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Stereotyped perceptions of student-athletes' career choices

Nathan Ryan Barker
Iowa State University

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Stereotyped perceptions of student-athletes' career choices

by

Nathan Ryan Barker

A thesis submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of
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Program of Study Committee:
Patrick I. Armstrong, Major Professor
Lisa Larson
Rosemary Perez

The student author, whose presentation of the scholarship herein was approved by the program of study committee, is solely responsible for the content of this thesis. The Graduate College will ensure this thesis is globally accessible and will not permit alterations after a degree is conferred.

Iowa State University

Ames, Iowa

2020

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ABSTRACT

In this study, definitions found in, and outside of research, for the term, “student-athlete” were examined. Key themes within these definitions were identified and synthesized into one definition. This synthesis was conducted due to there not being an agreed upon definition for the term, “student-athlete” within the literature. This synthesized definition could be used as the standard definition for research on student-athletes, helping to reduce confusion due to varying methodology used within the field. The intent of this study was also to examine peoples’ perceptions of student-athletes, and how those perceptions impacted what jobs they felt were appropriate for student-athletes. Participants completed a forced-choice card sorting task in which they evenly sorted job titles into four categories: Male Student-Athlete, Female Student-Athlete, Male Non-Athlete Student, and Female Non-Athlete Student. Participants also completed a brief written exercise describing who comes to mind when presented with the term, “student-athlete”. Chi-Square and repeated measures ANOVA analyses revealed that participants did make meaningful distinctions between the groups when assigning job titles, with differences found in: Gender Traditionality, Prestige Scores, and Holland Type Scores of job titles assigned to each group. Written responses revealed that participants were largely viewing male student-athletes as Black, and female student-athletes as White, with differences in perceptions of intelligence, major choice, and character found between the groups. The information from this study may be useful to examine the role race plays in peoples’ differing perceptions of student-athletes.

CHAPTER 1: INTRODUCTION

Student-athletes make up a relatively small subset of college students on U.S. campuses; there are 492,000 student-athletes within the National Collegiate Athletic Association's (NCAA) three divisions (NCAA, 2018). In comparison, there are around 19.4 million non-athlete students. (Snyder, 2018). Even though they make up a small number of students, they often receive significant attention and responsibility to represent their respective universities/colleges. This can be seen with media attention (Adler & Adler 1985), special backpacks with name tags, personalized gear, etc. This heightened attention towards student-athletes can also be seen in recent research trends.

Research on student-athletes has increased in recent years with studies on: career planning attitudes (Tyrance, Harris, & Post, 2013), motivation and stress (Parker, Perry, Chipperfield, Hamm, Hladkyi, & Leboe-McGowan, 2018), stigma and help seeking (Wahto, Swift, & Whipple, 2016), and topics as specific as energy drink consumption and nutrition knowledge (Hardy, Kliemann, Evansen, & Brand, 2017). Although each of these studies offer interesting and logical hypotheses and compelling implications, they also all use the term "student-athlete" differently. The similarities of these studies quickly dissipate into ambiguity and confusion due to varying sophistication in methodology and clarity in defining key terms.

To accomplish the goal of more coordinated research, there are a number of significant issues in research conducted about student-athletes that need to be addressed. The first issue with this research is the lack of an agreed-upon definition within the literature for the term "student-athlete". The second issue can be seen in the variability of

how researchers design their studies on student-athletes. In particular, researchers' own beliefs and biases toward student-athletes shape their understanding of who a student-athlete is, resulting in a lack of consensus on basic definitions of the target population. This lack of consensus for how the term student-athlete is being used among researchers makes it difficult to build upon each other's work. Just as in construction a solid foundation is essential to a sound structure, so is a solid foundation essential to sound research. The foundation in this case being the definition of the term student-athlete. The present research will look to gain a better understanding of the term student-athlete by exploring definitions and collecting quantitative data as well as written responses of participants' beliefs about these groups.

There are two primary strategies for defining the concept of "student-athlete" utilized by researchers when they are setting up their studies. The first way is to explicitly define student-athlete by choosing from a variety of terms that best fit their study. The other common method is to use the term student-athlete without any clarification of how the researchers understand the term. The first method has little oversight into the reasons why the researchers selected their definition. The second method assumes others understand who their intended population is without any further insights beyond the use of the term student-athlete. The limitations of each method will be described, as well as methodological improvements that can be made moving forward.

When there is not a standard definition for a term, the likelihood of confirmation bias goes up; researchers are free to choose any definition of the term. So, researchers may intentionally or unintentionally choose the definition that would increase the likelihood of

them finding results they want. Although Nickerson (1998) writes of confirmation bias, “It refers usually to unwitting selectivity in the acquisition and use of evidence,” this is likely true of choosing a definition of student-athlete as well.

Other potential limitations can be seen in the conflicting results within research on student-athletes. For instance, some argue in favor of the benefits of being a student-athlete, while others argue that it is disadvantageous. For example, some researchers say that student-athletes are not as prepared for future careers (Linnemeyer & Brown, 2010), while others say they are actually more prepared than their student counterparts for careers (McCann, 2012). These conflicting results may reflect the individual beliefs, biases, and research agendas of the investigators regarding student-athletes. For instance, scholarly research on student-athletes is primarily conducted by individuals who have spent many years of their lives in the pursuit of advanced degrees, who likely place value on higher education, and who question activities that may detract from time spent on learning. Conversely, other researchers are former student-athletes who may have enjoyed positive experiences in their joint academic and athletic pursuits. These individuals may attempt research on the benefits of being a student-athlete.

The aim of the present research is to examine what beliefs, stereotypes, and definitions exist. As such, the present study is not focused primarily on siding with either those who believe student-athletes benefit from their dual role or those who believe being a student-athlete is detrimental to the student identity. Instead, the focus will be to use sound methodology to examine how stereotypes impact people’s perceptions of student-athletes. This research is important because it has largely been overlooked in past

research on student-athletes. There needs to be more standardized usage of the term in order to create sound research in this area.

It is important to gather this key information about participants' views of who student-athletes are. This will be accomplished by having them complete a free-writing task. Participants will be tasked with describing who comes to mind when they are presented with the term "student-athlete." Participants will be provided little other instruction, allowing them to freely describe, in writing, their mental image of a student-athlete without being biased by the researcher. This written data will help us better understand what beliefs people have, as well as how we should be using this term. These results will also help us understand whether research that uses the term student-athlete without additional information is appropriate or not.

Once these broad limitations have been addressed, specific areas of improvement in stereotype research of student-athletes can be considered. Recently, Anderson (2015) has called into question the sophistication of the methods used in research on stereotypes of student-athletes. She posited that a reliable and valid taxonomy of stereotypes of student-athletes needed to be created. Her study improved upon the shortcomings of previous research in this area to create that taxonomy. This more sophisticated taxonomy will be used to focus on the impact stereotypes of student-athletes have on people's perceptions of what jobs they feel are appropriate for student-athletes. This current study will be an important step towards better understanding student-athletes by adding quality research to the field.

CHAPTER 2: LITERATURE REVIEW

The goal of the first part of this chapter will be to examine definitions for the term “student-athlete.” Furthermore, this examination will identify important terms and key elements common to the definitions. These definitions will then be synthesized into a standard definition that balances simplicity and explanatory power. It is recommended that this new definition be used in future research on student-athletes. Then, more specific limitations concerning student-athlete research will be addressed, specifically stereotypes of student-athletes. Finally, career theory will be discussed in relation to the potential impact of stereotypes on student-athletes, followed by the present study and hypotheses.

Researchers’ Usage of “Student-Athlete”

As mentioned, there is a lack of clarity in defining student-athletes, which can be seen using examples from three different sources. For instance, Stone, Harrison, and Mottley (2012) write that the term “student-athlete” or “scholar-athlete” officially refers to college athletes who receive a scholarship to play sports in college. Meanwhile, the NCAA presents their own definition: “A student-athlete is a student whose enrollment was solicited by a member of the athletics staff or other representative of athletics interests with a view toward the student’s ultimate participation in the intercollegiate athletics program. Any other student becomes a student-athlete only when the student reports for an intercollegiate squad that is under the jurisdiction of the athletics department, as specified in Constitution 3.2.4.5. A student is not deemed a student-athlete solely on the basis of prior high school athletics participation” (NCAA, 2017). The first definition hinges on the fact that the student-athlete receives a scholarship to play, while the second

definition makes no mention of any scholarship. This distinction could drastically change the population that a researcher is intending to study based on the definition used. Generalizability of results becomes an issue as well when subjects of the study are not clearly identified.

Another definition by Shulman and Bowen (2001) includes those students who have “lettered” in their sport during college. These three drastically different descriptions are a glimpse into the variety of definitions used in the literature and show that more clarity is needed moving forward when using the term “student-athlete” in research. This researcher believes that, to approach an agreed-upon standard definition in the field, these past definitions should not be disregarded, but instead examined for key elements that can be synthesized into a useful definition. In particular, the lack of clear consensus on defining the term “student-athlete” leads to additional limitations in the ways in which researchers set up their studies.

Unstandardized definitions increase the likelihood that those student-athletes who would fit criteria for one definition would be left out of another, missing valuable data points and information that would be collected with more standardized methods. Take Stone, Harrison, and Mottley’s (2012) definition that classifies student-athletes as those who receive a scholarship to play sports in college. There are hundreds of thousands of student-athletes who are playing sports without a scholarship. Excluding around half of a population unintentionally is unacceptable in research. In this example, it would be appropriate if the researchers clearly outlined that they were only considering student-athletes as those who receive a scholarship. However, most researchers who study

student-athletes do not provide a definition for this group, and those who do, oftentimes do not explain their process for selecting the definition, leading to confusion by those who are trying to interpret the findings of the article.

The other way research is presented is by researchers jumping right into introducing other variables without first discussing who they mean when they use the term student-athlete. "Student-athlete" is essentially being used as an umbrella term for many subgroups of student-athletes. This is inappropriate because student-athletes are not a homogenous group. For example, a female tennis player would likely be perceived much differently than a male football player. Other differences can be found in "revenue and non-revenue sports". For example, a men's basketball player may receive much more media attention than a gymnast.

Definitions of Student-Athlete

The first definition comes from uslegal.com. The term "student athlete" means "an individual who engages in, is eligible to engage in, or may be eligible in the future to engage in, any intercollegiate sport. An individual who is permanently ineligible to participate in a particular intercollegiate sport is not a student athlete for purposes of that sport" ("Student Athlete Law," n.d.). This definition is unhelpfully broad. It classifies all people who may be eligible in the future as student-athletes, even though they may not have competed in any intercollegiate sport. Therefore, even an infant may be considered a student-athlete by this definition because they may one day be eligible to engage in an intercollegiate sport. This definition is so broad and all-encompassing that it offers little utility as an option for defining "student-athlete" in research. However, it may give insight into elements to look

for in other definitions, such as “intercollegiate”. This term will be analyzed more in-depth later to determine if it is important to include in the synthesized definition.

Additionally, a quick preliminary search for the definition of student-athlete would inevitably lead to a Wikipedia page where “student-athlete” is defined as, “A participant in an organized competitive sport sponsored by the educational institution in which he or she is enrolled” (“Student athlete,” 2018, October 31). Although this description logically makes more sense than the first, Wikipedia could not be considered a credible source of information for research, but again can be used to identify important elements. Potential key terms from this definition include: “enrolled,” “competitive,” and “educational institution in which he or she is enrolled.” These two definitions are a starting point for the variety of definitions used in and outside of research on student-athletes. Additional definitions will now be examined.

MIT states on their athletics page, “A student-athlete is a student who is either currently participating in the varsity athletics program or is being recruited to participate in the future” (“Current Student-Athletes,” n.d.). This definition includes those who are being recruited to participate in the future. This description seems to fit better with “prospective student-athlete.” This is the case because a student who is being recruited may decide to attend another educational institution, pursue vocational options outside of attending a university/college, or not participate in intercollegiate sports at all. This definition adds in a new component, specifically the term “varsity” to the definitions already examined. To understand if this element should be incorporated into the new

definition, one must know what the term “varsity” is referring to. The NCAA’s bylaws for what sports are considered varsity will now be examined in depth.

Varsity and Intramural Sports. Universities/colleges often have both varsity and intramural sports. It is important to identify the distinctions between these two terms when trying to understand the term student-athlete. According to the NCAA (2017) bylaw 17.02.18, “A varsity intercollegiate sport is a sport that has been accorded that status by the institution’s president or chancellor or committee responsible for intercollegiate athletics policy and that satisfies the following conditions: (a) It is a sport that is administered by the department of intercollegiate athletics; (b) It is a sport for which the eligibility of the student-athletes is reviewed and certified by a staff member designated by the institution’s president or chancellor or committee responsible for intercollegiate athletics policy; and (c) It is a sport in which qualified participants receive the institution’s official varsity awards.” The NCAA bylaw for “varsity” sports will be broken down to its components to gain a better understanding of the term.

Department of Intercollegiate Athletics. One requirement to be considered varsity is that the sport is administered by the department of intercollegiate athletics. Each university/college with sanctioned sports teams has a department of intercollegiate athletics. For example, the University of Arizona describes the role of this department on their website: “The University of Arizona Department of Intercollegiate Athletics (ICA) considers athletics to be an integral part of the University community and thus follows the University of Arizona's overall institutional mission. A commitment to excellence in athletics implies that ICA will provide exemplary leadership, appropriate facilities and

support services to allow its student-athletes to compete at the highest level of intercollegiate competition, while providing assistance towards educational and academic progress objectives” (“Intercollegiate Athletics,” 2016, February 08). This description, and those found on other university/college websites suggest that this department serves as the governing body over the varsity athletics programs at each university/college. The next requirement to be a considered a varsity sport is that there must be a certified staff member who ensures the eligibility of the student-athletes.

Eligibility by a Certified Member of the Staff. The member or members who were designated by the university/college’s president are responsible for ensuring all eligibility rules are met for each student-athlete. Student-athletes must meet certain criteria to be eligible to play, such as being a full-time student and maintaining a certain GPA. This member or committee oversees the enforcement of these requirements to ensure that all student-athletes are eligible to compete. The next component of qualifying as a varsity sport is that the athletes receive official varsity awards.

Official Varsity Awards. These awards vary by school. For instance, Stanford’s varsity sports awards include a jacket, desk clock, blanket, and ring (“Compliance,” n.d.). The University of Chicago awards a gold pin, letter jacket, watch, and blanket (“Varsity Awards,” n.d.). Clemson’s varsity awards include a letter jacket, coaster set, watch, and ring (“Student-Athlete Handbook 2018-2019,” 2018). These awards can be selected by the university/college and represent completion of requirements to letter by the student-athlete.

In order to receive a varsity award, a student-athlete must first “letter” in their sport. It is important to examine what the requirements are for lettering because Shulman and Bowen (2001) consider those students who have lettered in their sport during college as student-athletes. The requirements to letter are largely subjective and determined by the coaches of the sport. For example, Marietta College requires baseball pitchers to appear in 25% of the games or pitch in 15% of the innings. By comparison, Stanford University requires baseball pitchers to pitch in 50 innings or participate in 20% of total games. Marietta men’s and women’s basketball players must participate in 65% of the total halves of their games. Under that heading for men’s and women’s basketball, Stanford University describes criteria for lettering as being “At the discretion of the coaching staff.” Furthermore, the guidelines at Marietta stipulate, “A student-athlete who has been a loyal and positive contributor to the team may be awarded a letter as a senior.” Cheerleaders and managers are also eligible to receive letters from the coaches (“Student-Athlete Handbook,” 2016; “Compliance,” n.d.). As such, lettering may not necessarily equate to competing in a sport. Requirements to letter differ between schools as well as between sports within a college or university. Because of the variety and subjectivity of what it means to be a “letter winner,” definitions in which these terms are central should not be used in literature without explaining more in-depth who is considered a “letter winner.”

Another definition of student-athlete used in past literature is that of Hansen (1993) at Iowa State University. Hansen writes in his study, “A student athlete is an individual enrolled as a full-time student at Iowa State University who indicated that he or she was participating in a sport during registration for fall semester 1992.” This definition necessitates that the student be “enrolled full-time,” an element that may be important to

consider for the synthesized definition. However, Hansen does not mention what level of sport is being played. This ambiguity could include club sports instead of varsity sports. The NCAA writes that “Participation on a collegiate institution’s club team is exempted from the application of this legislation, provided the institution did not sponsor the sport on the varsity intercollegiate level at the time of participation.” There is a distinction between an NCAA-sanctioned varsity sport and a university club sport (NCAA, 2017). Therefore, club sports should not be included to describe the desired population of student-athlete.

Stone, Harrison, and Mottley (2012) write that the term “student-athlete” or “scholar-athlete” officially refers to college athletes who receive a scholarship to play sports in college. However, this is an inappropriate definition to use because it eliminates a large number of student-athletes. According to the NCAA, 59 percent of all Division 1 student-athletes receive some level of athletics aid (NCAA, 2018). This means that approximately 41 percent of Division 1 student-athletes are considered “walk-ons.” Walking-on can be seen in a number of ways. The first way is described as the coach recruiting a prospect to the team, but the player not receiving a scholarship. This is referred to as a “preferred walk-on.” The second description of being a walk-on is someone who tries out for the team after they are enrolled at the university or college (Lancaster, 2012). Using a definition that only includes scholarship athletes leaves out a large proportion of student-athletes.

The next definition examined will be that of the NCAA, the governing body over athletics in higher education. The NCAA first created the term “student-athlete” back in

1964, making the NCAA definition an important starting point for examining key definitional elements. According to the current official definition from the NCAA (2017), “A student-athlete is a student whose enrollment was solicited by a member of the athletics staff or other representative of athletics interests with a view toward the student’s ultimate participation in the intercollegiate athletics program. Any other student becomes a student-athlete only when the student reports for an intercollegiate squad that is under the jurisdiction of the athletics department, as specified in Constitution 3.2.4.5. A student is not deemed a student-athlete solely on the basis of prior high school athletics participation.” This definition does a fair job of inclusion in terms of who is considered a student-athlete. However, it is not concise and requires consulting the NCAA constitution in order to fully understand it. Key elements will now be considered to create a synthesized definition.

Key Elements of Definitions of Student-Athletes

Each of the definitions presented provided potentially important elements needed to define student-athletes. The variety and differences between these definitions was also noteworthy, as no two definitions focused on all the same elements of a student-athlete. This lends support to the idea that no one definition presented adequately encompasses the key elements of what makes up a student-athlete. Therefore, a definition that considers all key elements is needed to standardize the usage of the term “student-athlete” moving forward. The following elements within student-athlete definitions were selected to be considered for a synthesized definition of the term student-athlete:

- *Full-time student*- The term “full-time student” should be included in the definition because it is a requirement of being considered a student-athlete according to the NCAA (NCAA, 2017).
- *Enrolled at the university where they are a member of the team*- This concept should be included in the definition because it clarifies that a student-athlete is not allowed to compete in sports from a different university/college from which they are enrolled.
- *Intercollegiate*- This term should be included in the definition because it clarifies the nature of the student-athlete’s role. They are competing against other universities/colleges in which they are not enrolled. This helps clarify that the sport is not a club team, which may compete against other club teams within the university/college.
- *Varsity*- The term varsity should be included in the definition because it makes it clear that club sports teams are not considered in the description. Club sports should not be included in the definition of the term student-athlete.
- *With the intention of competing*- The author included this addition as it provides an important distinction within the definition. Including “intention of competing” excludes other members of the team, such as trainers and managers, because they do not have the intention of competing. This also includes student-athletes who may be injured or unable to play currently. They still have the intention of competing.

