Perceived Control of Private Information Control		0.15	1.41
Perceptions of Privacy Rules: Boundary Linkage		-0.03	-0.31
Perceived Control of Private Information Flow (Choice)		-0.23	-2.09*
Boundary Ownership		0.13	1.25
R after step 1	0.25		
R square after step 1	0.07		
Model 2: $F=1.28$, $df=6/92$, $p>0.05$ (Durbin-Watson=2.07)			
Perceived Control of Private Information Control		0.16	1.43
Perceptions of Privacy Rules: Boundary Linkage		-0.03	-0.30
Perceived Control of Private Information Flow (Choice)		-0.24	-2.19*
Boundary Ownership		-0.12	1.11
Gender ^a		-0.04	-0.38
Ethnicity ⁶		0.11	1.05

Incremental R square for Group 2	0.20
R after step 2	0.28
R square after step 2	0.08

a. Coded as 1=female, 0=male.
b. Coded as 1=Hispanics, 0=Non-Hispanics
c. * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

The lack of statistical significance for gender and ethnicity was in contradiction with past literature. For example, Fogel and Nehmad (2009) found many discrepancies in the differences of gender. They found that men were more likely to take risks than women on social media sites (Fogel & Nehmad, 2009). They also found that men maintained greater risks taking attitudes than women did (Fogel & Nehmad, 2009). Fogel and Nehmad (2009) also found that women had greater privacy concerns and disclosed less identity information than did men. On the basis of Yang's (2013) study, a higher level of concern over information privacy is likely to lead to a high level of perceived risk and a reduced level of trust (in social media), resulting in a reduced usage level. It is possible that users with greater risk-taking attitudes would own a Twitter account for a longer period of months compared to users without risk taking attitudes because the fear of privacy invasion would be less. If men have been known to have greater risk taking attitudes then they should also own a Twitter account for a longer period of time than women. Therefore, the nonsignificant effect of gender reported in this study is an anomaly that deserves further research.

The lack of significant findings also concurs with past literature that rarely examined gender as a meaningful variable to study social media (Browning & Sanderson, 2012; Lampe & Ellison, 2010; Sanderson & Browning, 2014). Most quantitative studies

in this area (Sanderson & Browning, 2014) do not seem to examine potential gender variations as to their privacy perceptions. It is likely that both male and female athletes are regulated by the same rules under NCAA, and are in a sense on an equal footing. The assumptions seem to be that males and females can both identify with equal privacy concerns and the fear of being subjected to punishment based off of negative consequences on Twitter. Inappropriate tweets can clearly harm the future of both male and female student-athletes.

To examine if gender and ethnicity play any role in determining student-athletes' Twitter usage behaviors, a total of six independent variables were selected and grouped into two blocks separately. Four private-related perceptions were entered in the first block. Demographic variables (e.g., gender and ethnicity) and these four factors were entered in the second block. This approach offered the most conservative test possible and ensured that any effects attributable to consumers' privacy perceptions would not be due to their relationship with other factors included in the model.

Four privacy-related perceptual variables accounted for only 5% of the variance in the total number of times checking individual's Twitter account. As indicated in Table 4.7, only one factor (*Perceived Control of Private Information Flow* was statistically significant ($\beta=0.22$, $t=2.08$, $p<0.05$). Demographics (i.e., gender and ethnicity) and three other perceptual variables as a group only accounted for 5% of the variance in their social media usage behaviors. As indicated in the second block (Model 2) in Table 4.8, variables such as gender ($\beta=0.06$, $t=0.56$, $p>0.05$) and ethnicity ($\beta=0.05$, $t=0.47$, $p>0.05$) were not significant in the model. However, *Perceived Control of Private Information Flow* demonstrated marginal statistical significance ($\beta=0.20$, $t=1.91$, $p=0.06$). Findings

suggested that all demographic variables did not predict social media usage (Refer to Table 4.8).

Table 4. 8
Hierarchical Regression Analysis:
The Effect of Gender on the Relationships between Privacy Perceptions and Twitter
Usage Behaviors as Measured by Frequency

	R square	Standardized β	T
Model 1: F= 1.19 , df= 4/101, p>0.05			
Perceived Control of Private Information Control		0.22	2.08*
Perceptions of Privacy Rules: Boundary Linkage		0.06	0.63
Perceived Control of Private Information Flow (Choice)		-0.12	-1.15
Boundary Ownership		0.00	0.04
R after step 1	0.21		
R square after step 1	0.05		
Model 2: F=0.86, df=6/99, p>0.05 (Durbin-Watson=2.18)			
Perceived Control of Private Information Control		0.20	1.91
Perceptions of Privacy Rules: Boundary Linkage		0.08	0.73
Perceived Control of Private Information Flow (Choice)		-0.12	-1.17
Boundary Ownership		0.00	0.04
Gender ^a		0.06	0.56
Ethnicity ⁶		0.05	0.41
Incremental R square for Group 2	0.05		
R after step 2	0.22		
R square after step 2	0.05		

