2015

Overprivileged, self-absorbed, dumb jocks: exploration of stereotypes of student-athletes

Caitlin Caprice Anderson
Iowa State University

Overprivileged, self-absorbed, dumb jocks: Exploration of stereotypes of student-athletes

by

Caitlin Caprice Anderson

A thesis submitted to the graduate faculty

in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

Major: Psychology

Program of Study Committee:
Patrick Armstrong, Major Professor
Lisa Larson
Daniel Russell

Iowa State University

Ames, Iowa

2015

TABLE OF CONTENTS

ABSTRACT

In this study, lists of traits typically associated with several groups of students were created using empirically supported methods. Specifically, these traits were grouped into a taxonomy based on the extent to which they were classified as being stereotypical for male student-athletes, female student-athletes, male non-athlete students, female non-athlete students, masculine individuals, feminine individuals, athletes, and non-athletes. The purpose behind this study was to create lists of stereotypes associated with the above categories to address the methodological limitations of measures used previous research in sport psychology stereotypes. Results obtained using intraclass correlation measures of interrater agreement, chi-square and proportion analyses of forced-choice card sort data, and reliability analyses of stereotype ratings indicated support for a stereotype taxonomy encompassing each of these distinct groups. Additionally, the psychometrically based methods used in this study could provide a template for categorizing trait-adjectives about specific groups in more reliable and valid ways in many areas of psychology. The information from this specific study may be useful for future studies when determining applicable stereotypes to use for stereotype threat, perceptions of student-athletes, and perceptions of personality.

CHAPTER 1: INTRODUCTION

Stereotypes have been studied in many areas of psychology. Research regarding stereotype activation, stereotype use, and stereotype influence has been around for decades in areas such as social psychology (e.g., Bargh, 1992; Bellezza & Bower, 1981; Devine, 1989), cognitive psychology (e.g., Gilbert & Hixon, 1991; Macare, Milne, & Bodenhausen, 1994), counseling psychology (e.g., Hansen & Wänke, 2009; Sibicky & Dovidio, 1986), and marketing psychology (e.g., Babin, Boles, & Darde, 1995; Stafford, Leigh, & Martin, 1995). Although stereotype research is established in a number of areas, there is substantial variability in the methodological sophistication being used by investigators. In particular, researchers interested in stereotypes of student-athletes have generally not developed empirical measures of student-athlete stereotypes systematically, instead using ad-hoc scales with questionable psychometric properties. This discrepancy between empirical support and types of research questions needs to be addressed within the student-athlete stereotype literature. Naturally, if researchers continue to use stereotype measures with limited validity, the results of their studies will be called into question. It is therefore imperative to develop more psychometrically robust measures of student-athlete stereotypes exist before moving on to more specific questions. The primary objective of this proposed research is to develop measures of student-athlete stereotypes with improved psychometric properties.

Stereotype measures have been used to examine a number of issues related to student-athletes. Attitudes towards, and beliefs about, student-athletes (e.g., Basow & Spinner, 1984; Baucom & Lantz, 2001; Engstrom & Sedlacek, 1991; Grove & Paccagnella, 1995; Harahousou-Kabitsi & Kabitsis, 1995; Michael, Gilroy, & Shaman, 1984; Schneider,

2001), or the perceived differences between student-athletes and non-athlete students (e.g., Atkins, Morse, & Zweigenhaft, 1978; Grove & Paccagnella, 1995; Harris & Hall, 1978; Harris & Ramsey, 1974; Johnson, Hallinan, & Westerfield, 1992); McMartin & Klay, 1983; Pedersen, 1997; Sailes, 1993; Stone, Perry, & Darley, 1997) are often examined in this research, though the most recent article is from 2001. The role of stereotypes in the academic adjustment of student-athletes is also frequently examined, both in terms of the attitudes and beliefs of university personnel (Cockley & Roswal, 1994; Burgess, 2006; Holland, 2009; Knapp, Rasmussen, & Barhart, 2001; Lawrence, 2009; Lawrence, Hendricks, & Ott, 2007; Lawrence & Ott, 2013; Nanney, 2008; Williams & Pennington, 2006; Wulfsberg, 1989) and self-perceptions (Leonard, 1986; Lewis, 1988; Potuto & O'Hanlon, 2007; Simons, Bosworth, Fujita, & Jensen, 2007; Walters, O'Donnell, & Wardlow, 2009).

Within the different studies related to stereotypes and attributes of student-athletes, an interesting pattern emerges. Out of six studies measuring self-reported traits of student-athletes, five used well-developed psychological measurements (e.g., Bem Sex Role Inventory, 1974; Attitudes toward Women Scale, 1973; Self Perception Profile for College Students, 1986; Coping Inventory for Stressful Situation, 2004; Revised Health Hardiness Inventory, 2001; Emotional Intelligence Inventory, 1997; Locus of Control Scale, 1966; Mental Health Continuum, 1992); out of nine studies looking at measuring other-reported traits or stereotypes, only one used well-developed psychological measurement (Self-Attributes Questionnaire, 1989). This difference is of interest because it highlights one of the biggest problems within the student-athlete stereotype research: no understanding of underlying theoretical principles associated with stereotypes of student-athletes results in

a lack of valid and reliable psychological measures to choose from, which results in potentially misleading findings and conclusions.

Few studies empirically test the accuracy of student-athlete stereotypes, and the ones that do have mixed results; for example, some researchers found that narcissism in football players is higher than the rest of the student body, including other student-athletes (Elman & McKelvie, 2003); others found no significant differences in social adjustment between student-athletes and non-athlete students (Carter & Shannon, 1940). Others found mixed results within the construct of "intelligence," with some indicating a significant difference in intelligence (e.g. Baucom & Lantz, 2001; Comeaux, 2010; Engstrom & Sedlacek, 1991; Engstrom, Sedlacek, & McEwen, 1995) and others claiming no difference between student-athletes and non-athlete students (e.g. Curry & Rehm, 1997; Harris & Hall, 1974; Lewis, 1988; McMartin & Klay, 1983). Given the clear discrepancy of the aforementioned studies, it is apparent that key questions regarding valid and reliable taxonomy of stereotypes of student-athletes need to be addressed. While other areas of stereotype research have been based in the presence of empirically-supported stereotypes (e.g., women aren't as good as men at math; Spencer, Steele, & Quinn, 1999), research on student-athletes has not consistently shown empirically supported, reliable, or valid stereotypes. As such, the present study proposes creating reliable and valid student-athlete trait taxonomy through rigorous methodological testing with clear theoretical support.

CHAPTER 2: LITERATURE REVIEW

Overview

This chapter will begin by defining stereotypes, as well as outlining previous stereotype research. Then, it will explore previous methodologies for developing a standardized taxonomy of stereotypes. From there, the chapter will then discuss various stereotypes present in sport psychology research, as well as other aspects of student-athletes that are considered important to study, such as personality traits. Finally, conclusions regarding the literature review will be summarized before introducing the proposal for the current study.

Stereotype Definitions

Across various areas of research, consistent definitions of stereotypes may be difficult to attain, though most recent researchers agree that stereotype valence can include positive, negative, or neutral aspects (e.g., Myers, 2010; McCabe & Brannon, 2004; Sue & Sue, 2013). Stereotypes may be described as desirable (e.g., Asians are good at math), but they tend to place undesirable negative ramifications upon individuals, because they put unfair expectations on individuals (Cox, Abramson, Devine & Hollon, 2012). An additional way to describe stereotype valence comes from Cuddy et al. (2009). They found that a two-dimensional approach to stereotype descriptions captured many stereotypes about different groups of people. The concept of *warmth* was shown by a group of people being viewed as friendly, good-natured, sincere, and warm. This was rated as either high or low. The other dimension, *competence* was shown by being viewed as capable, competent, confident, and skillful. The authors proposed that every group of people fell along some continuum of both dimensions. For example, homeless individuals were seen as low

warmth and low competence, while middle class individuals were seen as high warmth and high competence. These two concepts provide an additional means to describe potential stereotype activations within the present study sample.

The definition of what constitutes a stereotype is partially dependent upon the nature of the research being conducted. For example, McGarty, Yzerbyt, and Spears (2002), social psychology researchers, stated "stereotypes are relatively enduring systems of interrelated concepts that inform perceptions of members of certain groups." (p. 7) In comparison, depression researchers Cox, Abramson, Devine, and Hollon (2012) stated stereotypes could be "almost any thought that oversimplifies a person or group." (p. 429) However, several guiding principles are present regardless of the kind of stereotype research being conducted. McGarty, Yzerbyt, and Spears (2002) have proposed three underlying structural components of stereotypes, which they refer to as guiding principles. First, stereotypes are automatic; second, they are efficient; and third, stereotypes are shared group beliefs.