- *Letter winner*- This term should not be included on its own to classify who is considered a student-athlete because of the highly subjective nature of who can win a letter.
- *Scholarship*- This term should not be included in the definition because it excludes a large proportion of those who meet all other criteria outlined above except the fact that they are not receiving a scholarship to participate in their sport.

Synthesized Definition of the Student-Athlete

For use in the present study, the terms and concepts outlined above have been synthesized into the following definition: *Student-Athlete* - “A student who is a member of an intercollegiate varsity sports team, with the intention of competing, at a university/college in which they are enrolled full-time.” This definition is potentially superior to any of the single definitions presented in previous research due to the inclusion of essential key elements across definitions, while distilling these elements down to a core set of simple criteria that are easily understood.

Stereotypes and Student-Athletes

When referring to student-athletes throughout this paper, the researcher will have in mind those who fit the synthesized definition outlined above. Now that there is a clear definition to work from, more specific domains of research with student-athletes can be examined. Specifically, stereotypes of student-athletes will be examined more closely. Before examining stereotypes of student-athletes, it is first important to understand what stereotypes are. This will be done by covering stereotype: definitions, details, use, and impact.

Definitions of Stereotypes. The definition of what stereotypes are may be influenced by the nature of the research being conducted. For example, Cox, Abramson, Devine, and Hollon (2012) describe stereotypes as, “almost any thought that oversimplifies a person or group,” while Sue and Sue (2013) define stereotypes as, “Rigid preconceptions we hold about all people who are members of a particular group, whether it be defined along racial, religious, sexual, or other lines.” McGarty, Yzerbyt, and Spears (2002) believe that “Stereotypes are relatively enduring systems of interrelated concepts that inform perceptions of members of certain groups.”

Details of Stereotypes. These definitions help to understand the larger concept of stereotypes, while other research helps shed light on the details of stereotypes. Many researchers agree that stereotypes can include positive, negative, or neutral valence (Myers, 2012; McCabe & Bannon, 2004; Sue & Sue, 2013, as cited by Anderson, 2015). Interestingly, Cox et al. (2012) write that even positive stereotypes (e.g., Asians are good at math) can have undesirable negative effects because they set up unfair expectations of those who identify with the group being stereotyped. It is important to note that one does not need to endorse a stereotype to be aware of it. For example, an individual may be a supporter of equal employment opportunities for women and men, but when presented with stimuli associated with kindergarten teachers and construction workers may still associate these careers with their stereotypical gender roles (Anderson, 2015). Further evidence of this concept can be seen in the fact that Devine (1989) found that participants with both high and low prejudice ratings endorsed similar stereotypes of specific ethnic groups. So, regardless of personal beliefs, stereotypes were agreed upon by both groups of participants.

Stereotype Structure and Use. McGarty et al. (2002) proposed three principles that underlie the structural components of stereotypes: First, stereotypes are largely automatic; second, stereotypes are efficient; third, stereotypes are shared group beliefs. Even though stereotypes are largely automatic, Devine (1989) makes an important distinction between stereotype activation and application. She writes that one's knowledge of a stereotype may not be congruent with the stereotype. So, although stereotype activation is automatic, the use of the stereotype is a more effortful process. Cox et al. (2012) posited that people use stereotypes as time-saving heuristics that help inform individuals about groups of people without expending excessive time and energy. Furthermore, even though most stereotypes are overgeneralizations, they may still serve as cognitively efficient generalizations. For instance, assuming that a construction worker is a male would be correct more than 95% of the time.

Stereotypes of Student-Athletes. Simons, Bosworth, Fujita, and Scott (2007) found that from the 538 student-athletes in their study, 33% reported they were perceived negatively by professors, and around 59% reported they were perceived negatively by peers. The research went on to note that around 61% of participants reported that they were given a hard time or were refused when requesting accommodations for athletic competitions. Just as alarming was that around 62% of participants reported a faculty member made a negative remark about student-athletes in class which reflected the dumb-jock stereotype, low intelligence, little academic motivation, and receipt of undeserved benefits and privileges.

Wininger and White (2015) surveyed 493 college students on their perceptions of student-athletes. They found that students reported having lower academic expectations of student-athletes and believed their professors had lower academic expectations for athletes. Negative stereotypes were also found at the Division II level. Baucom and Lantz (2001) conducted a study to examine faculty attitudes and stereotypes of student-athletes at a Division II school. The researchers found that the faculty had prejudicial attitudes toward student-athletes in areas such as: out of class achievement, admission to the university, expanded tutoring services for athletes, and reception of full scholarships. Paule and Gilson (2010) looked to expand the research on student-athletes by surveying non-revenue athletes (which they described using examples of tennis, soccer, golf, and track and field). These NCAA athletes listed a number of benefits of being a student-athlete, while only listing three negatives: missing out on things in college, lack of free time, and being stereotyped. This shows that even those who are not in the high-profile sports like football and basketball feel they are being stereotyped. These stereotypes can lead to negative impacts for student-athletes, seen in the form of stereotype threats.

Stereotype Threat. In their highly cited paper, Steele and Aronson (1995) write that “Stereotype threat refers to being at risk of confirming, as a self-characteristic, a negative stereotype about one's social group.” Other researchers have built off this description, such as Schamder and Johns (2003), who write, “Stereotype threat refers to the phenomenon whereby individuals perform more poorly on a task when a relevant stereotype or stigmatized social identity is made salient in a performance situation.” They go on to say that activating negative stereotypes about one’s social identity can create an additional situational burden that interferes with the ability to perform as well at a mental

task as they otherwise would be able to. However, as outlined earlier, even “positive” stereotypes may create unfair expectations on an individual who is being stereotyped.

Stereotype Threat’s Impact on Academics. Yopyk and Prentice (2005) conducted a study looking at how stereotype threat could impact student-athletes’ performance when given a challenging math test. The researchers assigned the student-athletes to one of three groups: those primed with their athlete identity, their student identity, or no identity. They found that those who were primed with their athlete identity had lower self-regard and performed worse than did those primed with their student identity.

In another test performance study, Dee (2014) randomly assigned student-athletes to a treatment that primed their awareness of negative stereotypes. The social-identity manipulation was found to reduce test scores of athletes by 12% compared to non-athletes. Furthermore, male student-athletes seemed to be impacted the most by this manipulation.

Riciputi and Erdal (2017) expanded student-athlete stereotype threat research by using Division III student-athletes. Half of the participants were primed with their athletic identity, half were not. Results showed that those primed with their athlete identity received lower mean math scores, and also attempted significantly fewer problems than those who were not primed with their athlete identity.

Stereotype Threat’s Impact on Athletics. While the majority of stereotype threat research focuses on intelligence of academic performance, other performance can be impacted as well, such as athletic performance. Hively and El-Alayli (2014) examined female and male tennis and basketball student-athletes by having them perform a difficult concentration task and an easier speed task that was relevant to their sport. In one

condition, participants were told beforehand that there was a gender difference on the tasks to induce stereotype threat. In the other condition there was no gender difference given. They found that on the difficult concentration task, female student-athletes performed worse than male student-athletes, but only when the stereotype threat was present. This study shows that even a small comment can negatively impact performance. This is important as many student-athletes report negative remarks about their identity by peers and professors.

Limitations of Student-Athlete Stereotype Research. Now that stereotypes and their potential impact have been outlined, recent concerns about student-athlete stereotype research will be covered. Anderson (2015) called into questions the psychometric sophistication of measures of stereotypes of student-athletes. She claimed that many previous studies have relied on ad-hoc scales with questionable psychometric properties. Anderson sought to create a valid and reliable taxonomy of stereotypes of student-athletes.

Traits were grouped together based on how stereotypically they fit into the categories: Male Student-Athlete, Female Student-Athlete, Male Non-Athlete Student, Female Non-Athlete Student, masculine individuals, feminine individuals, athletes, and non-athletes. The current study will utilize the information found from the Male Student-Athlete, Female Student-Athlete, Male Non-Athlete Student, and Female Non-Athlete Student categories. Anderson claims that studies on student-athlete stereotypes have produced mixed results. Therefore, the current study is needed to help gain a better understanding of why these inconsistencies may exist. Anderson did not focus on the

“acquisition” and “application” of stereotypes, but instead focused on how stereotypes of student-athletes were formed. The current study will expand on this work by exploring more of the outcomes of applying those stereotypes.

Anderson utilized expert raters to narrow down 555 person-adjectives down to 72, rated on the following dimensions: stereotypical of student-athletes, stereotypical of non-athlete students, masculine, feminine, prestige/status, and familiarity/comprehension of the term. A forced card sort activity was utilized that tasked participants with sorting an equal number of the 72 adjectives into the four categories they felt the terms best fit with: Male Student-Athlete, Female Student-Athlete, Male Student, and Female Student. These adjectives were also rated on likeability of someone who possessed the trait. For example, the term “obnoxious” was rated in the negative category on a negative, neutral, and positive breakdown. It was found that male student-athletes were assigned majority negative adjectives. This was not seen in the other categories, indicating there are likely interesting gender and athlete status interactions. The fact that male student-athletes and female student-athletes were perceived differently based on the number of negative adjectives associated with them lends more evidence that it is inappropriate to use the blanket term of student-athlete for these groups. Additional research can now be conducted using this valid student-athlete stereotype taxonomy.

Potential Importance of Student-Athlete Stereotype Research. The importance of raising awareness of stereotypes can be seen in the findings of Haines, Deaux, and Lofaro (2014). These researchers were interested in studying how gender stereotypes have changed over recent decades. They compared attitudes of participants from a 1983 study

with those from a 2014 study and found that gender stereotypes have remained largely stable. They note that this stability occurred with the backdrop of women making large strides towards more balanced representation in the workforce (although some occupations still remain dominated by men), athletics, and professional education. The authors believed this inconsistency between more balanced trends and stable stereotypical attitudes of gender are a product of how deeply embedded stereotypes are in our society. Without knowledge of how stereotypes impact people, progress cannot be made toward reducing the negative impacts of these stereotypes. More specifically, the importance of examining stereotypes of student-athletes can clearly be seen in the NCAA's own descriptions of their three divisions in their 2017-2018 Guide for the College-Bound Student-Athlete. "Division III: Academics are the primary focus for Division III student-athletes who experience shorter sports seasons, reducing their time away from academic studies and other campus activities. Division II: Schools in Division II emphasize a life balance in which academically and athletically gifted students can compete at a high level, while maintaining a traditional collegiate experience. Division I: Division I schools generally have more students, larger athletics budgets and more athletics department support than schools in Division II or III." It is clear to see that the primary importance the NCAA has for its DI student-athletes is on athletics. It appears that the NCAA is contributing to stereotyping their own student-athletes, especially in the case of Division I athletes.

The president of the NCAA goes on to state, "The ultimate goal of the college experience is graduation, and college athletes are graduating at rates that are higher than ever ("Academics," n.d.). It is encouraging to see student-athletes graduating at all-time

high rates. However, graduation rates may not tell the whole story when it comes to success in college. According to a Pew research study, 47% of the U.S. public said that the main purpose of a college education is to teach work-related skills and knowledge. Also, 39% said the main purpose of college is to help students grow personally and intellectually (“Is College Worth It?” Accessed from www.pewsocialtrends.org, 2011).

While there is certainly some overlap between these missions, it is clear that graduation does not necessarily equate to career readiness. Student-athletes have been graduating from college in record numbers in recent years (Hosick, 2014), but they lag behind their non-athlete peers in their levels of key career readiness factors (Klasen, 2016; Tarver, 2017; Linnemeyer & Brown, 2010). This becomes even more important when you consider that only around 2% of student-athletes will compete in their sport professionally.

Furthermore, the issues surrounding career choice become more complicated when you consider that some studies claim that student-athletes are perceived as having skills that make them more prepared for the job market than their non-athlete peers (McCann, 2012). In particular, research indicates that employers value student-athletes for, among other things, their time management skills, competitiveness, leadership qualities, and team related skills (Chalfin, Weight, Osborne, & Johnson, 2015). The mixed findings and messages surrounding student-athletes need to be clarified. The present study will take a step towards this goal by utilizing sound methodology to see how stereotypes impact people’s perceptions of what jobs they think are appropriate for student-athletes. However, before examining these perceptions, one must first understand how the world of work can be organized. To do this, the Holland model will be explained.

Holland Model

Holland (1959, 1997) put forward a person-environment model that proposed that vocational interests fall into six categories. This is commonly known as the RIASEC model, each letter representing a different category. The theory posits that not only do people fit into these categories, but work environments (jobs) do as well. The first category is Realistic. Those in the Realistic category typically enjoy working with things and being outdoors; they enjoy concrete thinking and tangible results to their work; they are very hands-on. Investigative are those who typically enjoy math and science, with a more general interest in learning about the nature of the world around them. Artistic are those who typically enjoy the fine arts, but this also includes those who are creative and enjoy an unstructured work environment. Social are the helpers. They enjoy working with others to benefit them in some way. Enterprising consists of the persuaders, those who would possibly enjoy business, management, or politics. Finally, Conventional are those who like a structured work environment; they are typically organized, and they enjoy having a routine that works every time. This theory can also be seen on “Things-People” and “Data-Ideas” dimensions (Prediger, 1982). Other researchers have shown that those two dimensions reflect preferences for four work tasks: Things, People, Data, Ideas (Deng, Armstrong, Rounds, 2007). These dimensions serve as anchor points in which job titles can be organized based on their work tasks. For example, “Athletic Trainers” work with “things,” such as exercise equipment. However, even more so, they work with “people.” Therefore, “Athletic Trainers” would be categorized closer to “people” than “things.”

Holland's theory was selected to be used in this study because it is well researched and is the most widely used model for organizing career interest assessment instruments (Gottfredson & Holland, 1996). It has been shown to be useful for a wide variety of individuals, such as working adults (Rachman, Amernic, & Aranya, 1981), college students (Edwards & Whitney, 1972), and high school students (Holland, 1962). Empirical evidence has also been found for the model's fit across gender, race, ethnicity (Armstrong et al., 2003; Darcy & Tracey, 2007; Rounds & Tracey, 1993), and socioeconomic status (Ryan, Tracey, & Rounds, 1996).

Holland's interest model is considered a person-environment model. People have preferences for work activities. Some may enjoy the safety found in a routine, such as accountants with formulas. The same environment may make others cringe at the thought of their creative expression being stifled. This highlights the importance that individual interests play in understanding people and the environments in which they work. A work environment is understood by who works within it and the type of activities they perform (Armstrong, Day, McVay, & Rounds, 2008). Interests and environments work in conjunction to reinforce job choice. Those who prefer a certain work environment, and who develop skills necessary to effectively function in it, also share ability and personality traits with others who are in the same environment (Armstrong et al.). So, people's interests influence the work environment they seek out. Work environments require certain tasks that will be viewed as more or less congruent based on the individual's interests. Those who find interest in the work environment develop skills and competency in that environment, which reinforces their interests. Holland's model helps us understand how to organize the world of work. Furthermore, Holland's model can serve as anchor

points, around which we organize interests, aiding in understanding people's individual differences (Armstrong et al.).

Sex Differences in the Holland Model. Differences in interests exist between men and women within the domains of the Holland model. Betz and Fitzgerald (1987) posit that men are more likely than women to be interested in mechanical, technical, and scientific activities. Also, women are more likely than men to be interested in artistic and social activities. Vocational interests of men and women were thoroughly examined in Su, Rounds, and Armstrong's (2009) meta-analysis using technical manuals for 47 interest inventories, with 503,188 respondents. They found substantial sex differences in vocational interests. In general, men showed more Realistic and Investigative interests. Additionally, men showed stronger interests in STEM fields than did women. Women, however, showed more Artistic, Social, and Conventional interests. It was also found that men preferred to work with things, while women preferred to work with people.

Interests may be one reason that disparities in the number of men and women exist within occupations. However, it would be ignorant to believe that there are no other factors at play such as stereotypes, discrimination, etc. that are impacting interest levels. Despite knowing all the specific reasons, differences do exist between the number of men and women in many occupations. For example, 98% of Kindergarten teachers are women, while 97% of construction workers are men (Bureau of Labor Statistics, 2017). Furthermore, Forsman and Barth (2017) write that women are consistently underrepresented in fields like engineering, physics, and computer science, while men are underrepresented in careers like nursing, social work, and teaching. They also cite the

National Science Foundation, National Center for Science and Engineering statistics (2015) indicating that over 80% of bachelor's degrees in engineering went to men in 2011, while women received 88% of bachelor's degrees in nursing (U.S. Department of Education, National Center for Education Statistics 2015). Women hold less than 25 percent of STEM fields, despite filling around half of all jobs in the U.S. Furthermore, women hold a disproportionately low share of STEM undergraduate degrees, especially in engineering. Even after earning a STEM degree, women are less likely than men with a STEM degree to work in a STEM occupation. Women with STEM degrees are more likely to work in healthcare or education fields compared to STEM fields (U.S. Department of Commerce Economics and Statistics Administration, 2011). To explore these differences in jobs between men and women, the O*Net OnLine database was utilized.

O*Net OnLine

According to the U.S. Department of Labor (2018), "O*Net is the nation's primary source of occupational information." The website contains hundreds of occupations that are continually updated to ensure valid information is available. Information included on the website about jobs are: knowledge, skills, and abilities needed, as well as job tasks that would be performed in a typical day for each respective job. O*Net was developed under sponsorship of the U.S. Department of Labor/Employment and Training Administration (USDOL/ETA). O*Net uses Holland's six interest categories to sort each job title. For instance, when looking up childcare worker, O*Net classifies the job as Social and Artistic because it includes tasks of helping and creativity. O*Net also provides additional information by including "Job Zone."

Job Zones organize the job titles into one of five categories based on education, experience, and training necessary to perform the tasks of the occupation. Briefly, the job zones can be described as: Job Zone One- Little to no preparation needed; Job Zone Two- Some preparation needed; Job Zone Three- Medium preparation needed; Job Zone Four- Considerable preparation needed; Job Zone Five- Extensive preparation needed (See Appendix A for full descriptions of the Job Zones).