- a. Coded as 1=female, 0=male.
- b. Coded as 1=Hispanics, 0=Non-Hispanics
- c. * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

The lack of statistical significance for gender and ethnicity was in contradiction with the findings in past literature. Previous research by Child et al. (2012) found that female bloggers spent more time blogging than did males. The study also showed that females practice social media post deletions more often than did men (Child et al., 2012). The process of actively self-monitoring a person's tweets is clearly a privacy management practice. Based on Child et al. (2012), it is likely that women are more worrisome about the negative consequences of their posts. Another explanation comes from Waters and Ackerman (2011) that explained that females purposely disclosed private information as a form of entertainment compared to how males disclosed their private information. This supports the notion that females are more careless with their social media practices, which ultimately could subject them to more privacy concerns.

Twitter user demographics for 2013 showed that African-Americans and Hispanics are more likely to use Twitter than Caucasian people (Widrich, 2013). Although ethnicity was not found as significant in my study, many studies have shown that ethnicity does matter in different regions, but this could be interesting to study with student-athlete populations with a large sample size.

A total of six independent variables were selected and grouped into two blocks separately. Four private-related perceptual variables were entered in the first block. Demographic variables (e.g., gender, ethnicity) and these four factors were entered in the second block. This approach offered the most conservative test possible and ensured that

any effects attributable to consumers' privacy perceptions would not be due to their relationship with other factors included in the model.

To examine the effects of demographic variables on total minutes spent on Twitter, four private-related perceptual variables accounted for only 4% of the variance in the total minutes spent on Twitter each day. As indicated in Table 4.9, only one factor (*Perceived Control of Private Information Flow (Choice)*) was not statistically significant ($\beta=0.15$, $t=1.80$, $p>0.05$). Demographics (i.e., gender and ethnicity) and the four perceptual variables as a group only accounted for 8% of the variance in their social media usage. As indicated in the second block (Model 2) in Table 4.5, variables such as gender ($\beta=-0.01$, $t=-0.08$, $p>0.05$) and ethnicity ($\beta=0.06$, $t=0.71$, $p>0.05$) were not significant in the model. However, three statistically significant factors were shown to demonstrate consistently predictive power of student-athletes' Twitter usage. Findings suggested that all demographic variables did not predict social media usage (Refer to Table 4.9).

Table 4. 9
Hierarchical Regression Analysis:
The Effect of Gender and Ethnicity on the Relationships between Privacy Perceptions
and Twitter Usage Behaviors as Measured by Total Minutes Spent

	R square	Standardized β	T
Model 1: $F= 13.13$, $df= 4/108$, $p<0.001$			
Perceived Control of Private Information Control		0.24	2.84**
Perceptions of Privacy Rules: Boundary Linkage		0.27	3.32**
Perceived Control of		0.15	1.80

Private Information Flow (Choice)			
Boundary Ownership		0.35	4.30***
R after step 1	0.57		
R square after step 1	0.33		
Model 2: F=8.72, df=6/106, p<0.001 (Durbin-Watson=1.20)			
Perceived Control of Private Information Control		0.24	2.75**
Perceptions of Privacy Rules: Boundary Linkage		0.27	3.28**
Perceived Control of Private Information Flow (Choice)		0.14	1.69
Boundary Ownership		3.43	4.19***
Gender ^a		-0.01	-0.07
Ethnicity ^b		0.06	0.71
Incremental R square for Group 2	0.03		
R after step 2	0.58		
R square after step 2	0.33		

a. Coded as 1=female, 0=male.

b. Coded as 1=Hispanics, 0=Non-Hispanics

c. * p<0.05 ** p <0.01 *** p <0.001

The lack of statistical significance for gender and ethnicity was in contradiction with the findings in past literature. For example, Sheffer et al. (2012) found that male student-athletes should have greater awareness of social media conventions because they are subjected to more scrutiny, given that they often garner more attention from fans, attendance, and revenue. They also found that both genders attribute the most important thing about communicating on Twitter to be sharing personal opinions, but that the genders ranked others differently (Sheffer et al., 2012). Females ranked promotional

comments at second, while males ranked communicating with fans to be the next most important aspect of sharing on Twitter (Sheffer et al., 2012). Females then ranked communicated with fans to be third, while males ranked game critique next (Sheffer et al, 2012). These ranking show that males and females use Twitter differently.

Despite the strides female sports have made in recent years, males are still the most highly represented in this industry. There is an enormous pay gap between male and female college coaches, as well as a gap for representation of women in athletic director positions (Edelman, 2014). The distinct gender imbalance in the industry is likely to lead to an even higher level of self-monitoring behaviors among female athletes (Child et al., 2012). The lack of gender variations is likely to attribute to different mechanisms that affect how male and female student-athletes perceive privacy management.