Stereotypes as automatic processes. Researchers tend to agree that stereotypes are automatic processes designed as heuristics for attitude formation (e.g., Bargh, 1992; Cox, Abramson, Devine & Hollon, 2012; Devine, 1989; Fehr, Sassenberg, & Jonas, 2012; McGarty, Yzerbyt, & Spears, 2002; Myers, 2010). One of the most highly cited papers on stereotypes and prejudice states that stereotype activation can be thought of as an automatic process, while stereotype application can be more controlled (Devine, 1989). Several studies on social categorization suggest that stereotypes begin by differentiating between groups of individuals, a process that tends to be bottom-up, and proceed to

integration of automatically acquired knowledge about the group (e.g., McGarty, Yzerbyt, & Spears, 2002; Tajfel, 1974).

This does not mean that stereotypes are solely automatic. The activation of stereotypes appears to be well supported as an automatic process, but application may not be. Devine (1989) found that individuals who self-reported as being low in prejudice rated racial stereotypes less harshly than individuals who self-reported as being high in prejudice. She asserted this was evidence for the controlled aspect of stereotypes. However, as the present study is not interested in application, automatic activation of stereotypes will be the focus.

Bargh, Chen, and Burrows (1996) listed many aspects of person construal that are automatic processes. For example, attitudes become activated automatically with the mere presence of the attitude object, which is where bottom-up processing occurs. Bargh, Chen, and Burrows (1996) also discussed how self-concept becomes automatically active in the presence of self-relevant stimuli. The concept of automaticity is imperative to stereotype definitions because stereotype activation is difficult, or impossible, to control. In other words, part of what makes a stereotype a stereotype is its capacity to be triggered in the presence of stimuli associated with the stereotype, irrespective of the preferences of the individual who is presented with the stimuli. For example, an individual may be in favor of equal employment opportunities for men and women, but when presented with stimuli associated with engineers and nurses may still associate these careers with men and women, respectively. Similarly, being in the presence of someone who looks like a football player may automatically activate stereotypes associated with football players, which in the case of student-athletes, may have implications for their academic experiences.

Stereotypes and cognitive efficiency. Stereotypes are seen as aiding explanations of an individual's world by saving time and effort (McGarty, Yzerbyt, & Spears, 2002). If everyone attempted to attend to every stimulus that they encounter in their daily lives, there would be an overwhelming amount of information. As such, our brains perform heuristics to help us dig through the less important information and arrive at less effortful conclusions. People use stereotypes to help inform them about groups of people without compromising time and energy to think of how to perceive this one specific person in this one specific instance (e.g., Cox, Abramson, Devine, & Hollon, 2012; Hertel & Mathews, 2011). These shortcuts tend to lead to less accurate assumptions about the group of people, though some researchers don't believe that accuracy has anything to do with the definition of stereotypes (Judd & Park, 1993).

Originally, some studies defined stereotypes as inaccurate assumptions made about groups of people (La Piere, 1936). One of the first researchers to examine the accuracy of stereotypes, La Piere was interested in majority-group perceptions of minority workers in terms of credit ratings, finding the stereotype that Armenian workers were relatively dishonest to be inaccurate and not representative of the population. More recent studies have looked at stereotypes being both accurate and inaccurate representations. Hřebíčková and Graf (2014) found that while most stereotypes people have about European nations are inaccurate, some other-reported traits coincide with self-reported traits individuals of the cultural group possess. These results suggest that although most stereotypes are overgeneralizations, some stereotypes can serve as effective, and cognitively efficient, generalizations. For example, assuming that an automotive mechanic is male would be correct more than 90% of the time (Gabriel & Schmitz, 2007).

The notion that stereotypes serve as cognitively efficient short-cuts will not be the focus of the proposed research. However, the underlying assumption that stereotypes represent either generalizations or over-generalizations of the characteristics of the stereotyped group does serve as a foundation for the development of a student-athlete stereotype taxonomy. The accuracy of these stereotypes will not be the focus of the current investigation, as the proposed study instead attempts to develop a more empirically robust measure of student-athlete stereotypes. As such, the potentially interesting issues of stereotype accuracy, or changing the stereotypes about student-athletes, will not be examined. However, it should be noted that having a more comprehensive and psychometrically robust measure of student-athlete stereotypes might facilitate future research on these issues.

Stereotypes as shared group beliefs. This guiding principle is of prominent importance to the present study, as it is concerned with global stereotypes. In particular, to achieve the status of 'stereotype,' an attitude towards or perceptions of student-athletes must be generally agreed upon by the larger population of students, irrespective of the extent to which individual students personally agree with the stereotype. For example, Devine (1989) found that regardless of whether participants had high or low prejudice ratings, they all endorsed similar stereotypes of specific ethnic groups. In other words, individuals were able to agree on the nature of stereotypes associated with different groups irrespective of their personal beliefs about the accuracy of the stereotypes. The only difference between the groups was that low prejudiced individuals were less likely to endorse global stereotype statements about Blacks (e.g., Blacks are free-loaders) than high prejudiced individuals.

McGarty, Yzerbyt, and Spears (2002) stated that these cultural stereotypes are produced from a pool of knowledge, social representations, and ideology from which different people sample. As is shown through mutual social influence, people systematically become more similar to one another if they are part of the same social group, resulting in cultural stereotypes. Additionally, they discuss the ties between efficiency and shared beliefs, stating that stereotypes help people understand and predict behavior of group members. It is efficient for groups to have stereotypes about other groups so that prediction can be more quickly attained.

Wheeler and Petty (2001) posit that different types of stereotypes may operate on different systems, even though the stereotypes may be the same. For example, stereotypes students, faculty, and staff have about student-athletes (other-stereotypes) seem to operate on a different system than stereotypes student-athletes have about themselves (self-stereotypes). This is evidenced by the differentiation between behavior outcomes of stereotypes. Specifically, the ideomotor mechanism (other-stereotypes) posits that when a stereotype reaches a certain intensity level, behavior consistent with that stereotype will follow without conscious thought. Stereotype threat (self-stereotypes) is a similar concept but impacts automatic behavior of the individuals the stereotype is about. For example, if the group stereotype is that student-athletes are less intelligent than non-athlete students, professors may "dumb down" material, give extensions for student-athletes, or give them worse grades depending on their feelings and intensity of the stereotype. On the other hand, student-athletes made aware of this stereotype will perform worse in academic settings (e.g. Stone, Harrison & Mottley, 2012; Yopyk & Prentice, 2001). As the specific mechanism determining the behavior (or application) of the stereotype is not important in

the current study, participants of any background should not impact the results. The culture of college will result in similar stereotypes about student-athletes regardless of the current group membership.

Development of Stereotype Measures and Taxonomies

Effective Practices for Developing Stereotype Measures. Several psychometric issues need to be considered when developing a stereotype measure. First, basics of validly and reliability need to be addressed (e.g., McDonald, 1999; Nunnally & Bernstein, 1994). Validity, in particular is an important consideration, because if a scale doesn't measure the stereotypes it purports to measure, and/or it doesn't measure those stereotypes accurately, it becomes difficult to justify using the scale. More specifically, measures of stereotypes require strong construct validity and content validity to add value to the research literature. In order to have strong construct validity, operationalization of the construct (i.e., student-athletes are not as intelligent as non-athlete students) need to actually measure what they should measure based on the theories supporting the operationalization. Strong content validity is seen by including all aspects of a domain into the operationalization of the construct. In particular, previous research on student-athlete stereotypes does not have strong content validity due to the limited scope of the operational definitions used by investigators. Therefore, one purpose of the present study is to increase content validity by empirically testing the content domain to create a more accurate and valid representation of student-athlete stereotypes.

Along with validity, it is also important to examine reliability when developing a stereotype measure, as is the case with any self-report measure of a psychological construct (McDonald, 1999). Many types of reliability may be used, but at least one should

be identified to determine the replicability of stereotype measures. Test-retest reliability could be used to determine similarity of trait ratings over time; parallel-forms could be used to determine how similar findings could be if related questions of student-athlete traits are asked different ways; and internal consistency measures could be used to determine how similarly raters agree to different traits applying to student-athletes. A good stereotype measure uses both validity and reliability tests to verify the accuracy and consistency of the scale being used. Unfortunately for student-athlete stereotype research, very few studies include both.

Methodologically Sound Stereotypes: An Example. Stephan et al. (1993) used several methods to develop a stereotype taxonomy for stereotypes of Americans and stereotypes of Russians. First, students from an American university and a Russian university were interviewed as one source of trait adjectives of stereotypes of Americans and Russians. Both groups were asked to give traits and stereotypes about the other group, as well as themselves. Additional traits were taken from previous studies of stereotypes of Russians, while the American list did not need additional traits. This resulted in 72 traits for Americans and 70 traits for Russians. These adjectives were placed on a list to be checked off by participants as most applicable to the individuals they were stereotyping. The frequency of the stereotypes was taken into account in order to determine the strength of the trait adjective.