The Present Study

Multiple research questions will be outlined below, with specific hypotheses given as to what is expected from participants' responses. It should be noted that occasionally there are multiple hypotheses for female student-athletes due to the relatively unknown nature of this group's career choices. The fact that multiple hypotheses can be made for this group is evidence that they are an understudied subgroup of student-athletes. Further evidence can be seen in the fact that women in sports were not being recognized until Title IX was passed in 1972. Title IX stated, "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance" ("Title IX: What's in a name?," 2018). However, it was not until 1980 that the NCAA started to sponsor championships in women's sports (Bowen & Levin, 2003). Compared to male student-athletes, this group has not received nearly as much research to help understand their similarities and differences to other groups.

Hypothesis 1: Non-Random Assignment to Categories

The first research question is, “Are there significant differences in participants’ job title placement to the four categories (Male Student-Athlete, Female Student-Athlete, Male Non-Athlete Student, Female Non-Athlete Student)?” Due to different adjectives being assigned to each of the four categories, it is believed that participants will treat these groups differently (Anderson, 2015). Also, due to the disproportional nature of the numbers of men and women in most jobs (i.e., 98% of kindergarten teachers are women, while 97% of construction workers are men; Bureau of Labor Statistics, 2017), it is unlikely that an even distribution of each job title will occur in the present study. The null hypothesis is that there will be an even distribution of each job title to the four categories. The alternative hypothesis is that there will be significant differences in participants’ assignment of the job titles into the four categories. It is predicted that the null hypothesis will be rejected, while the alternative will be supported. One-sample chi-square tests will be run to determine if participants are assigning traits in a non-random way, leading to significant differences in job title placement into the four categories.

Hypothesis 2: Gender Traditionality and Job Assignment (Hypotheses 2A–2D)

The researcher will also examine gender traditionality scores of job titles assigned to the four categories. The second research question in this study is, “Are there significant differences in the gender traditionality of the job titles assigned by participants based on the student category they are placed in?” Hypotheses are outlined for each of the four student categories.

Gender 2A- Male Student-Athlete. It is known that Realistic, Investigative, and STEM fields typically have more men than women in them. Research has also found that in general, men have more interests in these fields (Su, Rounds, & Armstrong, 2009). Other research has shown that adjectives from the Masculine subscale of the Bem Sex Role Inventory were most likely to be assigned to Enterprising, Realistic, and Investigative types (Bergner, 2014). As mentioned previously, a work environment is understood by who works within it, and the type of activities they perform (Armstrong, Day, McVay, & Rounds, 2008). Therefore, it is important to examine characteristics associated with male student-athletes to get an idea of what work environments they may choose. It is known that male student-athletes have masculine traits associated with them, such as dominating, aggressive, and tough, as well as other masculine traits (Anderson, 2015). So, since male student-athletes have masculine traits associated with them, they likely would seek out work environments that are congruent with their personalities. Therefore, it is predicted that male student-athletes will receive the highest average score for male-traditional jobs (i.e., jobs that disproportionately employ men).

Gender 2B- Male Non-Athlete Student. The same logic of seeking work environments that fit one's personality applies to male non-athlete students as well. This group does not have the same stereotypically masculine adjectives assigned to them that male student-athletes do. However, male non-athlete students have adjectives such as mathematical, scientific, intellectual, and wise associated with them (Anderson, 2015). These adjectives fit much closer to STEM fields compared to the adjectives associated with male student-athletes. Since STEM fields have a large proportion of men compared to women in them, it is predicted that male non-athlete students will be assigned a high score

for male-traditional jobs. However, due to male student-athletes having the most stereotypically masculine adjectives assigned to them, they will likely receive a higher average score for male-traditional jobs than male non-athlete students.

Gender 2C- Female Student-Athlete. The interaction between female gender and athlete status may impact female student-athletes in three possible ways. *Hypothesis C1: Large effect-* Female student-athletes may be perceived as masculine due to their athletic status, thus pulling them in the direction of more male-traditional jobs. *Hypothesis C2: Medium effect-* female student-athletes would be seen as feminine, but more masculine than female non-athlete students, effectively pulling them more towards the middle of the gender traditionality range of occupations. *Hypothesis C3: Small effect-* The two female student categories would be undifferentiated on the gender traditionality of occupations. Female student-athletes would be perceived similarly to female non-athlete students and would be assigned jobs similarly.

Gender 2D- Female Non-Athlete Student. There is a relatively even selection of job titles within the 72 used in the study that have more men than women in them and jobs that have more women than men. Therefore, it would logically follow that if the two male student categories receive the male jobs, the two female categories would receive the female jobs. It is predicted that female non-athlete students will receive the highest score for female-traditional jobs (i.e., jobs that disproportionately employ females). While both female non-athlete students and female student-athletes both fit the gender aspects of these jobs, female non-athlete students will primarily be seen for being female. The athlete

identity of female student-athletes could draw them away from the highest female-traditional job scores.

Hypothesis 3: Prestige and Job Assignment (Hypotheses 3A–3D)

The researcher will also examine prestige scores of job titles assigned to the four categories. The third research question in this study is, “Are there significant differences in the prestige of the job titles assigned by participants based on the student category they are placed in?” Hypotheses are outlined for each of the four student categories.

Prestige 3A- Male Non-Athlete Student. It is predicted that male non-athlete students will receive a higher average prestige score than the other three groups. This is predicted due to the labor market history of the country where men hold the most prestigious positions. Men also typically have more interest in STEM fields, which historically have above average income, education requirements, and high prestige jobs.

Prestige 3B- Male Student-Athlete. It is predicted that male student-athletes will receive a lower prestige score than the other three groups. This is predicted, in part, due to the adjectives associated with male student-athletes in Anderson’s (2015) study. Male student-athletes were assigned disproportionately more negative adjectives than the other three groups. Further support for this hypothesis can be found in one of the most widely held and strongly persistent stereotypes of this group, that they are “dumb jocks.”

Prestige 3C- Female Student-Athlete. The interaction between female gender and athlete status may impact female student-athletes in three possible ways. *Hypothesis C1-* Female student-athletes may be seen as masculine due to their athlete status, thus giving them a small bump on prestige scores towards more male dominated jobs. *Hypothesis C2-*

The two female student categories may be undifferentiated on the gender traditionality of occupations. Female student-athletes would be perceived similarly to female non-athlete students and would be assigned jobs similarly. *Hypothesis C3*- Female student-athletes may be seen as masculine due to their athlete status, which could move them in the opposite direction from hypothesis C1, towards the lower prestige male jobs.

Prestige 3D- Female Non-Athlete Student. Female non-athlete students will likely be assigned medium-low to medium-high prestige jobs, with respective average prestige scores to match. They will likely not be seen as appropriate for the stereotypically low prestige jobs of manual labor; these jobs will likely go to male student-athletes. They will also likely not be assigned to as many of the high prestige jobs due to a history of barriers in this country's work environments, specifically the glass ceiling. Therefore, it is predicted that female non-athlete students will fall between male non-athlete students and male student-athletes on average prestige score.

Hypothesis 4: Interests and Job Assignment (Hypotheses 4A-4F)

The researcher will also examine interest scores of job titles assigned to the four categories. The fourth research question in this study is, "Are there significant differences in the interest scores of the job titles assigned by participants based on the student category they are placed in?" Hypotheses are outlined for each of the four student categories.

Interests 4A- Realistic. It is predicted that male student-athletes will receive the highest average Realistic score, followed by male non-athlete students, and then both female student-athletes and female non-athlete students. Research has shown that males

typically have more interest in Realistic jobs than do females. Although both male student-athletes and male non-athlete students both fit the gender aspects of the job, male student-athletes will likely receive more of the jobs because of the combination with prestige of the jobs. Many of the lowest prestige jobs are also Realistic. Therefore, male student-athletes will likely receive these jobs, while male non-athlete students will likely receive the high prestige Realistic jobs.

Interests 3B- Investigative. It is predicted that male non-athlete students will receive the highest average Investigative score, followed by a relatively equal scoring between the other three groups. Research has shown that males typically have higher interest levels in Investigative jobs. Many of the jobs that fall within the Investigative category are medium to high prestige, such as many of the STEM field jobs. Since many of the STEM jobs have significantly more men than women in them, it is likely that men will be assigned to the most Investigative jobs. However, male student-athletes will likely not be assigned to these jobs even though they fit the gender aspect, because they also carry with them negative stereotypes, such as being a “dumb jock.”

Interests 3C- Artistic. It is predicted that female student-athletes and female non-athlete students will receive the highest average Artistic scores. This is predicted because females typically show higher levels of interest in Artistic jobs compared to males. Other research has shown that adjectives from the Feminine subscale of the BSRI were assigned to the Artistic type (Bergner, 2014). Due to the limited research of female student-athletes' career choice outcomes, it is predicted that they will receive approximately the same score as female non-athlete students due to both groups fitting the gender aspects of the jobs.

Interests 3D- Social. It is predicted that female student-athletes and female non-athlete students will receive the highest average Social scores. This is predicted because females typically show much higher levels of interest in Social jobs than do males. As with the Artistic type, the Social type was also most likely to be assigned adjectives from the Feminine subscale of the BSRI (Bergner, 2014). As with Realistic jobs for men, Social jobs on average have many more women than men employed in them. Again, due to the limited research of female student-athlete career choice outcomes, it is predicted that they will be assigned approximately the same score as female non-athlete students due to both groups fitting the gender aspects of the jobs.

Interests 3E- Enterprising. It is predicted that male student-athletes and male non-athlete students will receive slightly higher average Enterprising scores compared to the female groups. This is predicted because many business occupations fall within this category. Historically, many business jobs have been held by men, from the top CEOs to salespeople. Other research has shown that adjectives from the Masculine subscale of the Bem Sex Role Inventory were most likely to be assigned to Enterprising, Realistic, and Investigative types (Bergner, 2014). It is predicted that the two female categories will receive scores in a similar way to each other.

Interests 3F- Conventional. It is predicted that female student-athletes and female non-athlete students will receive higher average Conventional scores compared to the male groups. This is predicted because women, on average, show higher interests for jobs in this category than do men. Also, adjectives from the Feminine subscale of the BSRI were most likely to be assigned to the Social, Conventional, and Artistic types (Bergner, 2014).

CHAPTER 3: METHODS

The methods section is divided into two parts for the sake of clarity. The first part describes the aspects of the study that were involved in the selection of the final list of job titles used in the main study. The second part involves how the final list of job titles were used in the main study. IRB approval was granted for all parts of the study (See Appendix B for first page of approval).

Part 1: Selection of Job Titles

Participants

The participants for the first part of the study were 11 undergraduate Research Assistants from the Iowa State University Identity Development Laboratory. These RAs were trained to rate job titles, providing clarity for which job titles were appropriate to select. They received credit in the Research Assistant course at Iowa State University for their efforts.

Procedures

Job Title Selection. The selection process was multistep, in that the researcher first organized job titles based on Holland type, job zone, and gender. After all job titles were organized, the selection process began. Holland type was used as it helps provide job titles that have a variety of work tasks, avoiding a final list of job titles that may be too similar to accurately represent the world of work. Job zone was utilized as it allowed job titles to be selected from a range of prestige levels, again, creating a more representative sample.

Finally, gender was included in job title selection as it helped in choosing a balance of jobs that represented men and women in the workforce.

Database of Job Titles. To select a representative sample of job titles to be used in the main study, a database was created. This exhaustive database of job titles was created using O*Net's website. Again, this was done so that the researcher could easily choose job titles that were balanced across Holland types, Job Zones, and gender breakdown. Each dimension was sorted individually, starting with Holland type.

Holland Type. First, job titles were organized using O*Net's interests filter, which utilizes the six Holland categories. Each Holland category was searched individually to identify jobs that fell within each category. Each job title has a score for each of the six Holland categories (e.g., scores for "Barber" are: 83-Realistic, 56-Conventional, 56-Enterprising, 39-Social, 22-Artistic, 11-Investigative). Based on its scores, Barber would be classified as RCE. Since it is primarily Realistic, it would be classified as such for the purposes of this study. Furthermore, the search system presents job titles in multiple Holland categories if they meet inclusion criteria for both. For example, the job title "Athletic Trainer" would appear in both the Social and Realistic categories because the nature of the job requires high levels of each. The researcher is primarily interested in the first letter categorization (i.e., which Holland category it most fits into). Therefore, any duplicate responses were deleted, and the job titles were categorized into the Holland type that had the highest score on O*Net's sorting criteria (See Table 1).

O*Net Job Zone. After each job title was organized by Holland type, job zone was considered. Starting with the Realistic category, the researcher organized each Realistic

job into its respective job zone. This was repeated for the jobs within each of the Holland categories (See Table 1 for a complete breakdown of job titles sorted by Holland type and job zone). As mentioned earlier, the researcher aimed to choose a representative sample of jobs from the job zone categories. Job zone was used as a proxy for prestige during the job title selection process. The researcher used clearly defined categories of Job Zone established by the Bureau of Labor Statistics for selection. For analysis of prestige of each job title, the researcher utilized prestige scores generated from the work of Hout, Smith and Marsden (2015). These researchers extended previous National Opinion Research Center (NORC) prestige research studies to generate occupational prestige scores based on those jobs listed in the 2010 Standard Occupational Classification (SOC) and U.S Census Bureau's coding scheme. They generated prestige scores labeled as "PRESTG10". These standard prestige scores are each a simple mean value of ratings for each occupation category, converted to a scale of 0 (bottom) to 100 (top)(See Table 2).

Gender Distribution of Job Titles. Once the job titles were sorted by Holland type and job zone, the gender breakdown of the job was considered. This was done so that there would be a balance of jobs that had more men than women and jobs that had more women than men within each Holland type and Job Zone. Each job was cross-referenced with the Bureau of Labor Statistics' "Median weekly earnings of full-time wage and salary by detailed occupation and sex" to obtain the median income and breakdown of men and women in each job (Bureau of Labor Statistics, 2017).

Pilot Study and Job Title Selection

Research Assistant Training. Research Assistants in the Identity Development Laboratory were trained in Holland’s theory of personality (Holland 1959, 1997). Each Holland type was explained, and training articles were assigned to help RAs master the materials. Fifty occupations were then selected from the database to be used as training. Each RA was given one of each of the six letters corresponding to each Holland category (Each Research Assistant received sheets with R, I, A, S, E, C). The researcher presented one job title at a time and tasked the RAs with identifying which Holland type they believed best fit with the job presented; this was done by raising the corresponding sheet with the letter of the Holland type. After each job title was presented and RAs chose a Holland type, the correct Holland type was revealed along with an explanation of why it fit best in that category. RAs were given an opportunity to ask clarifying questions after each job title. This process was repeated until all 50 job titles were presented.

Pilot Study with Research Assistants. The researcher then selected another 50 job titles that varied in Holland type, Job Zone, and percentage of men and women. Research Assistants were then given a link to a Qualtrics survey (See Appendix C). First, they were tasked with choosing which Holland type they felt the job best fit. Then, they rated the job titles on a five-point Likert-type response format using four response dimensions: proportion of men/women, prestige level, likability of person in the job, and familiarity of job title. Some job titles were potentially difficult to understand without any additional information than the title. For instance, it is unlikely that the majority of participants would be familiar with “Radio Frequency Identification Device Specialists.”

This would make it difficult for participants to assign this job title to a group. To increase the likelihood that participants would understand the job, Research Assistants rated their familiarity of each job title using a Likert scale with options: Very Low Familiarity, Low Familiarity, Moderate Familiarity, High Familiarity, Very High Familiarity. Only the job titles which the majority of Research Assistants rated as having moderate or higher familiarity of were considered. Any job titles where the majority of RAs reported low or very low familiarity were excluded from consideration. It was decided that to ensure minimal uncertainty of job titles, a list of descriptions would be provided for the final set of 72. These descriptions came from O*Net Online (See Appendix D).

Each week, another 50 job titles were selected, and the procedure was repeated. This continued for six weeks for a total of 300 job titles rated (See Appendix E). The goal was to narrow the 300 job titles down to 72 (See Table 2). This would mean that ideally there would be 12 job titles in each Holland category, an even number within each Job Zone, half that had more men, and half that had more women. However, this was not possible because the actual world of work does not balance equally across these dimensions.

Job Title Exclusion Criteria. Job titles that were categorized as Job Zone one were excluded for a number of reasons, one reason being that there is a limited selection to choose from in all Holland categories except Realistic. Second, the jobs in Job Zone one require little to no education or previous training. Therefore, college students likely would not be seeking out these jobs, for which they are significantly overqualified. Job Zone two was included in the selection of jobs for the current study, however. This was done to

ensure that the range of prestige for job titles was not unnecessarily restricted. Even though Job Zone two may be inappropriate for many college students, they are still temporary options for those college graduates who are seeking full-time employment, as well as for those who may not have completed their college education. Also, they will help to identify more clearly any impact stereotypes are having on job assignment by having lower prestige options to choose from. Similar thinking was used in the inclusion of jobs from Job Zone five. This was done to help ensure that there was a range of low and high prestige jobs to pick up on any impact stereotypes were having in job assignment from participants. The ideal number of jobs selected from each Job Zone for each Holland type would be: Job Zone two- 2, Job Zone three- 4, Job Zone four- 4, and Job Zone five- 2. This would ensure that the majority of jobs fit in Job Zones three and four, which logically would be the jobs college students would seek out based on their level of education. However, this was not possible as there are no job titles in some categories, such as Job Zone two for Investigative, or limited options, in the case of Job Zone two and five for Artistic, Job Zone five for Realistic, and Job Zone five for Conventional. Since there were limited options for some categories, jobs were selected from each Job Zone as close to the ideal distribution as possible.

Part 2: Impact of Stereotypes on Job Assignment

Participants

There were 450 students (256 female; 194 male; 0 non-binary) recruited from introductory undergraduate psychology courses at a large Midwestern university that were granted course credit for participation in the study. A total of 41 participants were

removed for not following the procedure correctly or not fully completing the study. The following participant demographics remained. Participant demographics for those who completed the study were: 409 students (235 female; 174 male; 0 non-binary) ranging in age from 18 to 24, with the majority of students being 19 (44%). Most of the group of participants were Freshmen (n = 229) followed by Sophomores (n = 87), Juniors (n = 52), and Seniors (n = 37), with four participants not reporting. Those participants primarily identified as White/European American (n = 324), followed by Hispanic American (n = 27), Other (n = 24), African American (n = 19), Asian American (n = 15), and Native American (n = 0). Out of the 409 total participants, 41 identified as student-athletes, 367 identified as non-athlete students, with 1 not reporting.

Measures

Demographics Questionnaire. Participants were asked to fill out a one-page demographics questionnaire that included: name, university ID number, NetID, age, gender, year in school, current major, current grade point average (GPA), ethnicity, and athlete status (whether participants are/have been a student-athlete at a college/university) (See Appendix F).

Job Assignment Forced-Choice Card Sort. A card-sorting procedure similar to Anderson (2015) was utilized in the present study. Participants were asked to sort a set of 72 job titles into one of four categories: Male Student-Athlete, Male Non-Athlete Student, Female Student-Athlete, and Female Non-Athlete Student (See Appendix G). Participants were given limited information and were tasked with utilizing known stereotypes of members within the four categories to assign jobs they felt were most appropriate for

them. Each category was required to have an equal number of job titles assigned (18 cards in each category). The 72 job titles were selected from a larger set of 300 job titles based on the selection criteria described earlier.