Metzger's (2007) study concerning electronic commerce falls in line with my study. He found that there was no evidence that online boundary rules and privacy concerns are formulated on the basis of gender, which is opposite of what previous CPM studies have found (Metzger, 2007). Metzger (2007) explains that the nature of disclosure in the electronic commerce setting is different from that in interpersonal relationships because electronic commerce calls for transactions of more factual and non-emotional information. While interpersonal relationships are different because they allow women to reveal more intimate information than can men (Metzger, 2007). The lack of significant findings is likely that Twitter is not perceived of as intimate as face-to-face communication, males and females do not differ in the way they use it.

Chapter 5: Conclusion

Twitter is at the forefront of changing sports communication because it has established a permanent fixed role in college athletics where close to all organizations are utilizing it for the promotion of their brands and teams (Browning & Sanderson, 2012). Social media researchers often argue that student-athletes, much like the rest of their peers, have gravitated to social media to connect. Student-athlete Twitter handles are blasted all over television and different websites leaving them in a peculiar situation. Student-athletes will not simply abstain from using Twitter altogether because of its potential pitfalls, but this leaves all athletic departments vulnerable to ridicule. Browning and Sanderson (2012) argued that Twitter's rise in popularity corresponds to a need for sports organizations to proactively monitor its influence. Many play a role in how Twitter can positively or negatively affect the communication of sport; from training student-athletes on the front end to teaching them how to respond to critical tweets on the back end (Browning & Sanderson, 2012).

5.1 Summary of the Results

The communication privacy management approach is a useful framework to gain insight into the relationships between student-athletes' privacy concerns, perceptions, and their Twitter usage behaviors-through the lens of how self-disclosure decision is made. My study provides insight into this decision-making process and shed lights on how various dimensions of privacy perceptions affect different types of social media usage behaviors. For example, student-athletes' perceived control of private information flow (choice) to determine who can follow them on Twitter significantly predict total months

they use Twitter. My findings also suggest that the more that they perceive that their privacy was affected, the shorter period of time they used Twitter. Also, I found certain perceptions produced significant influence on their usage frequency. Student-athletes' perceived control of private information flow on Twitter significantly predicted the frequency per week using Twitter. My study suggested that the more that the Twitter users believe that they have full control over what private information flows on Twitter, the more that they use Twitter frequently. Additionally, I found that a student-athletes' boundary ownership/boundary linkage on Twitter significantly predicted total minutes using Twitter. I observed that the more that the Twitter user believes that they perceive they own the private information on Twitter, the more that they will use Twitter frequently as measured by minutes on Twitter per day. Gender and ethnicity were not significant predictors of student-athletes' Twitter usage behaviors.

5.2 Importance of this Study

Student-athletes participate in sports communication every day. Twitter allows student-athletes to communicate with their followers and fans in ways that were not possible many years ago. Unattainable access is not a problem anymore. Twitter has left its mark on sports communication by changing the traditional model of sport delivery from the "one-to-many, single medium framework of sport consumption traditionally offered by television to the many-to-many possibilities of Internet-enabled sport participatory consumption" (Pegoraro, 2014, p.133). These social media practices shape the identities of young student-athletes, and give them an opportunity to run their personal public relations. This study is merely scratching the surface of how student-

athletes feel concerning the control, ownership, and privacy concerns of their Twitter accounts.

Overall, privacy is an increasingly important issue. In the United States, with over half of Americans online, over 84% of American online users report being concerned with invasion of their privacy (Hong et al., 2005). Managing online privacy is often approached from different perspectives. Scholars note that people selectively conceal and disclose information on a daily basis and claim that successfully managing privacy is critical for maintaining social relationships, and the right to privacy is the right to control the flow of that information (Jin, 2013). My study on student-athletes' perception of privacy on Twitter shows a similar emphasis on these issues. On the basis of CPM, this study also advances our knowledge on this important issue among a unique sample of college students (i.e., student athletes) to not only learn their privacy concerns, but also to learn of their privacy management strategies. This study also confirms the importance of these privacy perceptions on their subsequent social media usage.

Social media platforms such as Twitter are purported to allow and promote free speech among their users. The power of social media can be immeasurable. It has the ability to mobilize the masses. New media has the capabilities to increase freedoms just as the printing press, postal service, telegraph, and the telephone have done in the past (Shirky, 2011). A huge social media presence around the world poses a threat to many. It increases "shared awareness" whether it is about sports, politics, religion, or business (Shirky, 2011, p. 8). This increased "shared awareness" opens the door for privacy concerns.

Taking some steps back, the First Amendment to the United States Constitution grants five rights one of which is freedom of speech which allows individuals the right to speak, write, and gather freely as long as it does not cause harm or violence (Jessop, 2012). Therefore, posting on Twitter falls under the basic component of freedom of expression. This includes individuals' rights to express themselves without interference or restraint by the government, and this should incorporate other mediums, such as social networking sites ("First Amendment", 2013). Attempts are being made to hold young student-athletes responsible for the private information released on their Twitter accounts. Under the First Amendment, this seems unfair. There can be no modern economy if bans or censorship continue to get placed on new forms of communication (Shirky, 2011). There may be short term disappointment with student-athletes' use of social media, but without their usage long term benefits may not exist (Shirky, 2011).