Part two of the study used different students from America and Russia. Adjectives that were chosen most frequently from the first part of the study were included in this part. In total, the list reduced from 72 to 38 for Americans using the checklist method, while the

Russian list decreased from 70 to 28. In both groups of individuals, everyone was asked to rate the percentage of Americans and Russians who possessed each trait on the list.

The third part of the study had the same students as part two. They were asked to indicate the percentage of "people in general" who possessed each of the traits listed. Diagnostic ratios were used in this part of the study. For example, the percentage of Americans who possess a certain trait is divided by the percentage of people in general who possess that same trait. This was done for all the traits.

Part four entailed asking different subjects to indicate the degree to which a typical American or Russian possessed each of the traits. This was measured using a nine-point response format ranging from "not at all" to "extremely." Finally, part five used pathfinder software to determine the structure of the stereotypes. Participants used the 10 traits from each stereotype that yielded the highest percentage from part 2. Individuals were asked to determine the degree to which each pair of traits in the stereotypes was related (e.g., the likelihood that a person who was disciplined was also hardworking). Responses were rated on a nine-point scale from "not at all likely" to "extremely likely." Additionally, participants were asked to rate the degree to which each trait was related to the group label.

Results across all five techniques indicated similarities among traits. The overlap between categories for the top 10 traits was very high with part 1 and part 2 at 80 percent. Stephan et al. (1993) stated the similarities between four of the five techniques (with diagnostic ratios not being as similar) were due to them tapping into similar cognitive processes. They go on to explain that stereotype acquisition may be a result of prototype processing, a type of automatic processing related to comparing members of a group to one "prototypical" member.

Methodologically Unsound Stereotypes: The Case of Student-Athletes. Research in the area of student-athlete stereotypes has not yielded any studies going into as much detail as the aforementioned American/Russian trait study. This is mainly due to lack of theoretical background in these studies. Specifically, of the nine studies that looked at other-reported traits, only one (Stone, Perry, and Darley, 1997) had any basis in theory. However, the research question they were looking at did not related to developing stereotype taxonomy. Of the other eight studies, four (Atkins, Morse, & Zewigenhaft, 1978; Harris & Hall, 1978; Harris & Ramsey, 1974; McMartin & Klay, 1983; Pedersen, 1997) measured traits using similar methods proposed in this study (e.g., have participants rate individuals on traits using variants of "very similar" to "very dissimilar"), but were measuring using bi-polar anchors. These studies operated under the assumption that someone can either possess the trait or not possess the trait, instead of having the ability to possess both (e.g., the color black being both a masculine and feminine color). Researchers in these studies also have no sound theoretical support for their decisions regarding which traits to include in their measures, nor do they provide enough information for someone to retest their methodology. This is more evidence as to why the present study is important for researchers; the validity and reliability of their findings can be called into question quite readily when there is no theoretical basis. The present study will work to remedy this problem by using sound statistical, methodological, and theoretical underpinnings to support conclusions of stereotypes of student-athletes.

Stereotype Activation

Stereotype acquisition, activation, and application tap into the same construct at different points in time; acquisition relates to how stereotypes are formed (the beginning);

activation relates to how stereotypes are triggered (the middle); and application relates to how stereotypes are applied (the end). For the purpose of the current study, acquisition and application do not matter. We are not trying to determine how stereotypes of student-athletes are formed, nor are we trying to understand consequences of applying those stereotypes.

For the purposes of the current proposal, stereotypes will be defined as preconceptions society holds about people who are members of a particular group. This broad definition is meant to encompass positive, negative, and neutral stereotypes associated with student-athletes, as opposed to just one valence type. The reason why we are looking at society is that individual differences don't play a factor in the current study. We are not looking at the difference in stereotypes between individuals; we are looking at the overarching societal stereotypes associated with student-athletes from a Midwestern university culture. This is one of the large problems with previous research, as they are looking at individual differences without taking into account that no one has empirically tested what stereotypes exist at a cultural level. Within this study, "stereotypes" may be used interchangeably with "traits," as traits are the basis of our particular study.

Spreading Activation Theory of Stereotypes. One of the most cited theories for attitude retrieval is titled spreading activation theory. This theory, published in 1962 by Quillian and later revamped by Collins and Loftus (1975), can be applied to many areas of processing, such as memory retrieval, learning, and stereotypes. The original applications of this theory were semantic, meaning word-based. Previous research has shown that stereotypes can be thought of as being in both episodic and semantic memory (Sherman & Bessenoff, 1999). Stereotype application uses episodic memory, which is useful for making

judgments about a stereotyped group. Prudent to the present study is that stereotype activation uses semantic memory to pull abstract structures about a group of people, but does not use the same application processes as episodic memory.

Breaking down the specifics of this theory, activation spreading is the assumption that once a concept node is activated (i.e. thought about; experienced), the search in memory for some related concept spreads from the original node of activation. In terms of the current study, the related concept is a stereotype, but it can be almost anything. A concept node is the representation of a concept in a network of other concepts. Concept nodes have connections between them, and their strength is dependent on how close the individual interprets the connections to be (see Figure 1). For example, the connection between "red" and "strawberry" will be stronger for individuals who have experienced a strawberry than individuals who haven't. Connections can also have different criterialities, which are numbers indicating how essential each link is to the meaning of the concept (Collins & Loftus, 1975).

In order to determine where a memory search needs to stop, concept nodes need to operate in parallel and serial. The original quick search begins with at least one concept node activating all the nodes it is linked to, and all those nodes activating their links. When each node is reached, an activation tag is left that specifies the starting node and the one immediately before it. When a tag from another starting node is encountered, an intersection between them is flagged. Once an intersection has been found, it needs to be evaluated to determine if it is the concept the stimuli meant to elicit. This is where the slower, serial processing occurs. Once an intersection has been deemed satisfactory, the memory search terminates.

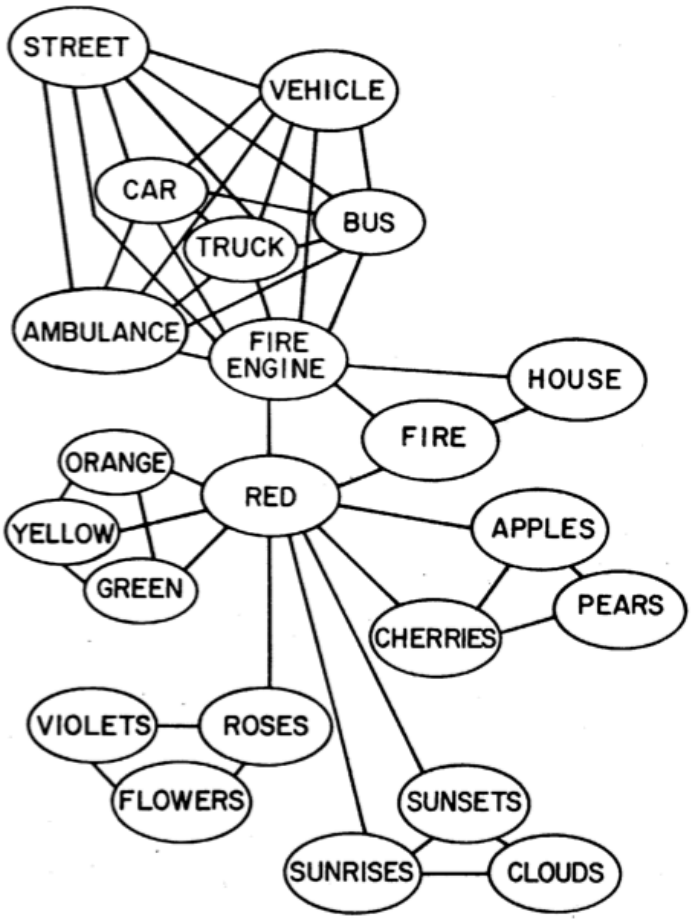


Figure 1. Spreading activation example, with red being the original concept node. From Collins and Loftus (1975).

Researchers have applied the theory of spreading activation to stereotypes for many years. For example, several authors have shown that the interpretation of a person is dependent on the activation of stereotypes (e.g., Duncan, 1976; Kunda & Thagard, 1996; Sagar & Schofield, 1980). Specifically, Kunda and Thagard (1996) found that when an individual is elbowed by a White person, the act of being elbowed is interpreted as jovial. However, when an individual is elbowed by a Black person, the same act is interpreted as a violent push. The theory of spreading activation posits that beliefs, traits, and stereotypes can be represented as nodes, while the impression itself is formed via the interplay of those

nodes. Figure 2 shows an illustration of how stereotypes affect the meaning of behavior. Boxes are nodes, while positive symbols indicate excitatory connections, and negative symbols indicate inhibitory connections. The stereotype that Black individuals are more aggressive than White individuals is indicated by a line connecting Black to Aggressive, but not White to Aggressive.