Writing Activity. A brief free-writing activity was given to participants after their completion of the card-sorting task. Participants were asked to write a paragraph describing who comes to mind when they are presented with the term “student-athlete” (See Appendix H). The purpose of this task was to provide insight into which elements of a student-athlete’s identity are most salient to participants.

Procedure

Participants were recruited from the Iowa State University Psychology Department’s Research Participant Pool through the SONA system. Participants were asked to sign up for a one-hour timeslot in which they would come into the Identity Development Lab. When they arrived, they were greeted by Research Assistants (RAs), who placed them at a workstation and gave them the informed consent form (See Appendix I). After reading through the informed consent form, those who wished to participate signed the document and were given further instructions. For anyone who decided they did not wish to participate, RAs were instructed to thank them for coming in and to withhold further instruction until they departed. Participants were then given a packet that included the demographic questionnaire, the job title card-sorting task page, and the free-writing activity with instructions of how to complete each. After completion of these tasks, participants were shown a debriefing message that provided contact information for the researchers to answer any questions they may have.

CHAPTER 4: RESULTS

Hypothesis 1: Non-Random Assignment to Categories

The first research question addressed in this study was, “Are there significant differences in participants’ job title placement to the four categories (Male Student-Athlete, Female Student-Athlete, Male Non-Athlete Student, Female Non-Athlete Student)?” One-sample chi-square tests were run to determine if participants were assigning traits in a non-random way. Significant results indicate that the sorting was not random and that participants used categories differently with different job titles. The chi-square tests were significant for 69 of 72 job titles. Three job titles produced undifferentiated results, namely: Animal Breeders, Medical and Clinical Laboratory Technicians, and Optometrists. Significance values were calculated using a Bonferroni correction ($p < .0007$). These results suggest that participants were not randomly assigning the job titles to the four categories: Male Student-Athlete, Male Non-Athlete Student, Female Student-Athlete, Female Non-Athlete Student. The complete set of results are presented in Table 3.

A second round of chi-square tests were conducted after controlling for the initial assignment of job titles based on the gender of the four categories. This was done to evaluate the extent to which significant results could be attributed specifically to the distinction between student-athletes and non-athlete students after accounting for the participants’ assignment of job titles based on gender of the student-athlete. The actual breakdown of men and women for each job title was obtained from the first set of chi-squared analyses and used to produce the expected values of distribution to the categories. For example, if a job was assigned to the two female categories (i.e., Female Student-Athlete and Female Non-Athlete Student) 90% of the time and to the two male categories 10% of

the time, the expected values would be: 5% Male Student-Athlete, 45% Female Student-Athlete, 5% Male Non-Athlete Student, and 45% Female Non-Athlete Student. These values would replace the default null hypothesis test of 25% assignment in each of the four categories, specified in the first round of chi-square tests. After controlling for gender, 45 of the 72 chi-square tests were significant (See Table 4).

Hypothesis 2: Gender Differences

The second research question in this study— “Are there significant differences in the gender traditionality of the job titles assigned by participants based on the student category they are placed in?”—was addressed through a 4 x 2 ANOVA , with student category (Male Student-Athlete, Female Student-Athlete, Male Non-Athlete Student, Female Non-Athlete Student) and gender of participant (Male, Female) being the independent variables (Results in Table 5). The dependent variable was gender traditionality of the job titles assigned. Due to violations of sphericity, the Greenhouse-Geisser correction was used for each ANOVA run. The *F-statistic* for the gender traditionality measure was significant for student category ($F(2.84, 1157.06) = 1818.14, p < .001, \eta^2 = .817$). The *F-statistic* for the gender traditionality measure was not significant for the interaction effect between gender of participant and student category. The results indicate that there are significant differences in gender traditionality of job titles assigned to the four categories. Post hoc comparisons using the Bonferroni adjustment revealed that participants assigned female student-athletes and female non-athlete students’ jobs with a significantly higher proportion of females than males in them. The order of student categories that received jobs with the highest to lowest proportion female were: female student-athletes ($M = .607$,

$SD = .061$), female non-athlete students ($M = .606, SD = .060$), male student-athletes ($M = .381, SD = .049$), and male non-athlete students ($M = .354, SD = .054$). Follow-up analysis indicated that each pairwise comparison was significant, $p < .001$, except between female student-athletes and female non-athlete students. The results indicate that there is a large main effect of student category accounting for 81.7% of the variance in responses. Means by condition and gender of participants can be found in Table 6, and standard deviations by condition and gender of participants can be found in Table 7.

Hypothesis 3: Prestige Differences

The third research question in this study— "Are there significant differences in the prestige of the job titles assigned by participants based on the student category they are placed in?"—was addressed through a 4 x 2 ANOVA , with student category (Male Student-Athlete, Female Student-Athlete, Male Non-Athlete Student, Female Non-Athlete Student) and gender of participant (Male, Female) being the independent variables (Results in Table 5). The dependent variable was prestige score. The *F-statistic* for the prestige measure was significant for student category ($F(1.70, 690.14) = 151.54, p < .001, \eta^2 = .271$). The *F-statistic* for the prestige measure was also significant for the interaction effect between gender of participant and student category ($F(1.70, 690.14) = 10.64, p < .001, \eta^2 = .025$). The results indicate that there are significant differences in prestige of job titles assigned to the four categories. Post hoc comparisons using the Bonferroni adjustment revealed that participants assigned the two male categories significantly higher prestige jobs on average compared to the two female categories. The order of prestige for the four categories from highest to lowest were: male non-athlete students ($M = 56.33, SD = 4.29$), male student-

athletes ($M = 52.71, SD = 4.33$), female student-athletes ($M = 49.82, SD = 4.78$), and female non-athlete students ($M = 49.42, SD = 5.02$). Follow-up analysis indicated that each pairwise comparison was significant, $p < .001$, except between female student-athletes and female non-athlete students. The results indicate that there is a large main effect of student category accounting for 27.1% of variance in responses, as well as a small interaction effect for gender of participant and student category accounting for 2.5% of variance in responses.

Hypothesis 4: Holland Model Differences

The fourth research question in this study— "Are there significant differences in the Holland RIASEC scores of the job titles assigned by participants based on the student category they are placed in?"—was addressed through a 4 x 2 ANOVA , with student category (Male Student-Athlete, Female Student-Athlete, Male Non-Athlete Student, Female Non-Athlete Student) and gender of participant (Male, Female) being the independent variables (Results in Table 5). The dependent variable was interest score. Each of the six Holland types were taken in turn to determine if significant differences occurred. The first category examined was "Realistic."

Realistic. The *F-statistic* for the Realistic measure was significant for student category ($F(2.60, 1057.88) = 23.26, p < .001, \eta^2 = .054$). The *F-statistic* for the Realistic measure was also significant for the interaction effect between gender of participant and student category ($F(2.60, 1057.88) = 6.70, p < .001, \eta^2 = .016$). The results indicate that there are significant differences in Realistic scores of job titles assigned to the four categories. Post hoc comparisons using the Bonferroni adjustment revealed that

participants assigned the two non-athlete categories significantly higher on Realistic jobs on average compared to the athlete categories. The order of Realistic scores for the four categories from highest to lowest were: male non-athlete students ($M = 3.34, SD = 1.39$), female non-athlete students ($M = 3.30, SD = 1.27$), male student-athletes ($M = 2.85, SD = 1.34$), and female student-athletes ($M = 2.52, SD = 1.25$). Follow-up analysis indicated that each pairwise comparison was significant, $p < .05$, except between male non-athlete students and female non-athlete students. The results indicate that there is a small main effect of student category accounting for 5.4% of the variance of responses, as well as a small interaction effect for gender of participant and student category accounting for 1.6% of the variance of responses.

Investigative. The *F-statistic* for the Investigative measure was significant for student category ($F(2.53, 1028.48) = 121.63, p < .001, \eta^2 = .230$). The *F-statistic* for the Investigative measure was also significant for the interaction effect between gender of participant and student category ($F(2.53, 1028.48) = 10.57, p < .001, \eta^2 = .025$). The results indicate that there are significant differences in Investigative scores of job titles assigned to the four categories. Post hoc comparisons using the Bonferroni adjustment revealed that participants assigned male non-athlete student significantly higher on Investigative jobs on average compared to the other three groups. The order of Investigative scores for the four categories from highest to lowest were: male non-athlete students ($M = 4.53, SD = 1.66$), male student-athletes ($M = 2.59, SD = 1.64$), female non-athlete students ($M = 2.55, SD = 1.71$), and female student-athletes ($M = 2.34, SD = 1.64$). Follow-up analysis indicated significant pairwise comparisons between the male non-athlete category and the other three, as well as male student-athletes and female student-athletes. No other pairwise

comparisons were significant. The results indicate that there is a large main effect of student category accounting for 23% of the variance in responses, as well as a small interaction effect for gender of participant and student category accounting for 2.5% of the variance in responses.

Artistic. The *F-statistic* for the Artistic measure was significant for student category ($F(2.60, 1056.37) = 260.75, p < .001, \eta^2 = .390$). The *F-statistic* for the Artistic measure was not significant for the interaction effect between gender of participant and student category. The results indicate that there are significant differences in Artistic scores of job titles assigned to the four categories. Post hoc comparisons using the Bonferroni adjustment revealed that participants assigned female student-athletes significantly higher on Artistic jobs on average compared to the other three groups. The order of Artistic scores for the four categories from highest to lowest were: female student-athletes ($M = 4.26, SD = 1.45$), female non-athlete students ($M = 3.27, SD = 1.38$), male student-athletes ($M = 3.01, SD = 1.07$), and male non-athlete students ($M = 1.46, SD = 1.03$). Follow-up analysis indicated pairwise comparisons were significant for all categories. The results indicate that there is a large main effect of student category accounting for 39% of the variance of responses.

Social. The *F-statistic* for the Social measure was significant for student category ($F(2.37, 963.25) = 102.95, p < .001, \eta^2 = .202$). The *F-statistic* for the Social measure was also significant for the interaction effect between gender of participant and student category ($F(2.37, 963.25) = 11.16, p < .001, \eta^2 = .027$). The results indicate that there are significant differences in Social scores of job titles assigned to the four categories. Post hoc

comparisons using the Bonferroni adjustment revealed that participants assigned the two female categories significantly higher on Social jobs on average compared to the two male categories. The order of Social scores for the four categories from highest to lowest were: female non-athlete students ($M = 3.86, SD = 1.65$), female student-athletes ($M = 3.55, SD = 1.57$), male non-athlete students ($M = 2.38, SD = 1.21$), and male student-athletes ($M = 2.21, SD = 1.12$). Follow-up analysis indicated significant pairwise comparisons between all the categories except male student-athletes and male non-athlete students, as well as between the Female Student-Athlete and Female Non-Athlete Student category. The results indicate that there is a large main effect of student category accounting for 20.2% of the variance in responses, as well as a small interaction effect for gender of participant and student category accounting for 2.7% of the variance in responses.

Enterprising. The *F-statistic* for the Enterprising measure was significant for student category ($F(2.77, 1125.89) = 83.67, p < .001, \eta^2 = .171$). The *F-statistic* for the Enterprising measure was also significant for the interaction effect between gender of participant and student category ($F(2.77, 1125.89) = 4.72, p < .01, \eta^2 = .011$). The results indicate that there are significant differences in Enterprising scores of job titles assigned to the four categories. Post hoc comparisons using the Bonferroni adjustment revealed that participants assigned the two male categories significantly higher on Enterprising jobs on average compared to the two female categories. The order of Enterprising scores for the four categories from highest to lowest were: male non-athlete students ($M = 3.69, SD = 1.46$), male student-athletes ($M = 3.57, SD = 1.58$), female non-athlete students ($M = 2.58, SD = 1.30$), and female student-athletes ($M = 2.16, SD = 1.22$). Follow-up analysis indicated significant pairwise comparisons between all categories except male student-athletes and

male non-athlete students. The results indicate that there is a large main effect of student category accounting for 17.1% of the variance in responses, as well as a small interaction effect for gender of participant and student category accounting for 1.1% of variance in responses.

Conventional. The *F-statistic* for the Conventional measure was significant for student category ($F(2.88, 1172.96) = 61.50, p < .001, \eta^2 = .131$). The *F-statistic* for the Conventional measure was not significant for the interaction effect between gender of participant and student. The results indicate that there are significant differences in Conventional scores of job titles assigned to the four categories. Post hoc comparisons using the Bonferroni adjustment revealed that participants assigned the two student-athlete categories significantly higher on Conventional jobs on average compared to the two non-athlete categories. The order of Conventional scores for the four categories from highest to lowest were: male student-athletes ($M = 3.78, SD = 1.48$), female student-athletes ($M = 3.18, SD = 1.38$), male non-athlete students ($M = 2.60, SD = 1.23$), and female non-athlete students ($M = 2.45, SD = 1.32$). Follow-up analysis indicated significant pairwise comparisons between all categories except male non-athlete students and female non-athlete students. The results indicate that there is a medium sized main effect of student category accounting for 13.1% of the variance in responses.

Written Responses of Participants

Participants were asked to write a brief paragraph about who comes to mind when they are presented with the term “student-athlete.” The written responses of participants often overlapped in terms of what categories they could be organized into. Therefore,

although some responses likely could fit into multiple sections, the researcher organized them in a way that painted the clearest picture of participants' perceptions of each of these categories.

Descriptions of Black Male Student-Athletes

One of the most frequently commented descriptions of a student-athlete were black male student-athletes. Many participants commented on physical characteristics of this group such as: height, size, and muscularity. Other participants mentioned what majors they felt black male student-athletes would choose. Some participants commented on this group's academic work ethic, or lack thereof. Relevant participant responses were included. Most categories have multiple responses to highlight that these responses were not isolated to a few, but instead representative of many participants. The first set of descriptions were that of black, male, student-athletes.

Black and Male. Participants provided a plethora of responses in describing their perceptions of black male student-athletes. Some commented on what majors they felt this group would choose: "When I hear the word "student-athlete" a picture of a tall, muscular african-american male comes to mind. I generally associate a student-athlete as being a football player who majors in either something business like or health related." The second similarly wrote, "When I think of student-athlete, I think of a football player, male, and African American. I think of their major being business. I think of someone who doesn't have so much time in their hands. Someone who is always busy." The last wrote, "When I hear the term 'Student-athlete' the typical things I would think of are: football/basketball player, male,

African-American, very athletic, and probably has an easy major such as business or communication for example.”

Majors and Education. One participant commented that they believed a major would only be a backup plan for the black male student-athletes: “I think of a football player who is African American & is going to college to study business. He really wants play football professionally so will only use his major if needed.” Another participant discounted the major entirely, “When I hear the term student athlete, I typically think of a black-male basketball player getting a business degree, but then going on to play in the NBA and not really using their degree to find a job.” Some participants went a step further to discount education entirely, “Basketball player for the men's team, African-American, majoring in business or something very common. Most of these athletes get their homework done by their team managers or girls that they mess with, while others actually care about school. Almost all of these athletes expect to make it to be picked in the draft and do not think school is necessary other than for their athletic career.” The last wrote:

A student athlete to me is the basketball or football player who is mostly African American. They are trying to make millions as soon as possible, so school isn't too important. Usually male who wears athletic shoes and sweats all the time. When they get to college they major in something less time consuming and challenging so they can focus on sports and leave for the next level.

Future Career Prospects. A number of participants commented on how black male student-athletes’ academic work ethic may impact their future career prospects:

When I see the term Student-Athlete, I typically think of a black male. The first sports that come to mind are football and basketball. I would expect their major to be business or something sport related. I also think that these students don't have a lot of time for school work because they are so busy with their sports. Therefore, later in life, they choose a career path that is something not so difficult because they didn't have time to study in school.

The other wrote:

When the term student athlete comes to mind I think of many things. First, I think of a black male who plays football and majors in communications studies or business. They don't care much about school work and won't learn the skills needed to attain a higher level job that a non student athlete would get.

The next prominent theme for black male student-athletes was a belief that they lacked intellectual ability.

Lack of Academic/Intellectual Ability. One of the most common themes for black male student-athletes was regarding a lack of academic/intellectual ability. One participant wrote, "Student athletes are fit and muscular, good looking, not too smart but smart enough. Easy going and joke around frequently. I think of a football player that is black with a business major." Another felt this group relied on others to maintain an adequate GPA:

When I think of student athletes I think mostly of football players. I think they are either business or sports related majors. I never think of student athletes to be doctors, teachers, engineers or biology majors. 90% of the time I assume a student athlete is a tall, African American male, with big muscles. I usually assume that student athletes are not intelligent and they got into their school because of their athletic abilities only. I know there are other types of student athletes as well but they are usually from sports that aren't as well known and when I see them on campus I have to think hard about which sport they could be involved in. I also assume student athletes all need tutors in order to maintain a NCAA playing GPA.

One participant commented on his view of this group's work ethic and likeability:

When I think of a student-athlete I normally think of someone studying something easy such as business or physical therapy or something basic. Oftentimes because of the large number of them I think of lazy football players who slowly walk around campus acting like hot-shots not caring in any of their classes. It seems a good number of ISU athletes are African-American, which seems to be the case at many colleges.

The last commented:

When I think of a student-athlete, I think of males, usually playing football or basketball. I think of students who get their education paid for with athletic scholarships. I think of students who major in Liberal Arts or Sports management. I think of students who would be skipping class if they didn't have to have the professor sign a sheet. I also think of mostly African American/Black students playing sports.

While the previous comments related to academic/intelligence, other comments related to black male student-athletes' character.

Character. The first participant commented, "I think of a black male that is super buff that is wearing an Iowa State coat & bookbag. Normally they are disrespectful and act cocky." The last participant wrote about the difficulty connecting with members of this group:

When I think of a student-athlete, I think of a black male who plays either football or basketball. When I think of them as an athlete, I feel like they maybe aren't as focused on school like a non-athlete is. Out of my personal experiences, I think that a lot of student athletes are stuck up or act like they are better than everyone else because they play sports and the rest of us don't. I think a common thought about a lot of athletes is that they don't care about school because they want to be a professional athlete at some point.

Another interesting theme that was identified was the different perceptions of male student-athletes compared to female student-athletes.

Differences Between Perceptions of Male Student-Athletes and Female Student-Athletes

One of the most interesting findings was how participants viewed male student-athletes and female student-athletes differently. This is especially important due to the lack of consistency within research when referring to SAs. The following responses give evidence that use of the term student-athlete can vary widely based on differing perceptions of these groups. The section starts out examining differences in perceptions of

male student-athletes and female student-athletes. Then the interaction of race and gender is discussed. The first section gives good insight into participants' thought processes as they completed the writing task.