One of the most important contributions of this study is to examine what student-athletes think about any restrictive measures imposed by the university administrators and whether these perceptions affect their subsequent Twitter usage. Overall, student-athletes did not seem too concerned about the restrictive measures placed by the university administrator. Mean scores for *"I feel my privacy is violated when the athletic department monitors my Twitter account," "I feel it would be unfair to be punished for a tweet,"* and *"Banning Twitter from student-athletes is a direct infringement of their personal privacy"* range from 2.69 to 4.0 on a five-point Likert statements. As demonstrated in perceptions of privacy rules: boundary linkage, this factor was found to affect total minutes spent on Twitter a day.

This study was built on previous research of privacy management geared towards understanding relationships of various factors when social media users make decision about their personal privacy. In addressing the significant relationship between privacy control and boundary ownership of personal information; the greater the level of importance placed on control of their privacy, the more, the more likely they will use Twitter. On Twitter, an individual user can choose which users to follow, and those users you choose become an information source. Each user that follows a person is a potential owner of a person's private information. The consequences of Twitter postings are both intended and unintended. As a result, how student-athletes utilize Twitter is what makes it a fascinating phenomenon to study and understand from a privacy perspective.

5.3 Theoretical Implications

Social media like Twitter have created challenges to ensure users' control and protect their personal information. A massive amount of information ranging from a person's daily activities, lifestyle choices, finances, to their whereabouts, and a Twitter user's needs determine the amount and the extent of disclosure on the site (Dolan, 2012). This study was developed from a CPM perspective with an intention to study unique student-athletes to expand the applicability of the theory. When compared with other CPM research, the study shows some noteworthy differences. Past CPM studies have named control and ownership important factors to determining the usage of social media sites, and my study has confirmed the significance of those items to be true.

Furthermore, the CPM theory provides a better understanding of the importance of revealing and concealing information online as a conscious and calculated privacy

management tactic by users. It brings understanding to effects of such privacy management strategies on Twitter usage behaviors calculated by months, frequency, and minutes spent on Twitter per day. The theory also helps account for collegiate student-athletes' privacy perceptions and their privacy management decision-making process.

Browning and Sanderson (2012) have found that student-athletes are motivated to use Twitter because is a valuable and convenient tool to keep in touch with others. It gives them a platform and the control to communicate and encourage others, and to keep abreast of information—especially if fans or friends are talking about them (Browning & Sanderson, 2012). Student-athletes were reported to use Twitter more frequently because of those reasons. There is no doubt that Twitter provides tremendous connective capabilities—whether positive or negative, but there is no doubt that student-athletes have privacy concerns for their usage behaviors. The amount of control and ownership that student-athletes feel they have over their private information, has been found to affect their Twitter usage.

The CPM theory provides a unique way to look at the decision-making process regulating social media users' privacy perceptions and self-disclosure process. This study contributes to the building literature on the topic of student-athletes and social media, as well as their perspectives of privacy, and CPM in general.

Different from prevalent legal discussions on the regulation of Twitter usage among collegiate student-athletes, this study demonstrated individual-level privacy management is a more useful approach to address potential abuse of Twitter among this specific group of users. In other words, it may be more effective and less legally contentious if universities regulate student-athletes' Twitter usage through a series of

educational training programs, instead of imposing restrictive measures. Therefore, the following provide a summary of legal implications of legal arguments to better understand potential legal implications of the present study.

5.4 Legal Implications

Institution-level privacy controls create a huge communication controversy in sports. College student-athletes are putting their trust in social networking sites, which can be risky. Privacy is a luxury that is not easy to maintain anymore. To date, many collegiate student-athletes have found themselves in tough predicaments because of Twitter postings. The emergence of this information database has created another realm for confrontations where student-athletes are the targets.

The restrictive mechanisms imposed by the university administrators are likely to reduce student athletes' Twitter usage behaviors. Stringent control at the institutional level, in other words, seems to defeat the purposes of using Twitter because users want to take an active role in determining their own privacy. Furthermore, these restrictive mechanisms also carry legal ramifications that were discussed below. Existing laws and acts in the United States have offered some types of remedies. For example, *The Fourth Amendment of the Constitution* states that it is the "right of the people to be secure in their persons, houses, papers and effects, against unreasonable searches and seizures, shall not be violated...but upon probable cause," which affords protection to users regardless of a site's terms of service and privacy policy (Hodge, 2006, p. 100). The Amendment should be expanded to protect users' informational privacy.