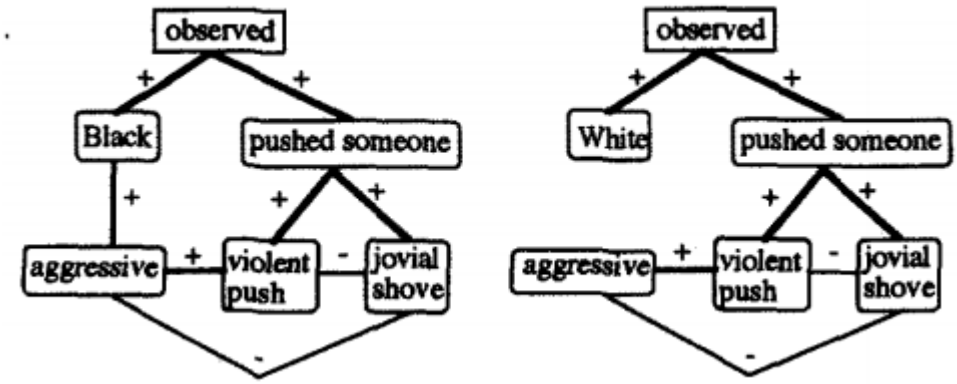


Figure 2. Spreading activation theory of impression formation. From Kunda and Thagard, (1996).

Along a similar line, Duncan (1976) told participants they would be rating interpersonal behavior of two "participants" (really confederates). The participant would be taken into a room to watch the interactions between the confederates on a closed-circuit television. The confederates read off a pre-determined script wherein one person was a harm-doer and the other was the victim. The participant was told to rate the interactions as "playing around," "dramatizes," "aggressive behavior," or "violent behavior." The two confederates were either both Black, both White, one Black harm-doer and one White victim, or one White harm-doer and one Black victim. It should be noted that all participants in this study were White, which makes generalizability of the results to all ethnic/racial backgrounds challenging. Results indicated that when the Black confederate

was the harm-doer, regardless of who was the victim, their behavior was rated as more aggressive and violent than if the White confederate was the harm-doer. Again, this is evidence of the spreading activation theory of stereotype activation, as Blacks are associated with more violent behavior than Whites. The node "race" inhibits the association between Whites and aggression, resulting in less behavioral ratings of aggression when compared to behavioral ratings for Blacks.

More support for the spreading activation theory of stereotype activation comes from Sagar and Schofield (1980). The authors had Black and White children listen to an interaction between students, and look at the faces of the individuals they were to later rate. Two individuals were part of the verbal interaction; one was the target of an act (or a victim in terms of Duncan, 1976), and the other was the actor (or a harm-doer in Duncan, 1976). Participants were asked to rate behavioral interactions on how well they described the actor's behavior as playful, friendly, mean, or threatening. Results indicated, regardless of the race of the target, and the race of the participant, Black actors were perceived as meaner and more threatening than White actors performing the same action.

Dynamic Interactive Theory of Person Construal. A theoretical model that builds on spreading activation theory is Freeman and Ambady's 2011b Dynamic Interactive Theory of Person Construal. As illustrated in Figure 3, this theory captures the important aspects of how different cues can have an influence on the type of stereotype activated. The "dynamic" concept in the dynamic interactive theory of person construal taps into several processes. First, top-down and bottom-up processes are discussed. Freeman and Ambady (2011b) posit that prior knowledge and expectations about people, stereotypes, and affective and motivational states (all top-down processes) may dynamically interact

with sensory information (bottom-up processing). The authors also suggest that stereotypes are activated over a period of time rather than instantaneously. Freeman and Ambady describe this process in three factors: first, if the node has been previously activated, stereotype activation will be faster; second, the longer it has been since the node has been activated, the more likely the activation has decayed; and finally, the influence of an input on a node is dependent on the excitation and inhibition of previous nodes.

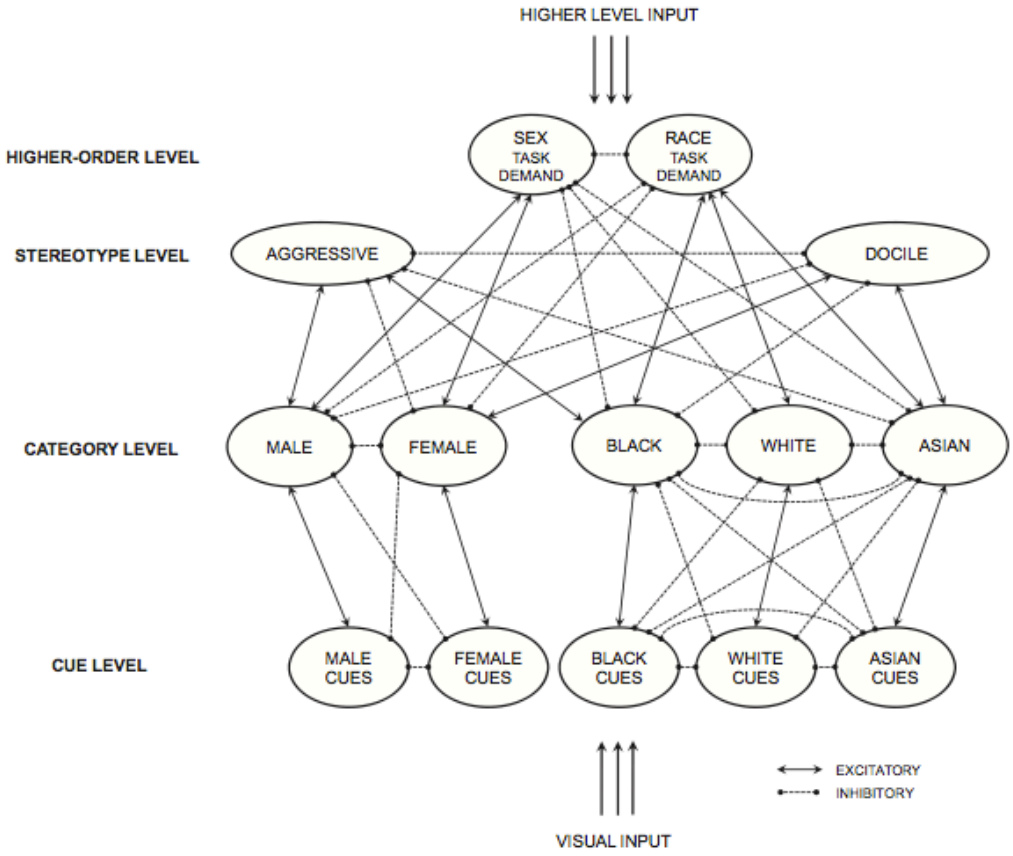


Figure 3. Dynamic interactive theory of person construal example. From Freeman and Ambady, 2011b.

The dynamic interactive model of personal construal outlines several levels of processing, with stereotypes forming one level of this system. First is the cue level, wherein information about the person's appearance and voice activate thoughts about who they are.

The information gathered using this method is solely due to bottom-up processing. Bottom-up refers to the integration of the most basic stimuli into attitude formation in parallel, meaning at the same time. This processing is fast, by all measures automatic, which results in gaps in perception. The visual and auditory inputs of bottom-up processing are not required for the model to explain stereotype activation, but they are an aspect specific to certain interactions. For example, activation can occur by simply reading a story about a person. That would require the next level of processing outlined by the model.

This next level is called the category level. These categories can be anything that describes an individual (e.g., sex, social class, ethnicity, occupation), including dynamic categories (e.g., emotion). Each pool, as the authors call them, consists of concept nodes. Sex would have the concept nodes of male and female, occupation could include psychologist, doctor, teacher, etc. The category nodes compete with one another through mutual inhibition. This means that if the node for "male" is activated, the node for "female" is inhibited. Category nodes get their information from cue nodes, and vice versa. Similarly, category nodes interact with stereotype nodes, and vice versa. This is highly important for the current study, as bi-directionality between stereotypes, categories, and cues is an essential assumption for testing several of this study's hypotheses.

The next level of the system consists of stereotypes. This level contains all category-related stereotypes; nodes in this level can mutually inhibit or mutually excite one another. For example, Happy and Joyful would mutually excite one another, but Happy and Angry would mutually inhibit each other. Stereotype nodes give and receive information to and from all other parts of the system, including the next level, higher-order processing. Higher-order nodes can be any higher-level cognitive state as defined by top-down processing.

Examples from the authors include prejudice, goals, and task demands. Certain nodes may inhibit or excite other area nodes. For example, during a sex categorization task, nodes representing race would be inhibited because they are not important to the task at hand.