Men Not Women. Two participants highlighted their thought process of who comes to mind, and who does not, when imagining a student-athlete: "Sadly, as a woman, females don't come to mind when thinking of student athletes but I feel that is pretty typical." The other commented:

When I hear the term 'student-athlete', I immediately think of the most common sports, football, basketball, and volleyball. The gender that I most strongly associate with the term is men. I associate football with men, volleyball with women, and basketball with both. I don't think of sports played by females, but I do with sports played by men.

Of those participants who did think of women and men when picturing SAs, clear differences occurred between perceptions of men versus women.

Positive Women, Negative Men. The following two responses highlight a more positive view of female student-athletes, and a more negative view of male student-athletes: "I see female athletes as more intelligent with more of a drive to get better grades. While males in majors that are typically not as difficult." The second commented:

Typically I see a more muscular male and stereo-typically I think of someone who isn't as smart as people who aren't in a sport. When I think of a female student athlete I imagine someone who is more 'put together' than other women. I think of someone who is more independent.

Race/Ethnicity and Athletes. Clear differences in perceptions of male student-athletes and female student-athletes were identified from participant responses. One major theme that arose from participant responses was that they were almost exclusively thinking about black and white SAs. Other races and ethnicities were commented on very

infrequently. One participant succinctly highlighted one group's lack of representation:

“Though I do not see a particular race when I think of student athletes, I do not see Asians at all.”

Black Men, White Women. As mentioned earlier, of those who commented on the race/ethnicity of both male student-athletes and female student-athletes, the majority associated black/African American with male student-athletes and White/European American with female student-athletes, as evidenced by the following response: “In my mind the prototypical student athlete is a either a black man, or tall white girl. This prototype tends to be attractive and very social.” Other participants commented on physical and personality characteristics:

I picture either a large African American man or a small white woman. The man would play basketball/football/track and majoring in sports science/athletic training. The woman would be in gymnastics and majoring in nursing. They both have outgoing personalities and put the sport before school.

The other wrote:

When I see ‘student-athlete’ I think of the football team. I think of a large, male who is African American or of some mixed race. In terms of major, I think of business or public relations. When I think of a female student-athlete I see a white girl who has a lot of drive. Her major is either kinesiology or psychology.

Other participants mentioned specific differences in majors they felt these two groups would choose: “I think of someone who is either a white female who plays volleyball and majors in kinesiology or a black male who plays football and majors in communications.”

Another added, “White female track, kinesiology or exercise science major, as well as black male football, communication study major.”

Different Perceptions of Black Male Student-Athletes and White Female

Student-Athletes. One participant wrote very honestly about how they view black male student-athletes: "I think that both male and female athletes work hard in their sport to succeed. In the classroom, I think of female athletes as hard workers and male athletes as slackers. Most male athletes I know are African-American while female athletes are usually white." Another described their perception of black male student-athletes and white female student-athletes, but believed that the difference in their intelligence was less extreme:

When I think of a student-athlete two types of people come to mind. I first think of a bulky African American football player. He would likely major in kinesiology or something in business. He is probably not very bright (in terms of intelligence). The second person that comes to mind is a tall, white volleyball player. Again, she would probably major in either kinesiology or something in business. She is slightly smarter than the football player but still not very bright.

Others clearly felt that race played a significant role in the perception of the student-athlete:

The first image for males is a black football player listening to music during class to get a business major. This is a stereotype but it is an image I see in a lot of my classes. On the other hand, I see all of the other athletes as white female or male majoring in a variety of things but also with minors and not just doing the minimum. They are driven and able to manage their time and stay committed to the task at hand outside of their sport - something that the first image I described can't do (apply those skills outside their sport).

This participant drew a stark contrast between a black male student-athlete and white student-athletes. They clearly view white SAs more positively than black male student-athletes. Another participant commented, "Based on my perspective (my bias), I think male athlete tends to be better at sport compare to female and black people are always better in sports."

Sports More Important than School

Another interesting theme that was identified from participant responses was view that student-athletes prioritized their sport over their schoolwork. One participant wrote, “I most think of student-athletes majoring in communications or another easy major so that they don't have to work as hard in school and focus on their sport.” Another participant had a very similar perspective: “I think of someone who spends most of his/her time practicing a sport and not spending a lot of time studying.” The following participant also commented on how they felt student-athletes use their time, saying, “When the term student-athlete is said to me I immediately think someone in a business (or something else consider easy) major. In my mind this person would rather party than put forth time and effort into their studies.” A number of participants wrote about the career outcomes of student-athletes:

I visualize someone who spends most of their time and mostly focuses more on the sports or team they play for than on their education. To me, a student athlete is someone who does not aspire to make much a career in anything that requires years of education, but instead chooses an easy major so they can give almost their full attention to trying to make it as a professional athlete or something related.

Another wrote:

A student athlete is usually someone who spends more of their time playing sports than studying which means they are better at sports. Once they are done with sports, they won't have as much schooling resulting in them getting a less sophisticated and low-paying job.

To try and balance providing enough examples to show how prevalent these themes are—without becoming overwhelming—the researcher will refrain from adding more examples. However, it should be noted that dozens more examples were available related to student-athletes prioritizing sports over school.

Not STEM or Time-Consuming Majors

Now that the theme of student-athletes prioritizing sports over school has been examined, a more in-depth view of student-athletes' college majors will be conducted. It seems that the most appropriate title for this section would be "Not STEM or Time-Consuming Majors." One participant wrote, "For their majors, I usually picture them as business majors, kin majors, or something related to writing such as journalism, PR, or communications. I do not tend to picture them as STEM majors." Another commented, "What comes to mind when I think of a student-athlete is a person who is relatively fit, athletic, & driven. I have a biased opinion that they take majors that are typically not engineering, math, or science." One participant wrote about the amount of effort student-athletes likely give to studying their major: "They are the type of people who choose degrees not because of interest, but because it will earn them the most money with the least effort."

While some participants did not expand upon why they felt student-athletes would not pursue STEM fields, others highlighted a key reason; time, or lack thereof, seems to be one of the most common reasons participants did not believe student-athletes would pursue STEM fields. One participant commented, "The stereotype of a student athlete is that they focus all their energy and concentration in their sport not giving them enough time to study for 'difficult' subjects like STEM related fields." Another wrote, "Often times you don't see very many athletes that become doctors or engineers. This due to the fact that the higher level careers take more time to study for." The next participant stated:

I typically think of football players (men) though also some male basketball players. It seems like many of them major in communications or something

like kinesiology. The time commitment of being an athlete all but rules out majors like engineering which also have large time requirements.

One participant felt that student-athletes just don't have a chance to succeed in STEM fields:

As a student-athlete, often times they lack the time to truly succeed in the classroom. This is why you never see any student athlete majoring in engineering, because the course work is too time consuming. As a result, many student athletes end up being forced into less time consuming majors that are less valuable to the job market upon graduation.

Athletes Have Special Privileges

Another interesting theme that was identified was that of special privileges. One participant commented, "When I think of student athlete's I think of people who are getting a free tuition to come to college to play a sport. Usually student-athlete's get treated with special privileges by having free tutors and people to help them manage their time, since they have to allocate their time to sports and school." Another wrote, "When I think of student-athlete. I think of students who are very busy. Get special academic privileges hardworking sometimes have a big ego. easier major. Hangs out with other student athlete." Some participants commented on how class instructors treat student-athletes:

Both of these individuals might be, also, getting payed to be in commercials and sell Athlete apparel. When I hear the word 'student-athlete', I also think of someone that might be cocky because they play sports and rules do not or are not the same to them. I think this because they have free-passes in classes to go to practice and may have favoritism by professors.

Another wrote, "I think of full rides teachers passing students so they play the game and make the university look better. I think they have the academics easier." The following participant wrote:

I think of someone who is either very grateful for their opportunity but more often than not someone who is 'too good for everyone else', and who will be

allowed to bend the rules, including with classes, and will get away with it because they are an athlete.

Negative Views of Student-Athletes

These excerpts could likely be added to other sections, however, they do a good job of capturing overall negative perceptions of student-athletes. One participant wrote about their interactions with student-athletes:

Most of my interactions with student-athletes have been during class. My opinion of them is very negative due to their arrogance and lack of respect for other students trying to learn. Most are African-American males who have a huge ego and think they are better than everyone else. One football player was talking on his phone almost the entire class/ In my opinion most don't apply themselves very much, so they choose easier majors.

Another participant had a strong view of student-athletes:

The things that comes to mind when I see student athlete is that most are likely to do bad in school. They are most likely to be bullies with a lot of egos. Mostly are basketball or football players. Student-athlete are most likely to wear things that are uniforms, like track shirts or anything sporting goods. As young teenagers they are most likely seen as the ones getting DUI's...

Finally, one participant added their perspective:

The jack-weed walking around campus with all their ISU gear on. Usually bopping to some tunes on their free beats. The person always gone from class. Their always talking to the prof about when they will be gone or their testing accommodations.

Some view student-athletes as “damaged”: “When the image of a student athlete comes to mind it is usually a football player to me. Some big strong guy that doesn't seem all there in the head.” Another added, “I have always thought of someone who is uneducated, might have some sort of problem with their brain, assuming they have had concussions.”

Positive Views of Student-Athletes

While there are a considerable number of negative comments associated with some student-athletes, the researcher would be remiss if positive comments about student-athletes were not highlighted. One participant wrote, "Someone who is hard working who takes school and their athletic career seriously. They choose a major that is tougher/more creative because they have the determination to succeed in more than just athletics because they want to have a good life." Another wrote, "They take school just as seriously and prioritize over sports, they are usually pretty 'hands-on' with things as well." One participant commented on the leadership potential they see in student-athletes: "Typically, when I think of a student athlete I envision someone who is driven, hardworking and has leadership potential. Additionally these people are organized and try to stay on top of things." Another participant highlighted how student-athletes can be well-rounded individuals:

When I think of a student-athlete I think of a very well rounded individual. Someone who is strong mentally and physically. I think of a bright individual with an even brighter future. I believe athletics opens so many doors and creates so many opportunities for growth and personal development. Athletes are big time.

The final participant commented on the impact that student-athletes have had on him: "Just because someone is an athlete, doesn't mean they don't work hard off the field too. I usually look up to student athletes and want to tell them how good of a job it must be and recognize them for their hard work."

CHAPTER 5: DISCUSSION

This study sought to advance research on student-athletes by combining stereotype and vocational research to shed light on perceptions of student-athletes and their career choices. Also, an examination of definitions for the term student-athlete was conducted, with the hopes of finding common language that can be used in student-athlete research moving forward. Researchers studying student-athletes have not used a standardized definition for the term “student-athlete” thus far. This lack of standardization has led to a difficulty in generalizing results across studies. This issue was addressed in the present study using a systematic approach of taking the most effective elements of what already existed in the literature in describing student-athletes and synthesizing it into what can be foundational to a standardized definition. This standardization became even more important after examining the written responses participants had for student-athletes. It was clear that perceptions varied greatly in terms of the valence (positive, negative) that participants associated with student-athletes, as well as the demographics of the student-athletes described. This study increased knowledge about many groups of student-athletes. One of the most lacking areas of student-athlete research is with female student-athletes. These groups often get overlooked or overshadowed, often due to more high-profile male sports. The present study added insight into perceptions of female student-athletes, as well as examined what jobs people felt were appropriate for them.

Based on the methods of the card-sorting activity, it was predicted that participants would not assign job titles to the four categories randomly, but instead would utilize known stereotypes of the groups to guide their placement of job titles. Significant chi-

square test results obtained for 69 of the 72 job titles supported this prediction.

Participants seemed to make meaningful distinctions between the four categories when assigning job titles. Since participants were given limited information, they had to rely on stereotypes to meaningfully sort the job titles into the four categories. Since results indicate that participants did not randomly assign job titles to the four categories, we can have more confidence that the differences were influenced by the stereotypes that participants held for each group. This seems to be consistent with the work of Anderson (2015), who found that people associate different adjectives to members of the four student categories.

Additional chi-square tests were run to determine what impact the gender and athlete status of the group had on assignment of job titles. Gender of athlete was controlled-for so that the impact of athlete status could be examined independently. Participants viewed male student-athletes and male non-athlete students as different from each other. Participants also viewed female student-athletes and female non-athlete students as different from each other. Furthermore, the magnitude of these differences was more pronounced between the two male categories than between the two female categories. So even though participants were making distinctions between the two female categories, the distinctions were not as pronounced as the differences between the two male categories. Anecdotal results indicate that participants often used race as one component of their descriptions of student-athletes.

Gender Traditionality

It was predicted that gender traditionality would be a factor in participants' non-random assignment of job titles to the four available categories of Male Student-Athlete, Female Student-Athlete, Male Non-Athlete Student, and Female Non-Athlete Student. In Hypothesis 2 it was hypothesized that the two categories of male students would receive the highest average score for male-traditional jobs (i.e., jobs that disproportionately employ men), with male student-athletes receiving the highest score, followed by male non-athlete students. It was also predicted that the two categories of female students would receive the highest average score for female-traditional jobs (i.e., jobs that disproportionately employ women). It was also predicted that female non-athlete students would be assigned the highest score. However, due to the lack of research on female student-athlete career choices, three potential hypotheses were put forth regarding the outcomes of job assignment for female student-athletes. The first of these potential outcomes was the prediction that female student-athletes may be perceived as masculine due to their athletic status, thus pulling them in the direction of more male-traditional jobs. Alternately, the second potential outcome was that female student-athletes would be seen as feminine, but more masculine than female non-athlete students, effectively pulling them more towards the middle of gender traditionality range of occupations. Finally, the third alternative predicted outcome was that the two female student categories would be undifferentiated on the gender traditionality of occupations. Female student-athletes would be perceived similarly to female non-athlete students and would be assigned jobs similarly.

The hypothesis that participants would assign job titles differentially to the four categories was supported by examining significant ANOVA results. The prediction that the two male categories would receive the highest scores for male-traditional jobs was also supported. However, the hypothesis that male student-athletes would receive the highest score for male-traditional jobs was not supported, as that went to male non-athlete students. This could be due to the clear discrepancy of Investigative, and more specifically STEM jobs, that went to male non-athlete students compared to male student-athletes. STEM fields have historically, and are still presently, dominated by men, with around 25% or less of STEM field jobs being filled by women (U.S. Department of Commerce Economics and Statistics Administration, 2011).

The hypothesis that the two female categories would receive the highest scores for female traditional jobs was supported. There was not a significant difference in gender traditionality of jobs for the two categories. While male student-athletes and male non-athlete students seem to be viewed differently due to male student-athletes having negative stereotypes associated with them, female student-athletes do not seem to be associated with these negative stereotypes (Anderson, 2015).

Prestige of Occupations

It was hypothesized that prestige would be a factor in the assignment of occupations to the four categories of: Male Student-Athlete, Female Student-Athlete, Male Non-Athlete Student, and Female Non-Athlete Student. In particular, it was hypothesized that male non-athlete students would receive the highest average score of prestige, followed by female non-athlete students and male student-athletes with the lowest. Like with gender

traditionality, three hypotheses were put forth for female student-athletes. First, female student-athletes may be seen as more masculine than female non-athlete students, thus giving them a small bump towards higher prestige male dominated jobs, placing them between male non-athlete students and female non-athlete students; second, female student-athletes may be assigned jobs in a similar way to female non-athlete students; third, female student-athletes may be seen as more masculine than female non-athlete students, which could move them in the opposite direction from hypothesis C1 towards the lower prestige male jobs.

To evaluate these hypotheses, ANOVA analyses were run. Results indicated that prestige was a factor in the non-random assignment of job titles to the four categories, supporting the hypothesis. Male non-athlete students did receive the highest prestige jobs, supporting the hypothesis. Additionally, the other three categories all received lower prestige scores than the male non-athlete students. Additionally, there were no significant differences between the remaining three categories. Findings from Anderson's (2015) study indicated that male student-athletes were assigned negative adjectives, while male non-athlete students received adjectives such as: mathematical, scientific, intellectual, and wise. The written responses of participants in this study also indicate that male student-athletes are largely viewed as unintelligent, therefore explaining one potential reason they received lower prestige scores than male non-athlete students. It is reasonable to believe that the negative stereotypes, specifically around low intelligence, for male student-athletes would contribute to them being assigned lower prestige jobs than male non-athlete students who do not possess those negative stereotypes. However, what accounts

for the differences in prestige scores between male non-athlete students and the two female categories that do not have those negative stereotypes associated with them?

One plausible explanation is that men have historically held the most prestigious jobs in the U.S. While the gap between men and women in these positions has shrunk over time, significant discrepancies still exist today. Of the top 20 most prestigious jobs in U.S., only four have more women than men in them. Within those 20 jobs, there is approximately a 2 to 1 ratio of men to women, with ~3,263,000 men and ~1,682,000 women. So, not only do men occupy the majority of the most prestigious jobs in the U.S., they do so at a drastically higher rate than women (Hout, Smith, & Marsden, 2015). Couple this with the fact that men outnumber women by large margins in STEM fields that typically hold high prestige, and we have additional confidence in the reasons why participants may have assigned male non-athlete students higher than the female categories. Non-significant pairwise comparisons between the two female categories for both gender and prestige give evidence that these groups are viewed very similarly.

There was also a small gender effect between male and female participants. Male and female participants appear to agree on the more global view of these four categories. However, there seems to be more nuanced differences as well. While the amount of variance explained was relatively small, it remains significant and worth closer examination. The average prestige score assigned to the athlete categories was higher from female participants than from male participants. The average prestige score assigned to the non-athlete categories was higher from male participants than from female participants.

Differences in Holland-Model Occupational Interests

Realistic. It was hypothesized that Holland's interest categories would be a factor in the assignment of occupations to the four categories. In particular, it was hypothesized that for the Realistic category, the male categories would receive higher average scores than the female categories. It was also hypothesized that male student-athletes would receive the highest score, followed by male non-athlete students, with no differences occurring between the female groups. ANOVA results indicated that significant differences did occur for Realistic job assignment to the four categories, supporting the hypothesis. The male categories together did have a higher average Realistic score compared to the female categories. However, pairwise comparisons revealed that the non-athlete categories received higher average Realistic scores compared to non-athlete students.

Pairwise comparisons showed significant differences between each category except between male non-athlete students and female non-athlete students. Male non-athlete students received the highest average, followed by female non-athlete students, male student-athletes, and female student-athletes. So, while the two male categories combined did have a higher average than the two female categories, there were not significant differences between male non-athlete students and female non-athlete students. Interestingly, male student-athletes did not receive the highest Realistic score as predicted. This was predicted because it was thought that male non-athlete students would receive the Investigative jobs, leaving more Realistic jobs for male student-athletes. One explanation could be that because each job title is given a score on each of the six Holland types, the jobs given to male non-athlete students had high scores for the main type as well

as the Realistic type. Since Holland types that are closer to each other on the Holland Hexagon have more in common, the fact that Investigative and Realistic are next to each other may increase male non-athlete students' Realistic scores due to a high number of Investigative jobs assigned to them.