In accordance with the fourth amendment, *The Electronic Communications Privacy Act (ECPA)* was enacted in 1986 to control the manner in which government entities attain access to electronic communications and how that information is stored (Dolan, 2012). The ECPA assures a degree of privacy while using electronic communication services and/or remote computing services (Dolan, 2012). It outlaws the interception of wire, oral, or electronic communications (Doyle, 2012). This act could potentially give users additional protection, but still does not fully protect privacy online.

Another bill that was enacted to *The Stored Communications Act (SCA)*, affords Internet users a variety of statutory privacy rights for information that is held by network service providers. *The Stored Communications Act* was created because the *Fourth Amendment* did not wholly protect privacy in the new emerging medium (Dolan, 2012). The general proscription of this act makes it a “federal crime to intentionally either access without authorization or exceed an authorization to access a facility through which an electronic communication service is provided and thereby obtain, alter, or prevent to wire or electronic communication while it is in electronic storage” which helps privacy protection on Twitter (Doyle, 2012, p. 36). Both acts can seemingly be applied to privacy violations concerning Twitter.

There are important legal implications when public universities and athletic departments are infringing on a student-athlete’s *First Amendment* rights when they ban or monitor social media sites. Banning social media sites amounts to a prior restraint, and a prior restraint is “government action that prevents speech before it occurs,” and if student-athletes do not even get the chance to make use of Twitter, the public and litigators will never know what was to be posted on the site (Jessop, 2012). Janet Judge,

President of Sports Law Associates LLC, a full service sports law firm, where Ms. Judge concentrates her practice on intercollegiate sports and employment law counseling stated, “Student-athletes are to be treated the same as all students according to the first amendment” and this is what makes the issue of privacy on a public sector complicated (Judge, 2013). Janet Judge went onto explain that there is no set NCAA rule that states that universities should be monitoring the social media accounts of student-athletes, so are bans on Twitter are ethical or approved by law.

The predominant thinking in the legal literature seems to focus on the protection of an individual’s privacy online, and the assumption seems to be that peoples’ statements are vulnerable to misinterpretations and can thus be harmful to the student-athlete. However, the study found that individual Twitter users are consciously making their own privacy management decisions to determine when and how to disperse their private information on a public site. In other words, their privacy management strategies are adaptable to emerging ecological factors affecting their social media usage behaviors. The empirical findings reported in this study point to a different perspective as to what institutional level privacy laws and regulations should take into consideration. More specifically, they should consider the role of individual Twitter users. With the growing role of social media in the lives of many, it is essential to be aware of privacy risks and laws that come along disclosure on the various types of mediums. This study lends support for future research that provides a more in depth study of the privacy needs of student-athletes, and the privacy invasions that institutions have made.

Twitter will continue to change sports communication from an informational standpoint. It allows multiple ways to manage impressions of others, and gives users

more control over their disclosure choices. Student-athletes hold a lot of responsibility when using Twitter, but they also are entitled to their privacy. Clearly, Twitter allows student-athletes the chance to freely express themselves that in way that is very different from face-to-face communications. According to CPM, student-athletes actively engage in developing their own communication privacy management strategies to determine their disclosure of personal information.

5.5 Limitation and Future Directions

Results of this study should be interpreted with caution. Several limitations should be acknowledged here. The national sample that was attempted was relatively small after multiple recruitments. It was not as high of a response rate as I anticipated. Although the online survey solicitation was sent out three times, participation was severely lacking. Future research should attempt a more representative national sample, as well as research schools from all three divisions of the National Collegiate Athletic Association. For instance, more high profile conferences and divisions may have student-athletes seen at a higher degree than the lower profile conferences and divisions causing them to answer survey questions differently. A wider national sample will allow for more assumptions concerning privacy perceptions of student-athletes. Also, for the university where most of my research came from the sample was still under par. Next time we will possibly try paper surveys in order to get a higher response rate. With this limitation, the results should not be interpreted as applicable to a national sample.

In addition, the measure of student-athletes perceptions of privacy was limited to a five-point Likert scale. To overcome this limitation, follow-up studies should be done

accessing interview questions posed at student-athletes. Interview questions can be guided towards finding out directly how student-athletes feel about privacy on Twitter, as well as if it prompts them to make use of the site a certain way. Thorough perceptions can be analyzed when it comes from interviews as opposed to analyzing numerical data, which can then possibly lead to some type of solution or consensus on the topic.

Further, existing research suggests that the use of social media is related to motivations, consequences, and crisis management (Waters & Ackerman, 2011). Waters and Ackerman (2011) found that college age students use social media to not only “show off,” but also because it helped with improving their relationships (p. 112). They also found that certain motivations to use social media can be negatively habit forming (Waters & Ackerman, 2011). Supplementary studies should incorporate these variables in developing a fully specified model to explain the effects of other constructs of CPM on Twitter, and of the effects of other constructs on motivations to use Twitter. Understanding motivations of student-athletes can better help grasp and interpret perceived concepts of privacy.