Figure 3 shows the general concept of this theory. As shown in previous studies on race stereotypes, the cue of "race" will elicit different stereotypes depending on the specific race activated. The cue can be produced via auditory or visual stimuli (e.g., seeing or hearing a person of color), was well as by reading a statement providing someone with the information. From there, other aspects about the person (e.g., sex) are added to the internal heuristic, which will help the person be even more specific about their elicited stereotype. These categories regarding the person can be all-encompassing, and the more information is gathered about a person, the more specific a stereotype can become. Stereotypes are accessed once more category-level cognitions are obtained. These stereotypes are then reassessed periodically via higher-level cognitive states.

For the purposes of the present study, one cue level input was reading the title of the individual who was being assessed. In this case, the individual was a student-athlete or a non-athlete student. As stated above, even reading about a cue can impact the next level of the model. Other aspects of the target individual were described, such as sex, to add to the category level of the model. From there, automatic processes occurred for the participants, such that specific stereotypes about this particular student-athlete were excited (e.g., aggressive) while others were inhibited (e.g., intelligent). The category level concepts can be combined to create new or stronger stereotype associations (e.g., women student-athletes are seen as more masculine than women non-athlete students; Atkins, Morse, & Zewigenhaft, 1978). These compounded level concepts are continually updated as

new terminology and information are activated via both higher-level input and additional bottom-up information: as more information is spreading from the original information about the target, stereotypes are constantly monitored for accuracy and applicability.

Freeman and Ambady (2011b) presented a review of a couple studies they have done, and applied them to this upgraded spreading activation model. Similar methods and hypotheses were presented in both studies. In the first study, Freeman and Ambady (2009) showed participants pictures of White faces that were slightly masculine or slightly feminine on a computer. The faces were either male or female depending on the trial. Trait adjectives were presented at the top left and right corners of the screen, and were either associated with more femininity (e.g., docile) or masculinity (e.g., aggressive). Participants were instructed to move their mouse over the adjective that best described the face. Results indicated that the more feminine a male face looked, the longer it took participants to move their mouse to the stereotypical masculine trait (e.g., aggressive) than the more masculine face. Similarly, the more masculine a female face looked, the longer it took participants to move their mouse to the stereotypical feminine trait (e.g., docile) than the more feminine face.

Freeman and Ambady (2011b) conclude that this is strong support for their dynamic interactive theory of person construal. They posit that cue nodes inconsistent with each other, such as the male cue and the female cue, compete for the visual input. These cue nodes then places excitatory and inhibitory pressure on category nodes. In the aforementioned study, the highly activated male cue nodes place strong excitatory pressure on the male category node and inhibitory pressure on the female category node. Similar things occur with the category of race, wherein highly activated White cue nodes

place strong excitatory pressure on the White category node and inhibitory pressure on the other race nodes (e.g., Black, Asian). Because the task the participants were asked to do, to characterize the person's face, uses higher-order processes surrounding sex, the sex task demand node places excitatory pressure on the male and female category nodes and inhibitory pressure on race category nodes. Excitatory pressure from both the male cue node and the sex task demand node leads the male category node to become rapidly activated, until gradually setting into a stable state.

Similar to this finding, Freeman & Ambady (2011a) looked at additional cues and their impact on mouse movement. Specifically, participants were shown slightly masculine or slightly feminine faces with an added cue of sex-typical and sex-atypical voices. Participants were instructed to move their mouse over the sex they believed the face represented. Results indicated that on trials with sex-atypical voice cues (e.g., seeing a slightly masculine face and hearing a feminine voice), participants took longer to move their mouse to the word "male," than on trials with sex-typical voice cues (e.g., seeing a slightly masculine face and hearing a masculine voice). This was similar to when participants were presented with a slightly feminine face and sex-atypical voice cues.

In the masculine trials, Freeman and Ambady (2011b) argue that the female category was strongly activated by the atypical voice cue, resulting in dual processing. The face cue and voice cue interact to determine sex categorization by simultaneously weighing in on the dynamic competition inherent to this specific categorization process. They state that this is clear evidence that the dynamic interactive theory of person construal can indeed be applied to processes that are dynamic and interactive.

Stereotypes and Student-Athletes

Assessing and understanding the prevalence of stereotypes for student-athletes has several purposes. First, research has shown that if we know the stereotypes we employ, we can work to reduce their impact upon us. Thought suppression has been shown to actually increase stereotype activation and lead people to attribute behavior in a stereotypic way (e.g., Bodenhausen & Macrae, 1996, as cited in Hilton & Hippel, 1996; Macrae et al., 1994, as cited in Hilton & Hippel, 1996). However, thought suppression research has, in the past, not looked at the underlying motivation behind the suppression. In a more recent study by Fehr, Sassenberg, and Jonas (2012), the motivation to behave nonprejudiced lead to more control over stereotype activation, resulting in a lower likelihood of stereotype application. Therefore, the more we as researchers, academicians, parents, and peers know about the stereotypes that we employ, the better we can reduce the impact those stereotypes have upon us, depending of course on our motivation for change. Future research could look at student-athlete stereotype suppression in faculty members, potentially resulting in nation-wide implementations of training to be less biased toward student-athletes.

Another benefit to understanding specifically student-athlete stereotypes is related to research. As stated previously, other areas of psychology have produced lists of attributes and characteristics individuals possess. For example, one study has traits of Russian students as rated by Russians and Americans (Stephan et al., 1993). Yet within the area of sport psychology, no list of stereotypes exists. As stated previously, researchers appear to have little to no theoretical basis for their hypotheses, and have an ability to take any result and interpret it in a way that supports their initial ideas. In other words, previous researchers have probably inadvertently tapped into some underlying structure

of stereotypes toward student-athletes, (e.g., "dumb jock" stereotype), but this work lacks a sound empirical basis founded on theoretical models of stereotypes. Therefore, the present study seeks to approach stereotype research in a similar fashion as in other areas of methodologically sound literature (e.g., measurement of personality traits). The hypotheses derived for the present study are based on previous research, but are much more interpretable and generalizable than past studies as they lack obvious bias; past studies appear to derive from personal experiences with student-athletes, information they seem to want to find, and biased explanations of findings.

Student-Athletes, not Athlete-Students

Student-athletes encompass a small percentage of the overall student population in colleges and universities. Of the 14.5 million students attending public and private 4-year and 2-year institutions (National Center for Education Statistics, Digest of Education Statistics [as accessed from College Enrollment Statistics], 2013), 420,000 are National College Athletic Association (NCAA) student-athletes (NCAA, 2012). As they are almost 3% of the collegiate population, student-athletes tend to not be studied as rigorously as other members of their institutions. Their "athlete" status may be entered as a covariate to increase control, or prevent them from participating in certain studies. In the grand scheme of all research centering on college students, student-athletes are studied much less. This could be due to their status as an "overprivilaged minority," a term coined by Remer, Tongate, and Watson (1978).

The view held by many in academia of student-athletes is that they are overprivileged in terms of access to university services, connections with others, and the possibility of getting paid to play (e.g., Ahlgren, 2001; Albion & Fogarty, 2005; Hook, 2012;

Remer, Tongate, & Watson, 1978). When looking at the actual reality of their collegiate lives, it tells a much more isolating tale. Student-athletes are restricted in their extracurricular activities; they cannot major in certain areas because class and labs interfere with athletic scheduling; and interpersonal relationships are limited due to the vast hours spent with the team, be it in practice, games, dormitories, eating, getting tutored, etc. (López & Levy, 2010).

Numerous studies have identified discrepancies between athletics and education in the college environment (e.g., Cockley & Roswal, 1994; Wulfsberg, 1989). Relationships between athletic departments and faculty members may be strained due to their differences on what is valuable or important for student-athletes. Studies have continuously found that educational administrators (individuals who have direct teaching contact with student-athletes) value education more than their athletic counterparties (such as coaches), who value athletic abilities such as win-loss records (e.g., Baucon & Lantz, 2001; Holland, 2009; Williams & Pennington, 2006; Wulfsberg 1989). This should not come as a surprise, as each group believes their aspect of the student-athlete experience is most important.

It should be noted that the issues of attitudes towards student-athletes and their fit into the larger academic environment is not a new area of inquiry. For example, Stalnaker (1933) found that athletic favorability differed depending on the group surveyed. He asked 11 groups of people how favorable they believed collegiate athletics to be, and the results are as follows: student-athletes were the most favorable, followed by parents of the athletes, undergraduates, newspaper editors, the general public, alumni, parents of the non-athletes, high school executives, graduate students, faculty, and finally college

presidents. Stalnaker concluded that while the majority of the scores were on the favorable side, the variability within groups was quite large. This was especially true for individuals who were averaged as the least favorable, such that a large portion believed collegiate athletics to be bad, and a large portion believed them to be good. A more recent study produced similar results, with scholastic membership (i.e., faculty member, prospective student, student-athlete) being unable to predict which priority cluster they would belong in (i.e., education, ethics, winning, or finances) (Putler & Wolfe, 1999).