Also interesting was that female non-athlete students received a higher average than male student-athletes for the Realistic category. One possible explanation could be that because male non-athlete students received higher scores, they may have taken the male Realistic jobs, leaving only the female Realistic jobs, which were assigned to the female categories. While participants viewed the two female categories similarly, they started to make distinctions in jobs assigned to them, with differences in some Holland categories occurring. The prediction that the female categories would score the same was not supported as female non-athlete students scored significantly higher than female student-athletes. The gender of the participant also played a role in different assignments of Realistic jobs to the four categories. Male participants assigned jobs with a higher average Realistic score to female student-athletes compared to female participants. Female participants assigned jobs with a higher average Realistic score to male non-athlete students compared to male participants.

Investigative. It was hypothesized that for the Investigative category, the male groups would receive higher average scores than the female groups. It was also hypothesized that male non-athlete students would receive the highest, with the remaining three groups having a similar score. These hypotheses were partially correct. The male categories together did have a higher average Investigative score compared to the female

categories, supporting the hypothesis. Like with Realistic, this finding is consistent with past research showing more of an association of masculine traits with Investigative types. Also, these findings seem to be in line with research showing that males, on average, have a higher interest in Investigative jobs compared to women (Armstrong, Day, Mcvay, & Rounds, 2008.)

Pairwise comparisons showed significant differences between each category. Male non-athlete students received the highest average score for Investigative by far, followed by male student-athletes, female non-athlete students, and female student-athletes. These findings make sense in terms of statistics on the breakdown of men and women in STEM fields, which make up a large portion of Investigative jobs. There are significantly more men than women in STEM fields, which fits with the results of the male categories being the top two highest average Investigative score-getters (Forsman and Barth, 2017). As with Realistic jobs, the gender of the participant also played a role in different assignments of Investigative jobs to the four categories. Female participants assigned jobs with a significantly higher average Investigative score to the student-athlete categories compared to male participants. Male participants assigned jobs with a significantly higher average Investigative score to the non-athlete categories compared to female participants.

Artistic. It was hypothesized that for the Artistic category, the female groups would receive higher average scores than the male groups. It was also hypothesized that there would not be a significant difference between the two female groups, followed by male student-athletes, and then male non-athlete students with the lowest score. These hypotheses were supported. The female categories together did have a higher average

Artistic score assigned to them compared to the male categories. These findings are consistent with past research on differences in interests of men and women, with women having more interest on average in Artistic fields compared to men (Betz & Fitzgerald, 1987; Su, Rounds, & Armstrong, 2009).

Pairwise comparisons showed significant differences between each category except between the female categories. Female non-athlete students received the highest score, followed by female student-athletes, male non-athlete students, and male student-athletes with the lowest. Unlike with the two previous interest categories, the gender of the participant did not significantly impact the assignment of job titles to the four categories.

Social. It was hypothesized that for the Social category, the female groups would receive a higher average score than the male groups. It was also hypothesized that there would not be a significant difference between the two female groups, followed by male student-athletes, and then male non-athlete students with no significant difference occurring between them. These hypotheses were partially supported. The female categories together did have a higher average Social score compared to the male categories. Similar to the Artistic category, these findings are consistent with past research on differences in interests of men and women, with women having more interest on average in Social fields compared to men (Betz & Fitzgerald, 1987; Su, Rounds, & Armstrong, 2009).

Pairwise comparisons showed significant differences between each of the four categories except between the two male categories, as well as between the two female categories. Female student-athletes received the highest score, followed by female non-athlete students, male student-athletes, and male non-athlete students with the lowest.

The gender of the participant also played a role in different assignments of Social jobs to the four categories. Male participants assigned jobs with a higher average Social score to the student-athlete categories compared to female participants. Female participants assigned jobs with a higher average Social score to the non-athlete categories compared to male participants.

Enterprising. It was hypothesized that for the Enterprising category, the male groups would receive slightly higher average scores than the female groups. It was also hypothesized that no significant differences would occur between the two male categories, as well as between the two female categories. These hypotheses were partially supported. The male categories together did have a higher average Enterprising score assigned to them compared to the female categories. These findings seem to be in-line with the historical gender traditionality of jobs within the Enterprising group, with many business jobs having been held by men, from the top CEOs to salespeople. These findings also seem to be consistent with other research that has shown that adjectives from the Masculine subscale of the Bem Sex Role Inventory were most likely to be assigned to Enterprising, Realistic, and Investigative types (Bergner, 2014).

Pairwise comparisons showed significant differences between all the categories except between the two male categories. Female student-athletes had a significantly higher average compared to female non-athlete students. The gender of the participant also played a role in different assignments of Enterprising jobs to the four categories. Female participants assigned jobs with a higher average Enterprising score to male student-athletes compared to male participants. Male participants assigned jobs with a higher

average Enterprising score to female student-athletes, female non-athlete students, and male non-athlete students compared to female participants.

Conventional. It was hypothesized that for the Conventional category, the female groups would receive a higher average score than the male groups. It was also hypothesized that no significant differences would occur between the male categories as well as between the female categories. These hypotheses were not supported. Surprisingly, the male categories together had a higher average Conventional score compared to the female categories. As outlined earlier in the Realistic interpretation, one possible explanation could be that because each job title is given a score on each of the six Holland types, the jobs given to the male categories had high scores for the main type as well as the Conventional type. Holland types that are closer to each other on the Holland hexagon have more in common. Thus, the Enterprising category would likely share more in common with the Conventional category compared to the Enterprising category and the Investigative category, which are located adjacently on the hexagon. This finding should be interpreted with caution however, as other factors, not outlined, may contribute to these findings as well.

Pairwise comparisons showed significant differences between all the categories except between male non-athlete students and female non-athlete students. Male student-athletes received the highest score, followed by female student-athletes, male non-athlete students, and female non-athlete students with the lowest. The gender of the participant did not significantly impact the assignment Conventional jobs to the four categories.

Limitations of the Present Study

Several limitations of this study need to be addressed. First, the generalizability of these findings needs to be interpreted with caution. The participants in the study were primarily White and from a Midwestern university, meaning that interpretations may not be applicable to how minority individuals perceive student-athletes.

Also, although the researcher tried to have an equal number of job titles across all selection criteria, this was impossible due to the options available. There were limited jobs in certain Job Zones, such as Job Zone 2 for Investigative and Job Zone 5 for Artistic. The researcher also did not include Job Zone 1 in this study, which seemed to be a reasonable choice. However, inclusion of these job titles may have added information about different perceptions of the four groups, with a larger range of 1–5 instead of 2–5.

Another limitation of the study was that race was not a part of the design of the study. Anecdotal written responses from participants highlight that race may be an important factor to consider in examining people's perceptions of student-athletes. The researcher was not able to make specific claims about the role that race played due to not explicitly mentioning it in the design of the card-sorting activity.

Finally, potential limitations can be found in the design of the study, specifically with the written portion. Participants were asked to write about who comes to mind when they think of the term "student-athlete." Although it can be assumed that the participants were thinking about their image of student-athletes when completing the task, there is no way of knowing whether they were assigning job titles to the same image that came to their mind.

Implications and Future Directions

Research implications are as follows: A major contribution this study has to the field of sport psychology is creating a standardized definition that can be used moving forward to create more consistency within the field. Existing definitions of the term were examined, and key elements were synthesized into the following definition: *Student-Athlete* - “A student who is a member of an intercollegiate varsity sports team, with the intention of competing, at a university/college in which they are enrolled full-time.” Researchers could start using this standardized definition for future research, which would help to solidify the foundation of this area of research that can be built on moving forward.

The implications from the written portion of the study can be seen in overall understanding of people’s perceptions of student-athletes as well as, more specifically, how understanding these perceptions can be useful for those who work with student-athletes. Another implication of the written portion of this study is in the importance of defining or describing who is meant when using the term “student-athlete” in research. It was clear that participants had many different views of who student-athletes are. This adds support to the idea that it is inappropriate to use the term “student-athlete” without providing additional information about who is the intended population. Another implication of the written section is that it illuminated needs for future research, specifically around the impact that race of student-athletes has on people’s perceptions of them.

Another interesting addition to the field of research would be to replicate this study, but with professors/instructors as the participants instead of college students. Since professors/instructors play a crucial role in the academic success of student-athletes, understanding their perceptions of these groups would be informative. Findings of the

proposed study could potentially be used to influence university policy around how professors work with, accommodate, and communicate with student-athletes to help ensure their academic success.

Another logical area of future research would be to add research using student-athletes as the participants. The current study had 41 student-athlete participants. Therefore, future research could benefit from larger numbers of student-athlete participants. This could help to add to literature of what jobs student-athletes feel are appropriate for those within these sports. It would also be informative to see if they feel that the jobs attributed to the group they belong to fit their personal view of what job they want to pursue. Having a better understanding of what jobs student-athletes feel are appropriate for them can have important implications for advisors, career counselors, etc. who work with student-athletes. Having more robust research on views female student-athletes have of career choices would be especially important, as they often get overshadowed by more high-profile male sports.

Summary and Conclusions

This study has demonstrated the need for a standardized definition within the student-athlete literature. This can be seen in differences in job assignment to the four groups. Differences in jobs between the groups occurred for gender traditionality, prestige, and Holland type. Researchers either use the term with no further information or use an unstandardized definition that is not consistent across the field. The current study has helped lay the foundation for use of a standardized definition. Results of this study indicate that participants view male student-athletes, female student-athletes, male non-athlete

students, and female non-athlete students differently. Consistent with Anderson's (2015) findings, male non-athlete students seem to be perceived as fitting with STEM occupations well. Written responses of participants also showed that there is no one view of a student-athlete when presented with the term. This finding supports the need for standardization within student-athlete research. The present study also found that race may be a key factor in understanding why male student-athletes, female student-athletes, male non-athlete students, and female non-athlete students are viewed differently. These preliminary findings have highlighted the need to explore other factors, such as race, to better understand why different perceptions of student groups exist.

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Table 1. Job Titles by Holland Type and Job Zone

Job Zone	R	I	A	S	E	C	Total
One	29	0	1	1	3	2	36
Two	205	0	3	14	23	49	294
Three	121	6	12	26	37	43	245
Four	27	58	19	28	71	29	232
Five	4	72	1	64	15	5	161
Total	386	136	36	133	149	128	968

Note. Holland Categories: R= Realistic; I= Investigative; A= Artistic; S= Social; E= Enterprising; C= Conventional.

Table 2. List of 72 Job Titles with Holland Type, Job Zone, Prestige Score, and Proportion Female

Job Title	Holland Type	Job Zone	Prestige Score	Proportion Female
Maids and Housekeeping Cleaners	RC	2	25	0.84
Butchers and Meat Cutters	RCE	2	28	0.24
Manicurists and Pedicurists	REC	2	36	0.93
Barbers	RCE	3	36	0.15
Embalmers	RCI	3	43	0.47
Animal Breeders	R	3	41	0.25
Tailors, Dressmakers, and Custom Sewers	RA	3	42	0.68
Veterinary Assistants	RSI	3	43	0.89
Airline Pilots, Copilots, and Flight Engineers	RCI	4	65	0.06
Museum Technicians and Conservators	RA	4	55	0.57
Civil Engineers	RIC	4	65	0.16
Anesthesiologist Assistants	RSI	5	63	0.68
Hearing Aid Specialists	ISR	3	52	0.66
Fire Investigators	IRC	3	57	0.04
Medical and Clinical Laboratory Technologists	IRC	4	49	0.68
Chemical Engineer	IR	4	71	0.15
Software Developers	IRC	4	60	0.18
Dentists	IRS	5	72	0.61
Optometrists	ISR	5	70	0.68
Mathematicians	ICA	5	66	0.33
Pharmacists	ICS	5	66	0.58
Sociologists	IAS	5	63	0.33
Archeologists	IRA	5	66	0.33

Table 2. (continued)

School Psychologists	IS	5	71	0.67
Nannies	SAC	2	18	0.73
Coatroom and Dressing Room Attendants	SE	2	18	0.48
Emergency Medical Technicians and Paramedics	SIR	3	62	0.29
Critical Care Nurses	SIR	3	64	0.92
Tour Guides and Escorts	SE	3	31	0.30
Teacher Assistants	SC	3	48	0.89
Midwives	S	4	49	0.83
Coaches and Scouts	SER	4	65	0.30
Community Health Workers	S	4	56	0.75
Clergy	SAE	5	66	0.13
Counseling Psychologists	SIA	5	71	0.67
Chiropractors	SIR	5	61	0.18
Actors	AE	2	58	0.35
Musicians, Instrumental	AE	3	51	0.29
Makeup Artists, Theatrical and Performance	AR	3	30	0.80
Radio and Television Announcers	AES	3	40	0.28
Hairdressers, Hairstylists, and Cosmetologists	AES	3	36	0.93
Dancers	AR	3	49	0.56
Video Game Designers	AE	4	46	0.46
Poets, Lyricists, and Creative Writers	AI	4	67	0.53
Architects	AIE	4	73	0.23
Choreographers	ASE	4	49	0.56
Interpreters and Translators	AS	4	56	0.53

Table 2. (continued)

Set and Exhibit Designers	AR	5	46	0.46
Postal Service Mail Carriers	CR	2	45	0.41
Bartenders	CER	2	32	0.53
Web Developers	CIR	3	55	0.32
Tax Preparers	CE	3	52	0.68
Assessors	CEI	3	55	0.36
Dental Assistants	CRS	3	48	0.94
Accountants	CE	4	60	0.59
Proofreaders and Copy Markers	CA	4	44	0.67
Budget Analysts	CEI	4	52	0.47
Computer Systems Analysts	CIR	4	65	0.40
Database Administrators	CI	4	57	0.40
Librarians	CSE	5	55	0.77
Food Service Managers	ECR	2	39	0.49
Retail Salespersons	EC	2	31	0.39
Flight Attendants	ESC	3	44	0.72
Morticians, Undertakers, and Funeral Directors	ESC	3	49	0.14
Chefs	ERA	3	50	0.19
Travel Agents	EC	3	38	0.82
Human Resource Managers	ESC	4	53	0.70
Real Estate Brokers	EC	4	49	0.55
Appraisers, Real Estate	ECR	4	55	0.36
Chief Executives	EC	5	72	0.28
Judges, Magistrate Judges, and Magistrates	ESC	5	75	0.29
Education Administrators	ESC	5	59	0.62

Table 2. (continued)

Note. Holland Categories: R= Realistic; I= Investigative; A= Artistic; S= Social; E= Enterprising; C= Conventional. Job Zone refers to O*NET OnLine's categorization of how much education/training is required for each occupation, with higher scores indicating a higher level of education/training needed. Prestige Scores are based on prestige ratings of 2010 SOC occupations, with higher scores indicating a higher level of prestige. Proportion female refers to the proportion of workers who are female within each job.

Table 3. Results of Chi Square Test for the Assignment of Occupations to Male and Female Student-Athlete and Non-Athlete Student Categories

Occupation	Student-Athletes		Non-Athlete Students		χ^2	p
	M	F	M	F		
Maid and Housekeeping Cleaners	6	140	4	259	439.24	—
Butchers and Meat Cutter	233	2	172	2	411.35	—
Manicurist and Pedicurists	3	144	9	253	420.68	—
Barbers	207	19	148	35	239.79	—
Embalmers	127	45	182	55	122.08	—
Animal Breeders	95	107	87	120	6.09	0.107
Tailors, Dressmakers, and Custom Sewers	40	105	56	208	168.26	—
Veterinary Assistants	24	211	18	156	273.22	—
Airline Pilots, Copilots, and Flight Engineers	158	16	222	13	321.30	—
Museum Technicians and Conservators	109	48	172	80	81.65	—
Civil Engineer	113	21	243	32	307.70	—
Anesthesiologist Assistants	49	172	51	137	112.81	—
Hearing Aid Specialists	61	116	77	155	51.94	—
Fire Investigators	269	6	120	14	441.79	—
Medical and Clinical Laboratory Technologists	67	116	108	118	16.75	0.001
Chemical Engineer	86	22	269	32	385.77	—
Software Developers	73	16	300	20	529.73	—
Dentists	105	58	168	78	67.25	—
Optometrists	80	98	130	101	12.57	0.006
Mathematician	56	31	265	57	349.64	—
Pharmacists	53	114	96	146	44.17	—
Sociologists	75	145	67	122	41.10	—
Archeologists	82	40	224	63	201.94	—
School Psychologists	53	193	27	136	170.79	—
Nannies	3	211	8	187	369.12	—
Coatroom, and Dressing Room Attendants	85	106	50	168	72.03	—
Emergency Medical Technicians and Paramedics	154	97	99	59	44.86	—
Critical Care Nurses	15	202	9	183	320.58	—
Tour Guides and Escorts	128	145	65	71	47.48	—
Teacher Assistants	41	214	29	125	216.36	—

Table 3. (continued)

Midwives	5	198	3	203	377.77	—
Coaches and Scouts	378	26	3	2	995.14	—
Community Health Workers	65	245	16	83	289.24	—
Clergy	116	33	213	47	198.56	—
Counseling Psychologist	35	174	22	178	213.68	—
Chiropractors	204	92	80	33	154.02	—
Actors	166	58	99	86	61.58	—
Musicians, Instrumental	45	54	145	165	111.21	—
Makeup Artists, Theatrical and Performance	2	136	12	259	429.39	—
Radio and Television Announcers	315	34	48	12	596.66	—
Hairdressers, Hairstylists, and Cosmetologists	3	152	7	247	414.19	—
Dancers	6	340	3	60	757.21	—
Video Game Designers	106	4	292	7	535.40	—
Poets, Lyricists, and Creative Writers	29	84	62	234	241.34	—
Architects	109	34	202	64	157.62	—
Choreographers	36	278	12	83	428.29	—
Interpreters and Translators	48	133	37	191	156.70	—
Set and Exhibit Designers	39	145	56	169	121.49	—
Postal Service Mail Carriers	173	26	177	33	207.36	—
Bartenders	181	67	75	86	82.65	—
Web Developers	100	28	244	37	292.12	—
Tax Preparers	162	45	151	51	115.90	—
Assessors	169	85	94	61	63.79	—
Dental Assistants	24	206	18	161	268.33	—
Accountants	161	71	118	59	64.03	—
Proofreaders and Copy Markers	75	124	53	157	64.93	—
Budget Analysts	180	62	108	59	93.58	—
Computer Systems Analysts	104	16	260	29	368.63	—
Database Administrators	122	36	201	50	168.81	—
Librarians	10	117	11	271	445.29	—
Food Service Managers	169	84	96	60	64.67	—
Retail Salespersons	129	137	41	102	55.50	—
Flight Attendants	8	216	11	174	345.20	—
Morticians, Undertakers, and Funeral Directors	111	32	199	67	152.71	—
Chefs	169	58	124	58	86.50	—
Travel Agents	128	164	37	80	90.26	—
Human Resource Managers	95	176	29	109	106.63	—

Table 3. (continued)

Real Estate Brokers	207	76	88	38	156.41	—
Appraisers, Real Estate	161	129	54	65	77.09	—
Chief Executives	173	31	168	37	182.52	—
Judges, Magistrate Judges, and Magistrates	80	45	185	99	103.97	—
Education Administrators	114	151	33	111	72.24	—

Note. N= 409. 'M' and 'F' beneath the student categories refer to the gender of the participants, Male or Female. "—" indicates a significant p-value < .001 after Bonferroni correction.