Finally, future research could build upon the present study by conducting longitudinal exploration to understand how student-athletes continually update and manage their privacy from one day to the next (Child & Agyeman-Budu, 2010). It could help make sense of what causes users to change and adapt the way that they manage their privacy, and how relationships get redefined due to certain events via social media (Child & Agyeman-Budu, 2010). This would provide perspectives from multiple time aspects. It would reveal how student-athletes’ perceptions and Twitter usage change over time and how CPM concepts are changed due to specific incidents.

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Appendix 1

University of Texas at El Paso (UTEP) Institutional Review Board Informed Consent Form for Research Involving Human Subjects

Protocol Title: Factors Affecting Student-Athletes' Perceptions of Online Privacy Issues on Twitter: A Communication Privacy Management Perspective

Principal Investigator: Amanda Pulido

UTEP: Communication

Introduction

Your participation in the research project is voluntary. Before agreeing to take part in this study, it is important that you read the consent form that describes the study.

Why is this study being done?

The study examines factors affecting your perceptions of online privacy issues on Twitter. The online questionnaire survey will take about 20 minutes to complete to share your privacy experiences on Twitter.

What is involved in the study?

The online questionnaire survey asks about your demographics, perceptions of control and ownership, and the creation and implementation of various rules on Twitter. The survey questions will appear once you complete the informed consent section.

What are the risks and discomforts of the study?

There are no perceived risks or discomforts involved in this study. However, if you feel uncomfortable taking this questionnaire, please stop.

What will happen if I am injured in this study?

The University of Texas at El Paso and its affiliates do not offer to pay for or cover the cost of medical treatment for research related illness or injury. No funds have been set aside to pay or reimburse you in the event of such injury or illness. You will not give up any of your legal rights by signing this consent form. You should report any such injury to Dr. Kenneth C. C. Yang at 1-915-747-6517 and to the Institutional Review Board (IRB) at UTEP at 915-747-8841.

Are there benefits to taking part in this study?

Although no potential benefits will be given to participants, there are expected to have benefits to the academic community in knowing and discovering how student-athletes perceive privacy issues on Twitter. The results of the study can help understand factors affecting users' perceptions of online privacy on Twitter. Findings from this study can help student-athletes better understand privacy rights online, and help athletic departments and universities better manage mishaps and policies concerning social media.

What other options are there?

You have the option not to take part in this study. There will be no penalties involved if you choose not to take part in this study.

Who is paying for this study?

The study is not supported by either internal or external funding sources. The researcher is responsible for the planning, implementation, and execution of the study.

What are my costs?

There are no direct costs on participants.

Will I be paid to participate in this study?

You will not be paid for taking part in this study.

What if I want to withdraw, or am asked to withdraw from this study?

Taking part in this study is voluntary. You have the right to withdraw from this study. There will be no penalty for your decision. Even if you choose to participate, you have the right to stop at any time.

The screening question at the beginning of the questionnaire is to ensure that all participants are eligible.

Who do I call if I have questions or problems?

The study is designed to be self-explanatory. You may ask any questions you have now by contacting contact Dr. Kenneth C. C. Yang, the thesis adviser of the Principal Investigator at the Department of Communication at The University of Texas at El Paso by phone at (915) 747-6517 or by email at cyang@utep.edu. If you have questions later, you may contact Dr. Kenneth C. C. Yang as well.

If you have questions or concerns about your participation as a research subject, please contact the Institutional Review Board (IRB) at UTEP at 915-747-8841.

What about confidentiality?

Your participation in this study is confidential. None of the information will identify you by name. All records will be entered with an assigned case identification number that cannot be associated with you. All records will be kept maintained by the research team and used only for research purposes only. No other people will have access to these records. No individual information will be released in presentation and publication of the survey results. Only aggregate data will be reported to ensure the anonymity of your participation.

Authorization Statement

I have read the informed consent form above. I know that participation is voluntary and I choose to be in this study. I know I can withdraw without penalty. I will get a

copy of this consent form now and can get information on results of the study later if I wish.

Your Name: _____ **[PRINT CLEARLY]**

Your Signature: _____

Date: _____

Principal Investigator: _____

The purposes of this online survey are to examine your perceptions of privacy issues on Twitter. Your answers will be kept confidential to the extent provided by law. Your responses will be kept anonymous and there will be no mean of association between your responses and your identity.

Before continuing with the online survey, we want to make sure if you use Twitter regularly:

1: Have you signed on to your Twitter account within the last 30 days?