Quantifying the Stereotypes of Student-Athletes

The similarities in methodology and conclusions regarding student-athletes, when comparing the research of Stalnaker (1933) and Putler and Wolfe (1999), are rather interesting given the 66-year gap between the two studies. What has happened in the years between studies in order to facilitate further research in this area? The answer is basically nothing; researchers are asking the same questions (i.e., "What do people think about these stereotypes?") without empirically testing whether the stereotypes exist in the general population. Similar higher-order questions tapping into stereotype threat are also being asked (i.e., "What happens to academic test scores if we prime student-athletes to think about their "athlete" identities?"). More research needs to be done on the underlying stereotypes before asking these questions.

When looking at other areas of research development over the same span of time, drastic differences are noticed. For example, the past 60 years in personality research has seen a multitude of changes in the types of questions being asked as well as techniques to address said questions. Even one specific area of personality research, the Big 5 personality traits, has come a long way since its beginning stages. Around the time Stalnaker (1933)

was conducting an examination of attitudes towards student-athletes, Allport and Odbert (1936) were in the process of developing the lexical hypothesis, which formed the basis for the development of the five-factor model of personality. As discussed in Goldberg (1993) after Allport and Odbert (1936), many personality theorists have put forward competing models and taxonomies of personality traits, providing drive and motivation for significant progress in the area of personality; their contributions are still being discussed to this day. The same cannot be said for stereotype research in sport psychology.

High/Low Profile Stereotypes. Some of the research on stereotypes in this field concerns the differences between types of sport. For example, one would reasonably expect that football stereotypes would differ from track and field stereotypes. This is most likely due to the stereotypical person who participates in these two sports, as well as the fact that football is what sport psychology researchers call "high profile" (Elman & McKelvie, 2003). High profile sports encompass any sport that receives a lot of media attention. These sports are also called "revenue sports" due to their ability to bring in more money than their counterpart, "low profile," (e.g., Clift & Mower, 2013), "nonrevenue," (e.g., Creasy, 2006; Engstrom Sedlacek, & McEwen, 1995; Harrison et. al., 2009), or, "Olympic sports" (Martens & Cox, 2000).

Engstrom, Sedlacek, and McEwen (1995) were interested in how faculty attitudes differed toward student-athletes in revenue and nonrevenue athletics. They used a revised version of the Situational Attitude Scale (Revised SAS Student-Athlete; Engstrom & Sedlacek, 1989), substituting "student" for the revenue sports football and basketball, and the nonrevenue sports lacrosse, wrestling, tennis, golf, and baseball. Participants were given one of three forms that were neutral (i.e., student), revenue (i.e., football and

basketball), or nonrevenue (i.e., lacrosse, wrestling, tennis, golf, and baseball). Results indicated several things. First, students in general were rated more positively than student-athletes in six of the 10 statements presented. Students, compared to revenue student-athletes, were seen more positively if they drove an expensive car, got an A in a class, if they received a full scholarship, if they were admitted to the college with lower SAT scores than normal, and if they were featured in the campus newspaper. Students were also seen more positively than nonrevenue student-athletes if they got an A in a class, were supportive of the creation of a tutoring program, received a full scholarship, were admitted with lower SAT scores, and were featured in the campus newspaper. Second, revenue student-athletes were viewed more positively than nonrevenue student-athletes if they were supportive of the creation of a tutoring program. Finally, nonrevenue student-athletes were seen more positively than students if they pursued their academic program at a slower pace. Engstrom, Sedlacek, and McEwen (1995) stated these results indicated differential acceptability of revenue and nonrevenue student-athletes, and might help explain why these groups of individuals are treated differently on campus, though they both identify as student-athletes.

Another study using similar methods with Division II faculty members (Baucom & Lantz, 2001) resulted in similar findings. These authors used the Revised SAS Student-Athlete (Engstrom & Sedlacek, 1989) to determine how Division II faculty members perceived students, revenue student-athletes, and nonrevenue student-athletes. Results indicated no significant differences between the perceptions of revenue and nonrevenue student-athletes. However, in four of the 10 statements, students were perceived more positively than student-athletes; support for creating an expanded tutoring program,

received a full scholarship to attend college, admitted with lower college board scores, and accomplishments featured in the campus newspaper.

Sex Stereotypes. Sex differences are another area of stereotypes associated with student-athletes. Many studies show that sports and athletics are "masculine," and that females who are student-athletes encompass more masculine traits and beliefs than their non-athletic peers (e.g., Atkins, Morse, & Zewigenhaft, 1978). For example, Steinfeldt, Carter, Benton, and Steinfeldt (2011) found that while male student-athletes endorse a higher desire to be muscular than female student-athletes and female non-athletes, female student-athletes show a higher desire to be muscular than their non-athlete female peers. When assessing perceived athletic competence, male student-athletes and female student-athletes scored similarly, while both groups outscored their non-athlete peers (Curry & Rehm, 1997). However, female non-athletes felt they possessed less athletic competence than male non-athletes. Because there were no sex differences between the student-athletes, but there were between the non-athlete students, there may be something different between female student-athletes and female non-athlete students. Other researchers support this finding; Renfrow and Bolton (1981) found personality differences between female student-athletes and female non-athletes. In the same vein, Uguccioni and Ballantyne (1980) found that female student-athletes, especially the individuals performing in swimming or basketball, were more likely to be self-assessed as masculine and androgynous, while female non-athlete students were more likely to be self-assessed as feminine and undifferentiated.

The use of terms such as masculine, feminine, androgynous, and undifferentiated by Uguccioni and Ballantyne (1980) is tied to the Bem Sex Role Inventory (BSRI, Bem, 1974).

The BSRI consists of 60 trait adjectives, 20 of which are rated as masculine, 20 as feminine, and 20 as neutral. Masculine indicates high masculine, low feminine; feminine indicates high feminine, low masculine; androgynous indicates high masculine, high feminine; and undifferentiated indicates low masculine, low feminine. Uguccioni and Ballantyne (1980) believe this is an indication that not only does the general public see female athletes as masculine, the females view themselves as masculine. That identity dysfunction could result in female student-athletes struggling in social settings, athletic settings, and academic settings (Royce, Gebelt, & Duff, 2003).

One other study regarding student-athletes and sex also used the BSRI. Caron, Carter, and Brightman (1985) asked male undergraduate students to rate themselves using the 60 adjectives on the BSRI. They found that team athletes scored significantly higher on the masculinity aspects than either individual athletes or non-athletes. No significant differences were found regarding femininity. Additionally, Caron, Carter, and Brightman used the Attitudes toward Women Scale (AWS; Spence, Helmreich, & Stapp, 1973) and discovered that team athletes exhibited less egalitarian attitudes towards women than their individual athlete and non-athlete peers.

Harrison et. al., (2009) found several distinctions between males and females in terms of stereotype threat and educational performance. Female student-athletes performed worse in moderately challenging academic tasks when their dual identities were primed (e.g., by using the term “scholar-athlete” instead of “student” or “athlete”) than when only one identity was primed. On the other hand, male student-athletes performed better on highly challenging test items if their athletic identity was primed than if their dual identities or their student identity was primed. This indicates that there are differences in

how identities are interpreted based on how the student-athlete views the cultural stereotypes surrounding said identities and their sex. As such, this is another piece of evidence that male and female student-athletes differ in terms of stereotypes.

Another side of the sex equation is how masculine or feminine a particular sport is stereotyped to be. For example, females who play softball are stereotypically thought of as more masculine than females who participate in dance or cheerleading. Therefore, the sex of the athlete is not the only important aspect of sex; the perceived "sex" of the sport (if a sport can have a sex) is important too when making stereotypic assumptions. Team sports are seen as more masculine than individual sports (Harris & Hall, 1978). Csizma, Wittig, and Schurr (1988) found that the masculinity or femininity of a sport is most often determined by who actually participates in these sports, as well as the physical activities involved. They broke down 68 sports into masculine, neutral, and feminine types, and concluded that the more masculine the sport, the more aggressive and physical the nature of the sport.

Racial Stereotypes. One of the more common and prevalent stereotypes surrounding athletics is race. When looking at collegiate teams, especially in high-profile sports, there tends to be more minority status individuals than the rest of the college population. For example, 79% of students attending Iowa State University identify as White, while nearly 3% identify as Black (Forbes.com). However, 41% of Iowa State University's football team identifies as Black (cyclones.com). As such, it should come as no surprise that there are stereotypes surrounding different race and ethnicities in sport.

Multiple studies looking at stereotype threat and race have looked at two distinct stereotypes associated with two races. First, a common stereotype regarding White

athletes is that they do not have natural athletic abilities comparable to Black athletes. Instead, White athletes possess what is called "athletic intelligence," which supposedly makes them better at sports requiring concentration and thought (e.g., golf). The opposite appears to be true for Black athletes; they do not possess athletic intelligence, but do have natural athletic ability. These two stereotypes have been shown to produce threatening situations to athletes in many studies (e.g., Harrison, Lawrence, & Bukstein, 2011; Stone, 2002; Stone, Lynch, Sjomeling, & Darley, 1999; Stone, Perry, & Darley, 1997).