Table 4. Results of Chi Square Test for the Assignment of Occupations to Male and Female Student-Athlete and Non-Athlete Student Categories After Accounting for Gender Category Differences in Assignment Frequency

Occupation	Student-Athletes		Non-Athlete Students		χ^2	p
	M	F	M	F		
Maid and Housekeeping Cleaners	6	140	4	259	35.91	—
Butchers and Meat Cutter	233	2	172	2	9.21	0.027
Manicurist and Pedicurists	3	144	9	253	32.95	—
Barbers	207	19	148	35	14.55	0.002
Embalmers	127	45	182	55	10.79	0.013
Animal Breeders	95	107	87	120	1.10	0.778
Tailors, Dressmakers, and Custom Sewers	40	105	56	208	36.57	—
Veterinary Assistants	24	211	18	156	9.10	0.028
Airline Pilots, Copilots, and Flight Engineers	158	16	222	13	11.09	0.011
Museum Technicians and Conservators	109	48	172	80	22.13	—
Civil Engineer	113	21	243	32	49.77	—
Anesthesiologist Assistants	49	172	51	137	4.01	0.261
Hearing Aid Specialists	61	116	77	155	7.47	0.058
Fire Investigators	269	6	120	14	60.27	—
Medical and Clinical Laboratory Technologists	67	116	108	118	9.62	0.022
Chemical Engineer	86	22	269	32	96.18	—
Software Developers	73	16	300	20	138.74	—
Dentists	105	58	168	78	17.47	0.001
Optometrists	80	98	130	101	11.94	0.008
Mathematician	56	31	265	57	143.74	—
Pharmacists	53	114	96	146	16.33	0.001
Sociologists	75	145	67	122	2.43	0.488
Archeologists	82	40	224	63	71.04	—
School Psychologists	53	193	27	136	18.31	—
Nannies	3	211	8	187	3.71	0.294
Coatroom, and Dressing Room Attendants	85	106	50	168	23.10	—
Emergency Medical Technicians and Paramedics	154	97	99	59	21.22	—
Critical Care Nurses	15	202	9	183	2.43	0.488
Tour Guides and Escorts	128	145	65	71	45.92	—

Table 4. (continued)

Teacher Assistants	41	214	29	125	25.42	—
Midwives	5	198	3	203	0.58	0.900
Coaches and Scouts	378	26	3	2	389.72	—
Community Health Workers	65	245	16	83	109.66	—
Clergy	116	33	213	47	31.04	—
Counseling Psychologist	35	174	22	178	3.00	0.392
Chiropractors	204	92	80	33	82.00	—
Actors	166	58	99	86	22.41	—
Musicians, Instrumental	45	54	145	165	108.89	—
Makeup Artists, Theatrical and Performance	2	136	12	259	45.48	—
Radio and Television Announcers	315	34	48	12	206.98	—
Hairdressers, Hairstylists, and Cosmetologists	3	152	7	247	24.24	—
Dancers	6	340	3	60	197.00	—
Video Game Designers	106	4	292	7	87.75	—
Poets, Lyricists, and Creative Writers	29	84	62	234	82.74	—
Architects	109	34	202	64	37.00	—
Choreographers	36	278	12	83	117.33	—
Interpreters and Translators	48	133	37	191	11.80	0.008
Set and Exhibit Designers	39	145	56	169	4.88	0.181
Postal Service Mail Carriers	173	26	177	33	0.88	0.831
Bartenders	181	67	75	86	46.25	—
Web Developers	100	28	244	37	61.53	—
Tax Preparers	162	45	151	51	0.76	0.859
Assessors	169	85	94	61	25.33	—
Dental Assistants	24	206	18	161	6.38	0.095
Accountants	161	71	118	59	7.73	0.052
Proofreaders and Copy Markers	75	124	53	157	7.66	0.054
Budget Analysts	180	62	108	59	18.08	—
Computer Systems Analysts	104	16	260	29	70.61	—
Database Administrators	122	36	201	50	21.61	—
Librarians	10	117	11	271	61.15	—
Food Service Managers	169	84	96	60	24.11	—
Retail Salespersons	129	137	41	102	50.75	—
Flight Attendants	8	216	11	174	5.00	0.172
Morticians, Undertakers, and Funeral Directors	111	32	199	67	37.36	—
Chefs	169	58	124	58	6.92	0.075
Travel Agents	128	164	37	80	79.14	—

Table 4. (continued)

Human Resource Managers	95	176	29	109	50.90	—
Real Estate Brokers	207	76	88	38	60.68	—
Appraisers, Real Estate	161	129	54	65	74.35	—
Chief Executives	173	31	168	37	0.60	0.896
Judges, Magistrate Judges, and Magistrates	80	45	185	99	61.85	—
Education Administrators	114	151	33	111	50.67	—

Note. N= 409. 'M' and 'F' beneath the student categories refer to the gender of the participants, Male or Female. "—" indicates a significant p-value < .001 after Bonferroni correction.

Table 5. ANOVA Results for Gender Traditionality, Prestige, and Holland of Job Titles

ANOVA	F-value	η^2
1. Gender Traditionality		
Category	1818.14**	.817
Category x Gender	2.69	.007
2. Prestige		
Category	151.54**	.271
Category x Gender	10.64**	.025
3. Holland		
Realistic		
Category	22.26**	.054
Category x Gender	6.70**	.016
Investigative		
Category	121.63**	.230
Category x Gender	10.57**	.025
Artistic		
Category	260.75**	.390
Category x Gender	1.34	.003
Social		
Category	102.95**	.202
Category x Gender	11.16**	.027
Enterprising		
Category	83.67**	.171
Category x Gender	4.72*	.011
Conventional		
Category	61.50**	.131
Category x Gender	3.81	.009

** $p \leq .001$

* $p \leq .01$

Note. N= 409. Category= Student Category (Male-Student Athlete, Female Student-Athlete, Male Non-Athlete Student, Female Non-Athlete Student). Gender refers to the gender of the participant. Gender Traditionality is measuring average proportion of female workers in jobs assigned to each category. Prestige is based on prestige ratings of 2010 SOC occupations, with higher scores indicating a higher level of prestige (Ranging from 0-100).

Table 6. Means by Student Category and Gender of Participants

Job Characteristics	Male Student-Athlete		Female Student-Athlete		Male Non-Athlete Student		Female Non-Athlete Student	
	M	F	M	F	M	F	M	F
Gender Traditionality	.379	.383	.616	.600	.352	.356	.602	.610
Prestige	52.23	53.06	48.66	50.68	57.08	55.78	50.31	49.42
Realistic	2.87	2.83	2.82	2.30	3.11	3.50	3.20	3.38
Investigative	2.43	2.71	1.91	2.65	4.76	4.35	2.89	2.29
Artistic	3.10	2.93	4.18	4.32	1.38	1.52	3.34	3.23
Social	2.36	2.10	3.87	3.32	2.32	2.43	3.46	4.15
Enterprising	3.28	3.79	2.26	2.09	3.72	3.67	2.74	2.46
Conventional	3.95	3.64	2.97	3.33	2.71	2.53	2.37	2.50

Note. 'M' and 'F' beneath the student categories refer to the gender of the participants, Male or Female. Gender Traditionality is measuring average proportion of females in jobs assigned to each category. Prestige is based on prestige ratings of 2010 SOC occupations, with higher scores indicating a higher level of prestige (Ranging from 0-100).

Table 7. Standard Deviations by Student Category and Gender of Participants

Job Characteristics	Male Student-Athlete		Female Student-Athlete		Male Non-Athlete Student		Female Non-Athlete Student	
	M	F	M	F	M	F	M	F
Gender Traditionality	.046	.051	.060	.062	.050	.056	.060	.060
Prestige	4.12	4.46	4.47	4.83	4.03	4.40	4.66	5.18
Realistic	1.19	1.44	1.25	1.21	1.31	1.42	1.25	1.28
Investigative	1.51	1.72	1.49	1.69	1.50	1.76	1.66	1.70
Artistic	1.12	1.03	1.45	1.45	1.00	1.05	1.28	1.46
Social	1.11	1.12	1.42	1.63	1.17	1.24	1.47	1.72
Enterprising	1.59	1.55	1.22	1.21	1.44	1.48	1.40	1.20
Conventional	1.52	1.44	1.37	1.38	1.19	1.26	1.27	1.35

Note. 'M' and 'F' beneath the student categories refer to the gender of the participants, Male or Female. Gender Traditionality is measuring average proportion of females of jobs assigned to each category. Prestige is based on prestige ratings of 2010 SOC occupations, with higher scores indicating a higher level of prestige (Ranging from 0-100).

APPENDIX A: JOB ZONES

(O*Net Online)

Job Zone One: Little or No Preparation Needed

Education	Some of these occupations may require a high school diploma or GED certificate.
Related Experience	Little or no previous work-related skill, knowledge, or experience is needed for these occupations. For example, a person can become a waiter or waitress even if he/she has never worked before.
Job Training	Employees in these occupations need anywhere from a few days to a few months of training. Usually, an experienced worker could show you how to do the job.
Job Zone Examples	These occupations involve following instructions and helping others. Examples include counter and rental clerks, dishwashers, sewing machine operators, landscaping and groundskeeping workers, logging equipment operators, and baristas.
SVP Range	(Below 4.0)

Job Zone Two: Some Preparation Needed

Education	These occupations usually require a high school diploma.
Related Experience	Some previous work-related skill, knowledge, or experience is usually needed. For example, a teller would benefit from experience working directly with the public.

Job Training Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

Job Zone Examples These occupations often involve using your knowledge and skills to help others. Examples include orderlies, forest firefighters, customer service representatives, security guards, upholsterers, and tellers.

SVP Range (4.0 to < 6.0)

Job Zone Three: Medium Preparation Needed

Education Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree.

Related Experience Previous work-related skill, knowledge, or experience is required for these occupations. For example, an electrician must have completed three or four years of apprenticeship or several years of vocational training, and often must have passed a licensing exam, in order to perform the job.

Job Training Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers. A recognized apprenticeship program may be associated with these occupations.

Job Zone Examples These occupations usually involve using communication and organizational skills to coordinate, supervise, manage, or train others to accomplish goals. Examples include hydroelectric production managers, travel guides, electricians, agricultural technicians, barbers, court reporters, and medical assistants.

SVP Range (6.0 to < 7.0)

Job Zone Four: Considerable Preparation Needed

Education Most of these occupations require a four-year bachelor's degree, but some do not.

Related Experience A considerable amount of work-related skill, knowledge, or experience is needed for these occupations. For example, an accountant must complete four years of college and work for several years in accounting to be considered qualified.

Job Training Employees in these occupations usually need several years of work-related experience, on-the-job training, and/or vocational training.

Job Zone Examples Many of these occupations involve coordinating, supervising, managing, or training others. Examples include accountants, sales managers, database administrators, graphic designers, chemists, art directors, and cost estimators.

SVP Range (7.0 to < 8.0)

Job Zone Five: Extensive Preparation Needed

Education Most of these occupations require graduate school. For example, they may require a master's degree, and some require a Ph.D., M.D., or J.D. (law degree).

Related Experience Extensive skill, knowledge, and experience are needed for these occupations. Many require more than five years of experience. For example, surgeons must complete four years of college and an additional five to seven years of specialized medical training to be able to do their job.

Job Training	Employees may need some on-the-job training, but most of these occupations assume that the person will already have the required skills, knowledge, work-related experience, and/or training.
Job Zone Examples	These occupations often involve coordinating, training, supervising, or managing the activities of others to accomplish goals. Very advanced communication and organizational skills are required. Examples include librarians, lawyers, astronomers, biologists, clergy, surgeons, and veterinarians.
SVP Range	(8.0 and above)

APPENDIX B: IRB APPROVAL

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board Office
for Responsible Research Vice
President for Research 2420
Lincoln Way, Suite 202
Ames, Iowa 50014
515 294-4566

Date:02/01/2019

To: Nathan Barker

Patrick Armstrong

From: Office for Responsible Research

Title: Perceptions of Student-Athletes' Career Choices

IRB ID: 19-011

Submission Type: Initial Submission **Exemption Date:** 02/01/2019

The project referenced above has been declared exempt from most requirements of the human subject protections regulations as described in 45 CFR 46.104 or 21 CFR 56.104 because it meets the following federal requirements for exemption:

2018 - 2 (iii): Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) when the information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a LIMITED IRB REVIEW to [determine there are adequate provisions to protect the privacy of subjects and to maintain confidentiality of the data].

2018 - 3 (ii.C): Research involving benign behavioral interventions in conjunction with the collection of information from an adult subject through verbal or written responses or audiovisual recording when the subject prospectively agrees to the intervention and information collection and the information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a LIMITED IRB REVIEW to [determine that there are adequate provisions to protect the privacy of subjects and to maintain confidentiality of the data]. If research involves deception, it is prospectively authorized by the subject.

The determination of exemption means that:

- **You do not need to submit an application for continuing review. Instead, you will receive a request for a brief status update every three years. The status update is intended to verify that the study is still ongoing.**
- **You must carry out the research as described in the IRB application.** Review by IRB staff is required prior to implementing modifications that may change the exempt status of the research. In general, review is required for any *modifications to the research procedures* (e.g., method of data collection, nature or scope of information to be collected, nature or duration of behavioral interventions, use of deception, etc.), any change in *privacy or confidentiality protections*, modifications that result in the *inclusion of participants from vulnerable populations*, removing plans for informing participants about the study, any *change that may increase the risk or discomfort to participants*, and/or any change such

APPENDIX C: EXAMPLE OF QUALTRICS SURVEY INSTRUCTIONS AND QUESTIONS

You will be presented with one job title at a time and asked to rate the job on several scales:

Holland Type- Give your best estimate to which is the primary Holland Type for this job (There are likely secondary and tertiary types, but focus on the primary type).

Proportion of Men/Women- Give your best estimate to how many men and women are in this job overall.

Prestige Level- Rate how prestigious you think this job title is.

Likability- Rate how likable you perceive someone who holds the job title.

Familiarity- Rate how well you know and understand this job title.

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Occupational Therapists

	Realistic	Investigative	Artistic	Social	Enterprising	Conventional
Holland Type	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Occupational Therapists

	Mostly Men	More Men Than Women	Even	More Women Than Men	Mostly Women
Proportion of Men/Women	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Occupational Therapists

	Very High	High	Moderate	Low	Very Low
Prestige Level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Occupational Therapists

	Very High Likeability	High	Moderate	Low	Very Low Likeability
Rate the likability of people in this job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Occupational Therapists

	Very High Familiarity	High	Moderate	Low	Very Low Familiarity
Rate how familiar you are with this job title	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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APPENDIX D: JOB TITLE DESCRIPTIONS

Accountants- Analyze financial information and prepare financial reports to determine or maintain record of assets, liabilities, profit and loss, tax liability, or other financial activities within an organization.

Actors- Play parts in stage, television, radio, video, motion picture productions, or other settings for entertainment, information, or instruction. Interpret serious or comic role by speech, gesture, and body movement to entertain or inform audience. May dance and sing.

Airline Pilots, Copilots, and Flight Engineers- Pilot and navigate the flight of fixed-wing, multi-engine aircraft, usually on scheduled air carrier routes, for the transport of passengers and cargo. Requires Federal Air Transport Pilot certificate and rating for specific aircraft type used. Includes regional, National, and international airline pilots and flight instructors of airline pilots.

Anesthesiologist Assistants- Assist anesthesiologists in the administration of anesthesia for surgical and non-surgical procedures. Monitor patient status and provide patient care during surgical treatment.

Animal Breeders- Select and breed animals according to their genealogy, characteristics, and offspring. May require knowledge of artificial insemination techniques and equipment use. May involve keeping records on heats, birth intervals, or pedigree.

Appraisers, Real Estate- Appraise real property to determine its value for purchase, sales, investment, mortgage, or loan purposes.

Archeologists- Conduct research to reconstruct record of past human life and culture from human remains, artifacts, architectural features, and structures recovered through excavation, underwater recovery, or other means of discovery.

Architects- Plan and design structures, such as private residences, office buildings, theaters, factories, and other structural property.

Assessors- Appraise real and personal property to determine its fair value. May assess taxes in accordance with prescribed schedules.

Barbers- Provide barbering services, such as cutting, trimming, shampooing, and styling hair, trimming beards, or giving shaves.

Bartenders- Mix and serve drinks to patrons, directly or through waitstaff.

Budget Analysts- Examine budget estimates for completeness, accuracy, and conformance with procedures and regulations. Analyze budgeting and accounting reports.

Butchers and Meat Cutters- Cut, trim, or prepare consumer-sized portions of meat for use or sale in retail establishments.

Chefs- Direct and may participate in the preparation, seasoning, and cooking of salads, soups, fish, meats, vegetables, desserts, or other foods. May plan and price menu items, order supplies, and keep records and accounts.

Chemical Engineer- Design chemical plant equipment and devise processes for manufacturing chemicals and products, such as gasoline, synthetic rubber, plastics, detergents, cement, paper, and pulp, by applying principles and technology of chemistry, physics, and engineering.

Chief Executives- Determine and formulate policies and provide overall direction of companies or private and public sector organizations within guidelines set up by a board of directors or similar governing body. Plan, direct, or coordinate operational activities at the highest level of management with the help of subordinate executives and staff managers.

Chiropractors- Assess, treat, and care for patients by manipulation of spine and musculoskeletal system. May provide spinal adjustment or address sacral or pelvic misalignment.

Choreographers- Create new dance routines. Rehearse performance of routines. May direct and stage presentations.

Civil Engineers- Perform engineering duties in planning, designing, and overseeing construction and maintenance of building structures, and facilities, such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, and water and sewage systems.

Clergy- Conduct religious worship and perform other spiritual functions associated with beliefs and practices of religious faith or denomination. Provide spiritual and moral guidance and assistance to members.

Coaches and Scouts- Instruct or coach groups or individuals in the fundamentals of sports. Demonstrate techniques and methods of participation. May evaluate athletes' strengths and weaknesses as possible recruits or to improve the athletes' technique to prepare them for competition. Those required to hold teaching degrees should be reported in the appropriate teaching category.

Coatroom and Dressing Room Attendants- Provide personal items to patrons or customers in locker rooms, dressing rooms, or coatrooms.

Community Health Workers- Assist individuals and communities to adopt healthy behaviors. Conduct outreach for medical personnel or health organizations to implement programs in the community that promote, maintain, and improve individual and community health. May provide information on available resources, provide social support and informal counseling, advocate for individuals and community health needs, and provide services such as first aid and blood pressure screening. May collect data to help identify community health needs.

Computer Systems Analysts- Analyze science, engineering, business, and other data processing problems to implement and improve computer systems. Analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations. May analyze or recommend commercially available software.