☐ Yes **[Please continue to answer questions in SECTION 1]**

☐ No **[Please STOP. Thank you for your participation, this survey is only for those who are active on Twitter.]**

SECTION 1: THE FOLLOWING STATEMENTS EVALUATE YOUR TWITTER EXPERIENCES (Circle one answer only)

(Instruction: 1=Strongly Disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly Agree)

2. I have perfect control of my Twitter account.	1	2	3	4	5
3. I feel I can steer my Twitter activity in a way I feel is right.	1	2	3	4	5
4. I determine for myself who I interact with.	1	2	3	4	5
5. I tweet when I want.	1	2	3	4	5
6. If someone were looking for me on Twitter, they could find me.	1	2	3	4	5
7. I have the choice to accept followers.	1	2	3	4	5
8. I have the choice to interact with other users.	1	2	3	4	5
9. I determine who I follow.	1	2	3	4	5
10. I determine who follows me.	1	2	3	4	5
11. I have the choice to change my privacy settings.	1	2	3	4	5
12. I have allowed the athletic department access to my tweets.	1	2	3	4	5
13. All the information I reveal on Twitter remains under my control.	1	2	3	4	5
14. All the information I reveal on Twitter won't be repeated anywhere.	1	2	3	4	5
15. Once information is on my Twitter account, I have no control over what happens to it.	1	2	3	4	5
16. I have limited personal information on my Twitter.	1	2	3	4	5
17. I use shorthand when discussing sensitive personal information on my Twitter.	1	2	3	4	5
18. If the information I posted looks too private, I delete it.	1	2	3	4	5

PLEASE GO ON TO PAGE 2.

19. I usually am slow to tweet about recent events because people might talk.	1	2	3	4	5
20. I don't tweet about certain topics because I worry who has access to my tweets.	1	2	3	4	5
21. When others release information on Twitter, it should be kept private.	1	2	3	4	5
22. I feel comfortable talking about challenges in my life on Twitter.	1	2	3	4	5
23. My Twitter entries are detailed.	1	2	3	4	5
24. I discuss sports concerns on my Twitter.	1	2	3	4	5
25. I discuss team issues on Twitter.	1	2	3	4	5
26. I discuss issues with the athletic department on my Twitter.	1	2	3	4	5
27. I try to let people know my best interest on my Twitter.	1	2	3	4	5
28. I have criteria for who I follow on Twitter.	1	2	3	4	5
29. I comment on a tweet to have others check out my Twitter.	1	2	3	4	5
30. I feel my privacy is violated when the athletic department monitors my Twitter account.	1	2	3	4	5
31. I feel it would be unfair to be punished for a tweet.	1	2	3	4	5
32. The athletic department should not dictate what I can say on Twitter.	1	2	3	4	5
33. Banning Twitter from student-athletes is a direct infringement of their personal privacy.	1	2	3	4	5

SECTION 2: THE FOLLOWING STATEMENTS EVALUATE TWITTER USAGE BEHAVIORS (fill out appropriately)

34. I have been using my Twitter account for _____ year(s) _____ month(s)

35. In an ordinary week, I check my Twitter account: _____ times (per week)

36. In an ordinary day, I spend about _____ minutes on Twitter.

SECTION 3: DEMOGRAPHIC QUESTIONS (fill out appropriately)

37. Your Gender: _____ Male _____ Female

38. Your Age: _____

39. Your Race/Ethnicity:

_____ White _____ African-American _____ Hispanic
 _____ Asian American _____ Other (Please specify: _____)

40. The Type of Sport You Belong To:

_____ Football _____ Track and Field _____ Softball
 _____ Soccer _____ [please add top 10 list of sports, given that this will be an online Q]
 _____ Other (Please specify: _____)

THANK YOU FOR PARTICIPATING IN THIS SURVEY ☺

Appendix 2

Before continuing with the online survey, we want to make sure if you use Twitter regularly:

1: Have you signed on to your Twitter account within the last 30 days? **[SCREENING]**

☐ 1 Yes **[Please continue to answer questions in SECTION 1]**

☐ 2 No **[Please STOP. Thank you for your participation, this survey is only for those who are active on Twitter.]**

VARIABLES:

Variable 1: Perceived Control of Private Information Flow on Twitter

Variable 2: Boundary Ownership of Private Information on Twitter

Variable 3: Perceptions of how privacy rules, regulations, and criteria are developed

2. I have perfect control of my Twitter account.	V1-CONTROL 1	5	
3. I feel I can steer my Twitter activity in a way I feel is right.	V1-CONTROL 1		
4. I determine for myself who I interact with.	V1-CONTINGENCY	4	5
5. I tweet when I want.	V1-CONTINGENCY	5	
6. If someone were looking for me on Twitter, they could find me.	V1-HELPLESSNESS		
7. I have the choice to accept followers.	V1-CHOICE4	5	
8. I have the choice to interact with other users.	V1-CHOICE45		
9. I determine who I follow.	V1-CHOICE4	5	
10. I determine who follows me.	V1-CHOICE4	5	
11. I have the choice to change my privacy settings.	V1-CHOICE4	5	
12. I have allowed the athletic department access to my tweets.	V1-CHOICE4	5	
13. All the information I reveal on Twitter remains under my control.	V2-OWNERSHIP		
14. All the information I reveal on Twitter won't be repeated anywhere.	V2-OWNERSHIP	5	
15. Once information is on my Twitter account, I have no control over what happens to it.	V2-OWNERSHIP	4	5
16. I have limited personal information on my Twitter.	V2-OWNERSHIP	4	5
17. I use shorthand when discussing sensitive personal information on my Twitter.	V2-OWNERSHIP	4	5
18. If the information I posted looks too private, I delete it.	V2-OWNERSHIP	4	5
19. I usually am slow to tweet about recent events because people might talk.	V2-OWNERSHIP	4	5
20. I don't tweet about certain topics because I worry who has access to my tweets.	V2-OWNERSHIP		
21. When others release information on Twitter, it should be kept private.	V2-OWNERSHIP	5	
22. I feel comfortable talking about challenges in my life on Twitter.	V3-BOUNDARY PERMEABILITY5		