Sailes (1993) tested Black and White male and female students on their perceptions of racial stereotypes in athletics. There were a total of seven stereotypes tested surrounding race. He found that males more strongly than females, and Whites more strongly than Blacks, believed White student-athletes were more intelligence than Black student-athletes. The same pattern arose with preparation for college courses, with Black student-athletes being perceived as less prepared, as well as Black student-athletes being perceived as more competitive than White student-athletes. Similarly, Black student-athletes were perceived as being more temperamental than White student-athletes. Blacks more strongly believed than Whites that Black student-athletes had a different playing style than White student-athletes. Sailes concluded that race permeates throughout many types of stereotypes, including intelligence, athletic ability, and emotional regulation.

Other researchers support this idea. Czopp (2010) found that Black student-athletes were less likely to be encouraged to work hard in academics. White participants acted as career counselors to White or Black students who excelled at a stereotypical activity, in this case a sport. This was due in part to what Czopp labeled as a "positive stereotype," meaning that the assumption the career counselors made was based on a supposed good quality that

one racial group possessed over the other. In this case, the stereotype was that Black student-athletes are better at sports than White student-athletes. The resulting career advice for Black student-athletes was to not focus on their studies, but to focus on their athletic careers, hardly good advice from a career counseling perspective.

In a study regarding faculty perceptions of how race impacts successes of athletes, Comeaux (2010) found that 11% of faculty members exhibit color-blindness when describing successes of Black student-athletes. This term is used when individuals refuse to admit or recognize potential barriers minorities may have experienced on their way to success, resulting in the marginalization of the minority's experience. For example, in Comeaux's (2010) study, one participant stated, "The fact that the student is Afro-American is irrelevant to me." A few more appeared angry that Comeaux focused on sex and ethnicity: "this survey is very off balance, clearly trying to justify your agenda, focused on minority issues." Both of these statements are examples of color-blindness, as they are discounting one very important aspect of the student-athlete's identity. As is emphasized in Sue and Sue's (2013) book regarding counseling minority individuals, color-blindness can be detrimental, resulting in negative views of self, increased likelihood of underperforming, and distancing between the individual and the counselor.

An additional perception Comeaux (2010) found was that faculty members discussed successes "in spite of race." This means that some faculty members felt the successes of Blacks were outstanding, especially because they are minorities. This appears to be the other extreme of color-blindness, by saying the success has all to do with race and no other aspect of that individual's identity. Given both of these perceptions faculty members hold, it comes as no surprise that the impact they have on minority student-

athletes can be damaging. It could even hurt race relations within the sport due to individuals believing the minority student-athletes received scholarships because of their minority status.

Another study showed that Black and White football student-athletes feel stereotyped differently (Price, 1999). The majority of the sample of football players felt stereotyped overall, though that number was much higher for Blacks than for Whites (87.9% and 58.0%, respectively). One third of Blacks felt stereotyped based on their race, with only 4% of Whites feeling similarly. Fifty percent of Whites felt stereotyped as athletes, while 27% of Blacks felt stereotyped by both their race and their athletic status. Needless to say, how stereotyped student-athletes feel is dependent on their multiple identities, including their race.

Intelligence Stereotypes. The most prevalent and easiest stereotype to think about concerning student-athletes surrounds intelligence. Most of the articles reviewed for this proposal tested, on some level, the existence and prevalence of the so-called "dumb jock" stereotype. However, evidence to support or contradict this idea is very mixed. Sailes (1993) found that while 45% of college-aged participants felt that college student-athletes were not as smart as the average college student, only 10% of the sample disclosed that they felt college student-athletes were "dumb jocks." His study nicely sums up the discrepancy from many other studies, namely that admission of the stereotype's existence may be too difficult for participants to do, resulting in a lack of statistical evidence for the existence of this stereotype.

Additional findings from Sailes's (1993) study were as follows: student-athletes were perceived as being less intelligent than their non-athlete peers, as well as taking

easier classes to remain eligible to participate in sports. The academic integrity of student-athletes was called into question, especially given recent reports from academic counselors around the United States supporting the assumption that some student-athletes take classes that are designed to keep them eligible (e.g., UNC essay, accessed from www.slate.com, 2014; UNC fake classes, accessed from www.CNN.com, 2014; 5th grade reading level, accessed from www.CNN.com, 2014).

Many researchers cite the installation of the term "student-athlete" as being a driving factor for differential treatment and expectations by members of higher education (e.g., Ridpath, 2008; Stone, 2012; Stone, Harrison, & Mottley, 2012). Ridpath (2008) goes so far as to say the term should be done away with due to the negative impact it has on student-athletes. Indeed, research on stereotype threat has shown that when primed to think about their athletic identities, student-athletes perform poorer in academic tasks, leading researchers to conclude that this may be a reason why student-athletes underperform in the classroom (Yopyk & Prentice, 2010).

Engstrom and Sedlacek (1991) used the Revised SAS Student-Athlete (Engstrom & Sedlacek, 1989), to measure feelings toward 10 statements. In their study, freshmen student participants were randomly given one of two forms. The control group was given a form with "student," while the experimental group was given a form with "student-athlete." The 10 statements were related to academic and social situations. Engstrom and Sedlacek (1991) found that participants were more suspicious and less trusting of student-athletes obtaining an A in a class, more worried and disturbed to have a student-athlete as a lab partner, a lack of tolerance and understanding toward the unique needs of student-athletes in terms of resources, and less surprised when a student-athlete drops out of school.

A similar study performed in 2001 by Baucom and Lantz resulted in similar findings as above. However, instead of looking at undergraduate attitudes, these authors looked at faculty attitudes. Their results indicated that faculty, regardless of what division of academia they were a part of, viewed student-athletes as being less concerned with educational values, and were more judgmental of student-athletes receiving special admission to school, having lower graduation rates, and receiving differential tutoring services from the non-athlete students. Interestingly, the actual statistics from this particular institution did not match the stereotypes; student-athletes were not receiving special admission to the school more than non-athlete students; they did not have lower graduation rates; and they did not receive differential tutoring services. Baucom and Lantz (2001) concluded that regardless of the available information, individuals will still perceive student-athletes in a stereotypical way, perhaps due to the negative publicity certain student-athletes receive in the media.

Along with differences in student perceptions of student-athletes, there are differences between athletic department administrators toward the academic and athletic success of their student-athletes. For example, Wulfsberg (1989) was interested in how similar or different importance of academics and athletics is to four groups of people important in the athletic department. Specifically, he was interested in athletic directors, faculty representatives, basketball coaches, and football coaches. He found that the importance of academics and athletics differed between the groups, with the coaches being more similar in their thinking, and the directors and faculty being more similar in their thinking. Wuflsberg (1989) found that, while all groups felt there needed to be a stronger emphasis on education within the field of athletics, including more academic resources, the

coaches were more interested in eligibility than education. Given the previous studies summarized, this should come as no surprise. Wuflsberg (1989) concluded that one factor contributing to the negative stereotypes associated with student-athletes and academic drive could be a direct result of the coaches' negative impact of the importance of education on student-athletes.

Personality Traits. A few studies have looked into the differences in personality between student-athletes and non-athlete students. This includes other-reported traits of student-athletes as well as self-reported traits. As with the other studied stereotypes, personality results are mixed, with some studies finding differences between student-athletes and non-athlete peers, and others finding no differences.

One study looked at the differences between student-athletes and non-athlete students in terms of social adjustment and personality traits (Carter & Shannon, 1940). High school student-athletes and non-athlete students were given the Symonds Adjustment Questionnaire (Symonds & Jackson, 1930), which measures adjustment in relation to curriculum, social life of the school, administration, teachers, other pupils, home and family, and personal life. The principle, two classroom teachers, and a coach (if applicable) rated the students on cooperation, self-control, leadership, reliability, agreeability, and sociability. Results indicated no significant differences in self-reported adjustment scores between student-athletes and non-athlete students, but differences in how others rated the students. Student-athletes were seen as more sociable and better able to lead than their non-athlete peers. This may be an indication that, while the student-athletes don't view themselves as different, the perceptions of others are swayed by their status.

While the above study did not find any differences in self-reported traits, a study by Elman and McKelvie (2003) found differences in measured narcissism between these two groups. Specifically, these researchers assessed narcissism using the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979) and the Eysneck Personality Questionnaire (EPQ; Eysenck & Eysenck, 1975). Participants were non-athletes, football players, and what the authors deemed were "other sports." Results indicated non-athletes rated football players as being much more narcissistic than self-rated. When football players rated themselves, their scores indicated statistically more narcissism than self-rated non-athletes, while the self-rated "other sports" were in the middle of the two scores. The authors concluded that certain sports attract certain personality types, not that athletics changes individuals' personality. However, that appears to be a stretch given the authors' methodology. Perhaps sports in general attract individuals with certain personality traits, or certain sports encourage more expression of specific traits. The only thing that can be supported from this particular study is that there are differences between their samples, not where or how those differences came about.