Counseling Psychologist- Assess and evaluate individuals' problems through the use of case history, interview, and observation and provide individual or group counseling services to assist individuals in achieving more effective personal, social, educational, and vocational development and adjustment.

Critical Care Nurses- Provide advanced nursing care for patients in critical or coronary care units.

Dancers- Perform dances. May perform on stage, for on-air broadcasting, or for video recording.

Database Administrators- Administer, test, and implement computer databases, applying knowledge of database management systems. Coordinate changes to computer databases. May plan, coordinate, and implement security measures to safeguard computer databases.

Dental Assistants- Assist dentist, set up equipment, prepare patient for treatment, and keep records.

Dentists- Examine, diagnose, and treat diseases, injuries, and malformations of teeth and gums. May treat diseases of nerve, pulp, and other dental tissues affecting oral hygiene and retention of teeth. May fit dental appliances or provide preventive care.

Education Administrators- Plan, direct, or coordinate research, instructional, student administration and services academic, or auxiliary, and other educational activities

Embalmers- Prepare bodies for interment in conformity with legal requirements.

Emergency Medical Technicians and Paramedics- Assess injuries, administer emergency medical care, and extricate trapped individuals. Transport injured or sick persons to medical facilities.

Fire Investigators- Conduct investigations to determine causes of fires and explosions.

Flight Attendants- Provide personal services to ensure the safety, security, and comfort of airline passengers during flight. Greet passengers, verify tickets, explain use of safety equipment, and serve food or beverages.

Food Service Manager- Plan, direct, or coordinate activities of an organization or department that serves food and beverages.

Hairdressers, Hairstylists, and Cosmetologists- Provide beauty services, such as shampooing, cutting, coloring, and styling hair, and massaging and treating scalp. May apply makeup, dress wigs, perform hair removal, and provide nail and skin care services.

Hearing Aid Specialists- Select and fit hearing aids for customers. Administer and interpret tests of hearing. Assess hearing instrument efficacy. Take ear impressions and prepare, design, and modify ear molds.

Human Resource Managers- Plan, direct, or coordinate human resources activities and staff of an organization.

Interpreters and Translators- Interpret oral or sign language, or translate written text from one language into another.

Judges, Magistrate Judges, and Magistrates- Arbitrate, advise, adjudicate, or administer justice in a court of law. May sentence defendant in criminal cases according to government statutes or sentencing guidelines. May determine liability of defendant in civil cases. May perform wedding ceremonies.

Librarians- Administer libraries and perform related library services. Work in a variety of settings, including public libraries, educational institutions, museums, corporations, government agencies, law firms, non-profit organizations, and healthcare providers. Tasks may include selecting, acquiring, cataloguing, classifying, circulating, and maintaining library materials; and furnishing reference, bibliographical, and readers' advisory services. May perform in-depth, strategic research, and synthesize, analyze, edit, and filter information. May set up or work with databases and information systems to catalogue and access information.

Maids and Housekeeping Cleaners- Perform any combination of light cleaning duties to maintain private households or commercial establishments, such as hotels and hospitals, in a clean and orderly manner. Duties may include making beds, replenishing linens, cleaning rooms and halls, and vacuuming

Makeup Artists, Theatrical and Performance- Apply makeup to performers to reflect period, setting, and situation of their role.

Manicurists and Pedicurists- Clean and shape customers' fingernails and toenails. May polish or decorate nails.

Mathematicians- Conduct research in fundamental mathematics or in application of mathematical techniques to science, management, and other fields. Solve problems in various fields using mathematical methods.

Medical and Clinical Laboratory Technologists- Perform routine medical laboratory tests for the diagnosis, treatment, and prevention of disease. May work under the supervision of a medical technologist.

Midwives- Provide prenatal care and childbirth assistance.

Morticians, Undertakers, and Funeral Directors- Perform various tasks to arrange and direct funeral services, such as coordinating transportation of body to mortuary, interviewing family or other authorized person to arrange details, selecting pallbearers,

aiding with the selection of officials for religious rites, and providing transportation for mourners.

Museum Technicians and Conservators- Restore, maintain, or prepare objects in museum collections for storage, research, or exhibit. May work with specimens such as fossils, skeletal parts, or botanicals; or artifacts, textiles, or art. May identify and record objects or install and arrange them in exhibits. Includes book or document conservators.

Musicians, Instrumental- Play one or more musical instruments in recital, in accompaniment, or as members of an orchestra, band, or other musical group.

Nannies- Care for children in private households and provide support and expertise to parents in satisfying children's physical, emotional, intellectual, and social needs. Duties may include meal planning and preparation, laundry and clothing care, organization of play activities and outings, discipline, intellectual stimulation, language activities, and transportation.

Optometrists- Diagnose, manage, and treat conditions and diseases of the human eye and visual system. Examine eyes and visual system, diagnose problems or impairments, prescribe corrective lenses, and provide treatment. May prescribe therapeutic drugs to treat specific eye conditions.

Pharmacists- Dispense drugs prescribed by physicians and other health practitioners and provide information to patients about medications and their use. May advise physicians and other health practitioners on the selection, dosage, interactions, and side effects of medications.

Poets, Lyricists, and Creative Writers- Create original written works, such as scripts, essays, prose, poetry or song lyrics, for publication or performance.

Postal Service Mail Carriers- Sort mail for delivery. Deliver mail on established route by vehicle or on foot.

Proofreaders and Copy Markers- Read transcript or proof type setup to detect and mark for correction any grammatical, typographical, or compositional errors. Includes proofreaders of Braille.

Radio and Television Announcers- Speak or read from scripted materials, such as news reports or commercial messages, on radio or television. May announce artist or title of performance, identify station, or interview guests.

Real Estate Brokers- Operate real estate office, or work for commercial real estate firm, overseeing real estate transactions. Other duties usually include selling real estate or renting properties and arranging loans.

Retail Salespersons- Sell merchandise, such as furniture, motor vehicles, appliances, or apparel to consumers.

School Psychologists- Investigate processes of learning and teaching and develop psychological principles and techniques applicable to educational problems.

Set and Exhibit Designers- Design special exhibits and movie, television, and theater sets. May study scripts, confer with directors, and conduct research to determine appropriate architectural styles.

Sociologists- Study human society and social behavior by examining the groups and social institutions that people form, as well as various social, religious, political, and business organizations. May study the behavior and interaction of groups, trace their origin and growth, and analyze the influence of group activities on individual members.

Software Developers- Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. May analyze and design databases within an application area, working individually or coordinating database development as part of a team. May supervise computer programmers.

Tailors, Dressmakers, and Custom Sewers- Design, make, alter, repair, or fit garments.

Tax Preparers- Prepare tax returns for individuals or small businesses.

Teacher Assistants- Perform duties that are instructional in nature or deliver direct services to students or parents. Serve in a position for which a teacher has ultimate responsibility for the design and implementation of educational programs and services.

Tour Guides and Escorts- Escort individuals or groups on sightseeing tours or through places of interest, such as industrial establishments, public buildings, and art galleries.

Travel Agents- Plan and sell transportation and accommodations for travel agency customers. Determine destination, modes of transportation, travel dates, costs, and accommodations required. May also describe, plan, and arrange itineraries and sell tour packages. May assist in resolving clients' travel problems.

Veterinary Assistants- Feed, water, and examine pets and other nonfarm animals for signs of illness, disease, or injury in laboratories and animal hospitals and clinics. Clean and disinfect cages and work areas, and sterilize laboratory and surgical equipment. May provide routine post-operative care, administer medication orally or topically, or prepare samples for laboratory examination under the supervision of veterinary or laboratory animal technologists or technicians, veterinarians, or scientists.

Video Game Designers- Design core features of video games. Specify innovative game and role-play mechanics, story lines, and character biographies. Create and maintain design documentation. Guide and collaborate with production staff to produce games as designed.

Web Developers- Design, create, and modify Web sites. Analyze user needs to implement Web site content, graphics, performance, and capacity. May integrate Web sites with other

computer applications. May convert written, graphic, audio, and video components to compatible Web formats by using software designed to facilitate the creation of Web and multimedia content.

APPENDIX E. LIST OF 300 JOB TITLES

Accountants	Actors	Actuaries
Acupuncturists	Advertising and Promotions Managers	Aerospace Engineers
Air Traffic Controllers	Allergists and Immunologists	Amusement and Recreation Attendants
Anesthesiologist Assistants	Animal Breeders	Animal Control Workers
Animal Scientists	Anthropologists	Appraisers, Real Estate
Arbitrators, Mediators, and Conciliators	Archeologists	Architects
Architectural Drafters	Archivists	Art Directors
Art Therapists	Assessors	Astronomers

Athletes and Sports Competitors	Athletic Trainers	Atmospheric and Space Scientists
Audiologists	Auditors	Aviation Inspectors
Bailiffs	Bakers	Barbers
Baristas	Bartenders	Bicycle Repairers
Biochemical Engineers	Boilermakers	Bookkeeping Accounting, and Auditing Clerks
Broadcast News Analysts	Budget Analysts	Bus Drivers, School or Special Client
Business Intelligence Analysts	Butchers and Meat Cutters	Carpet Installers
Cashiers	Chefs	Chemical Engineers

Chemical Technicians	Chemists	Chief Executives
Chief Sustainability Officers	Childcare Workers	Chiropractors
Choreographers	Clergy	Climate Change Analysts
Clinical Psychologists	Coaches and Scouts	Commercial Divers
Commercial Pilots	Community Health Workers	Compliance Managers
Computer Hardware Engineers	Computer Network Architects	Computer Programmers
Computer Systems Analysts	Concierges	Conservation Scientists
Construction Managers	Cooks, Private Household	Cooks, Restaurant

Coroners	Cost Estimators	Counseling Psychologists
Counter and Rental Clerks	Court Reporters	Craft Artists
Crane and Tower Operators	Credit Counselors	Critical Care Nurses
Curators	Customs Brokers	Dancers
Demonstrators and Product Promoters	Dental Assistants	Dental Hygienists
Dentists	Dermatologists	Desktop Publishers
Dietitians and Nutritionists	Dishwashers	Dispatchers, Except Police, Fire, and Ambulance
Distance Learning Coordinators	Door-To-Door Sales Workers, News and Street Vendors, and Related Workers	Drywall and Ceiling Tile Installers

Economists	Editors	Education Administrators, Elementary and Secondary School
Education Teachers, Postsecondary	Electrical Engineers	Electricians
Embalmers	Emergency Medical Technicians and Paramedics	Energy Brokers
Epidemiologists	Equal Opportunity Representatives and Officers	Etchers and Engravers
Exercise Physiologists	Fabric and Apparel Patternmakers	Fallers
Family and General Practitioners	Fashion Designers	File Clerks
Film and Video Editors	Financial Analysts	Fine Artists, Including Painters, Sculptors, and Illustrators
Fire Inspectors	Fire Investigators	Fish and Game Wardens

Fitness and Wellness Coordinators	Fitness Trainers and Aerobics Instructors	Flight Attendants
Floral Designers	Food Preparation Workers	Fraud Examiners, Investigators and Analysts
Fundraisers	Funeral Attendants	Gem and Diamond Workers
Geneticists	Geographers	Glaziers
Government Property Inspectors and Investigators	Graphic Designers	Hairdressers, Hairstylists, and Cosmetologists
Hazardous Materials Removal Workers	Healthcare Social Workers	Hearing Aid Specialists
Historians	Home Appliance Repairers	Home Health Aides
Hospitalists	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	Hotel, Motel, and Resort Desk Clerks

Human Resources Managers	Hunters and Trappers	Hydrologists
Immigration and Customs Inspectors	Insurance Appraisers, Auto Damage	Intelligence Analysts
Interior Designers	Interpreters and Translators	Investment Fund Managers
Janitors and Cleaners	Jewelers	Judges, Magistrate Judges, and Magistrates
Judicial Law Clerks	Kindergarten Teachers, Except Special Education	Landscape Architects
Laundry and Dry-Cleaning Workers	Law Teachers, Postsecondary	Lawyers
Legal Secretaries	Legislators	Librarians
Loan Counselors	Loan Officers	Locker Room, Coatroom, and Dressing Room Attendants

Locksmiths and Safe Repairers	Lodging Managers	Magnetic Resonance Imaging Technologists
Maids and Housekeeping Cleaners	Makeup Artists, Theatrical and Performance	Manicurists and Pedicurists
Market Research Analysts and Marketing Specialists	Marriage and Family Therapists	Massage Therapists
Mates- Ship, Boat, and Barge	Mathematicians	Meat, Poultry, and Fish Cutters and Trimmers
Mechanical Engineers	Medical Assistants	Meeting, Convention, and Event Planners
Mental Health Counselors	Microbiologists	Midwives
Models	Molecular and Cellular Biologists	Morticians, Undertakers, and Funeral Directors
Multimedia Artists and Animators	Museum Technicians and Conservators	Music Composers and Arrangers

Music Directors	Music Therapists	Musicians, Instrumental
Nannies	Neurologists	Nuclear Engineers
Nursery and Greenhouse Managers	Obstetricians and Gynecologists	Occupational Therapists
Online Merchants	Optometrists	Oral and Maxillofacial Surgeons
Orderlies	Packers and Packagers, Hand	Paralegals and Legal Assistants
Park Naturalists	Parking Lot Attendants	Parts Salespersons
Pathologists	Patient Representatives	Personal Care Aides
Pest Control Workers	Pharmacists	Pharmacy Aides

Pharmacy Technicians	Photographers	Physical Therapist Assistants
Physical Therapists	Pilots, Ship	Plumbers
Poets, Lyricists, and Creative Writers	Police Detectives	Postal Service Clerks
Postal Service Mail Carriers	Postmasters and Mail Superintendents	Potters, Manufacturing
Precious Metal Workers	Private Detectives and Investigators	Probation Officers and Correctional Treatment Specialists
Psychiatrists	Quality Control Analysts	Radiation Therapists
Radio and Television Announcers	Rail Car Repairers	Real Estate Brokers
Real Estate Sales Agents	Recycling Coordinators	Registered Nurses

Rehabilitation Counselors	Reporters and Correspondents	Retail Salespersons
Risk Management Specialists	Roofers	School Psychologists
Securities and Commodities Traders	Security and Fire Alarm Systems Installers	Security Guards
Set and Exhibit Designers	Sewing Machine Operators	Shampooers
Sheet Metal Workers	Sheriffs and Deputy Sheriffs	Ship and Boat Captains
Shoe and Leather Workers and Repairers	Singers	Skincare Specialists
Slaughterers and Meat Packers	Sociologists	Software Developers, Systems Software
Spa Managers	Statisticians	Stonemasons

Storage and Distribution Managers	Supply Chain Managers	Surgeons
Surgical Technologists	Surveyors	Tailors, Dressmakers, and Custom Sewers
Talent Directors	Tax Preparers	Taxi Drivers and Chauffeurs
Teacher Assistants	Technical Writers	Telemarketers
Tellers	Tile and Marble Setters	Title Examiners, Abstractors, and Searchers
Tour Guides and Escorts	Training and Development Managers	Travel Agents
Travel Guides	Treasurers and Controllers	Tree Trimmers and Pruners
Tutors	Umpires, Referees, and Other Sports Officials	Urologists

Ushers, Lobby Attendants, and Ticket Takers	Veterinarians	Veterinary Assistants and Laboratory Animal Caretakers
Video Game Designers	Waiters and Waitresses	Water/Wastewater Engineers
Web Developers	Welders, Cutters, and Welder Fitters	Woodworkers, All Other
Word Processors and Typists	Writers and Authors	Zoologists and Wildlife Biologists

APPENDIX F: DEMOGRAPHICS QUESTIONNAIRE



Perceptions of Student-Athletes Demographic Information

Name (print): _____

University ID number: _____
(middle 9 digits)

NetID: _____

Age: _____

Gender: male female non-binary _____

Year in School: freshman sophomore junior senior other _____

Major Program of Study: _____

Current GPA: _____

Ethnic/cultural identity: African American Asian American Hispanic American

Native American White/European American

Other (please specify): _____

Athlete Status: Are you now/previously have been a college/university student-athlete?

Yes No

APPENDIX I: INFORMED CONSENT

Title of Study: Perceptions of Student-Athletes

Investigators: Nathan Barker, B.S.

Patrick Armstrong, Ph.D.

This is a research study being conducted by the Identity Development Laboratory, Department of Psychology, Iowa State University. Please take your time in deciding if you would like to participate. Please feel free to ask questions at any time. As indicated in your course syllabus, participation in experiments is one option for earning experimental credit.

INTRODUCTION

The purpose of this study is to learn more about people's perceptions of what jobs they feel are appropriate for student-athletes. You are being invited to participate in this study because you are currently enrolled as a student at Iowa State University.

DESCRIPTION OF PROCEDURES

If you agree to participate in this study, your total participation will last for 60 minutes or less. If you agree to participate, you will be asked to complete a demographic questionnaire, a card-sorting activity, and a free-writing activity. You will receive two SONA credits for completing all parts of this study.

RISKS

While participating in this study you may experience the following risks: There are no known physical, legal, pain, or privacy risks in this study. This study may be inconvenient due to the estimated 60 minutes or less needed to complete the activities.

BENEFITS

Participation in this study may not lead to any direct benefits to you personally. It is hoped that the information gained in this study will benefit society by contributing to the understanding of what jobs people think are appropriate for student-athletes.

COSTS AND COMPENSATION

You will not have any costs associated with participation in this study. You will receive two SONA research credits as compensation for your time to complete the card-sorting and free-writing activity.

PARTICIPANT RIGHTS

Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time.

If you decide not to participate in the study or leave the study early, it will not result in any penalty or loss of benefits to which you are otherwise entitled. To earn research credits for your course, there are alternatives to completing this study that are described in your course syllabus.

CONFIDENTIALITY

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies, auditing departments of Iowa State University, and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information.

To ensure confidentiality to the extent permitted by law, the following measures will be taken. Participants will be assigned a unique code. Participant's name and student number will be removed once this code is assigned and data has been entered. Only the faculty member, graduate assistants, and undergraduate research assistants on this project will have access to the data. The data will be stored in locked offices and labs. Raw data will be stored for five years after the results are published and then will be destroyed. Your individual answers will be combined with those obtained from other participants and reported as a group. If the results are published, your identity will remain confidential.

QUESTIONS OR PROBLEMS

You are encouraged to ask questions at any time during this study.

- For further information about your participation in the study, contact Patrick Armstrong, Ph.D., at 515-294-8788, pia@iastate.edu
- If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, 515-294-4566, IRB@iastate.edu, or Director, 515-294-3115, Office for Responsible Research, Iowa State University, Ames, Iowa 50011.

PARTICIPANT SIGNATURE

Your signature indicates that you voluntarily agree to participate in this study, that the study has been explained to you, that you have been given the time to read the document, and that your questions have been satisfactorily answered. All personal information will be kept confidential. You will receive a copy of the written informed consent prior to your participation in the study.

Participant's Name (printed): _____

Participant's Student Number: _____

Participant's Signature: _____ Date: _____