23. My Twitter entries are detailed.	V3-BOUNDARY PERMEABILITY	3	4	5
24. I discuss sports concerns on my Twitter.	V3-BOUNDARY PERMEABILITY	4	5	
25. I discuss team issues on Twitter.	V3-BOUNDARY PERMEABILITY	4	5	
26. I discuss issues with the athletic department on my Twitter.	V3-BOUNDARY PERMEABILITY	3	4	5
27. I try to let people know my best interest on my Twitter.	V3-BOUNDARY LINKAGE	4	5	
28. I have criteria for who I follow on Twitter.	V3-BOUNDARY LINKAGE	4	4	5
29. I comment on a tweet to have others check out my Twitter.	V3-BOUNDARY LINKAGE	4	4	5
30. I feel my privacy is violated when the athletic department monitors my Twitter account.	V3-BOUNDARY LINKAGE	4	4	5
31. I feel it would be unfair to be punished for a tweet.	V3-BOUNDARY LINKAGE	4	4	5
32. The athletic department should not dictate what I can say on Twitter.	V3-BOUNDARY LINKAGE	4	5	
33. Banning Twitter from student-athletes is a direct infringement of their personal privacy.	V3-BOUNDARY LINKAGE	4	5	

SECTION 2: THE FOLLOWING STATEMENTS EVALUATE TWITTER USAGE BEHAVIORS (fill out appropriately)

34. I have been using my Twitter account for _____ year(s) _____ month(s) **YEARS/MONTH**
 35. In an ordinary week, I check my Twitter account: _____ times (per week) **FREQUENCY**
 36. In an ordinary day, I spend about _____ minutes on Twitter. **MINUTES**

TOTAL MONTHS

SECTION 3: DEMOGRAPHIC QUESTIONS (fill out appropriately)

37. Your **Gender**: _____ Male _____ Female
 38. Your **Age**: _____
 39. Your **Race/Ethnicity**:
 _____ White _____ African-American _____ Hispanic
 _____ Asian American _____ Other (**Please specify**: _____)
 40. The Type of Sport You Belong To: (**SPORTS**)
 _____ Football _____ Track and Field _____ Softball
 _____ Soccer _____ [please add top 10 list of sports, given that this will be an online Q]
 _____ Other (**Please specify**: _____)

THANK YOU FOR PARTICIPATING IN THIS SURVEY ☺

Appendix 3

[Include Qualtric or Survey Monkey Screenshots]

[SURVEY PREVIEW MODE] Twitter Usage Survey Among College Student-Athletes - Google Chrome

www.surveymonkey.com/s.aspx?PREVIEW_MODE=DO_NOT_USE_THIS_LINK_FOR_COLLECTION&sm=%2bf56qiMfAD%2fmn%2biB3PrOaqXNmcb6UhCTZPV%2bDO0WUec

Twitter Usage Survey Among College Student-Athletes [Exit this survey](#)

5. SECTION 1

*** 1. THE FOLLOWING STATEMENTS EVALUATE YOUR TWITTER EXPERIENCES.**

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
2. I have perfect control of my Twitter account.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I feel I can steer my Twitter activity in a way I feel is right.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I determine for myself who I interact with.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I tweet when I want.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. If someone was looking for me on Twitter, they could find me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I have the choice to accept followers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I have the choice to interact with other users.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I determine who I follow.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I determine who follows me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. I have the choice to change my privacy settings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. I have allowed the athletic department access to my tweets.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. All the information I reveal on Twitter remains under my control.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. All the information I reveal on Twitter won't be repeated anywhere.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Once information is on my Twitter account, I have no control over what happens to it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Curriculum Vita

Amanda Pulido was born in EL Paso, Texas. The third child of Daniel and Sandra Jo Pulido. She graduated from Austin High School in El Paso, Texas in 2007, and proceeded to enter the University of Texas at El Paso in fall 2007. While pursuing a bachelor's degree she competed on the UTEP track and field team from 2007 to 2011. She was awarded her bachelor's degree from UTEP in organizational communication in fall 2011. She entered the Graduate school at the University of Texas at El Paso in spring 2012.

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