Other studies have looked at sex differences within personality traits of student-athletes. Pedersen (1997) asked male and female student-athletes to rate male and female student-athlete traits. His result indicated no significant differences between the sex of the rater, but differences in the traits attributed to student-athletes in the different sexes. All student-athletes were rated as being active, aggressive, goal-oriented, competitive, dominating, controlling, organized, public, rule-governed, and instrumental. Males were rated as more active, aggressive, competitive, dominating, controlling, instrumental, and public than females. Females were rated as more goal-oriented, organized, and rule-

governed than males. Pedersen (1997) concluded that the consistency between rater sex was a result of the stereotypical aspects apparent in the student-athlete world. In a similar study, Atkins, Morse, and Zweigenhaft (1978) found that female student-athletes were perceived as strong, strong-willed, leaders, brave, healthy, masculine, and unattractive.

Positive and Negative Participation Outcomes. Many athletic organizations cite benefits to participating in competitive sporting events (e.g., NCAA, FIFA, etc.). These benefits include promoting social skills, reducing prejudicial beliefs, and honing time management abilities (Gould & Carson, 2008). The knowledge of these benefits could result in student-athletes being perceived as more socially capable than their peers, as well as more popular and possess higher self-esteem. Indeed, many individuals can imagine a football star as being one of the most popular students in school due to his athletic participation. Additionally, research concerning drug use has found that high school student-athletes were less likely to use drugs than their non-athlete peers (Lewis, 1988).

However, other studies on drug use integrated more theoretical information, such as group conformity, resulting in the conclusion that athletics is not a protective factor surrounding drug use (e.g., Hughes & Coakley, 1991; Tomon & Ting, 2010). More potential negative consequences of collegiate athletic participation include vocational identity foreclosure (e.g., Ackerman, 2013), as well as identity conflicts resulting in role confusion (e.g., Yopyk, 2006). Career plans, life plans, and educational plans are all significantly less of priorities to student-athletes compared with their non-athlete peers (Sowa & Gressard, 1983). Additionally, student-athletes tend to not come into college believing that education is less important than athletics; it is something they come to believe as their athletic careers move forward (Adler & Adler, 1985).

Limitations of Student-Athlete Stereotype Research

Based on the above literature review, several conclusions can be made. First, there are far more studies looking at the negative stereotypes associated with athletics than the positive ones. This could be due to a potential struggle between academics and athletic departments for funding, recognition, etc., resulting in researchers finding more negativity associated with athletics. Another reason could be there really are more negative stereotypes associated with student-athletes than positive ones. One more viable explanation for this discovery could be there are no peer-reviewed empirical articles looking at the positive stereotypes. That being said, the current study combines the negative and positive stereotypes discussed above with other positive, negative, and neutral adjectives to give a wider understanding of both the negative and positive traits individuals place on student-athletes.

The second conclusion to be made is there are only a few stereotypes studied that appear to encompass all student-athletes regardless of demographic information and profile level: intelligence and masculinity. A book chapter written by Burke (1993) indicated that these two negative stereotypes were the only ones of with a multitude of support. Many of the studies show that the "dumb jock" stereotype is still alive, even when others believe it to be gone (e.g., McMartin & Klay, 1983). Additionally, while female student-athletes do not appear to be as masculine or needing to have as many masculine traits as male student-athletes, they do appear stereotypically to need more than the average female non-athlete student. Only one study listed other-reported traits that were specific to all student-athletes (Pedersen, 1997), which while helpful didn't provide the type of information to produce a student-athlete stereotype taxonomy.

Third, the majority of the aforementioned studies are based on samples of Midwestern universities, which are primarily White institutions. Therefore, results could be interpreted as White individuals stereotyping student-athletes, or to go even farther, White individuals stereotyping Black student-athletes. That is a limitation of the current study that needed to be taken into account. Unfortunately, due to convenience sampling, the sample for the current study is primarily White individuals assessing stereotypes of Black student-athletes. Future studies will need to address this conundrum by including race as a dependent variable, or using the following methods on a more racial/ethnic diverse participant pool.

Finally, an empirically-supported methodologically sound study looking at what stereotypes truly exist regarding student-athletes is needed. Differences in findings, limited theoretical bases for hypothesis claims, and a severe lack of progress over a long period of time indicates a need for a unified taxonomy for future studies to draw on. This is the main reason why the present study is so important for the future of sport psychology: sound statistical and methodological research can result in more accurate findings that can be a starting point for future research studies to build on.

THE PRESENT STUDY

When compared to other areas of psychology, the research concerning stereotypes about student athletes is under-developed. In particular, measures used in research on student-athlete stereotypes are often created using ad-hoc methods, resulting in instruments with questionable psychometric properties that produce equally questionable results with limited generalizability across studies. The primary objective of the proposed study is to develop a more comprehensive, empirically based model of student athlete

stereotypes. Developing taxonomy of student-athlete stereotypes will produce a better understanding of the issues faced by student-athletes. Additionally, this taxonomy could be useful for future research by having a methodologically sound empirically supported taxonomy to have accurate and valid data to interpret what is actually occurring for people when they think of student-athletes. The taxonomy will also provide a guideline for helping alleviate stereotypes associated with student-athletes, reducing stereotype threat, and increasing positive academic and athletic department relations. To achieve these objectives a number of strategies will be used. First, a taxonomy of stereotyped traits will be generated using systematic methods. Second, discriminant and convergent validity will be evaluated to determine if the proposed taxonomy measures what it says to measure. Additional validity tests will be run to determine if stereotype taxonomy is consistent across participants. Finally, tests to show more support for the taxonomy will be based on previous stereotype taxonomy research using primarily activation theory.

Hypothesis 1: Taxonomy of Student Athlete-Stereotypes. Previous research has identified three stereotypes that tend to be endorsed regarding student-athletes: first, student-athletes are unintelligent; second, student-athletes are masculine; finally, student-athletes have negative qualities attributed to them. However, the methods used in this research often failed to systematically evaluate the potential range of stereotypes associated with student-athletes. One reason researchers have been finding mixed results in their stereotype research could be because the sport psychology research does not have a standardized taxonomy of stereotypes. Undergraduate research assistants were asked to rate a series of trait terms on the extent to which they were consistent with student-athletes. By using a more systematic approach in the present study, it was predicted that

these three themes would most likely appear in the analysis, but other stereotypes regarding student-athletes could emerge in the taxonomy. It was also predicted that undergraduate research assistants would consistently rate the stereotypicality of the adjectives, resulting in a more reliable and valid list of stereotypes than previous studies have obtained. This hypothesis was tested using inter-rater agreement analyses via interclass correlations.

Hypothesis 2: Non-Random Assignment to Categories. To test if the trait assignment was not random, participants were asked to assign traits to different categories (e.g., male student-athlete, female student-athlete, male non-athlete student, and female non-athlete student). It was predicted that participants would assign traits differentially to categories based on the stereotypes employed for each category in non-random ways. This was tested using one-sample chi-square tests.

Hypothesis 3: Linking Gender with Athlete Status. As outlined in Hypothesis 2, undergraduate participants were asked to assign stereotype trait terms to different categories. In addition to non-random assignment, it was predicted that participants would assign traits differentially to categories based on the stereotypes employed for each category. Specifically, the terms rated by the research assistants as being most associated with student-athletes and males would be the terms most consistently assigned to male student-athlete categories. Terms rated by the research assistants as being least associated with student-athletes and most associated with males would be assigned to the male non-athlete student categories. Similarly, the terms rated by the research assistants as being most associated with student-athletes and females would be the terms most consistently assigned to female student-athlete categories. Terms rated by the research assistants as

being least associated with student-athletes and most associated with females would be assigned to the female non-athlete student categories. This was assessed using the contingency coefficient for nominal data.

Hypothesis 4: Participant Sex Differences in Stereotype Assignment. Previous research suggests that sex is an important issue when considering perceptions of student-athletes. This hypothesis specifically focused on the sex of the individual who used the stereotype. Previous research suggests that the sex of the student-athlete being assessed may play a role in what stereotypes are assigned (Harrison et. al., 2009), and that sex differences in stereotype activation may influence individual's perceptions of student-athletes (Sailes, 1993). Therefore, in the present study it was predicted that there would be significant differences between assignments of stereotyped traits to male student-athletes, male non-athlete students, female student-athletes, and female non-athlete students. It was also predicted that the response patterns of male and female participants when rating and using stereotype terms would be different for different traits. This was assessed using a series of 2X4 chi-square tests.

Hypothesis 5: Validity of Gender and Athlete Status Grouping. To give additional support to the psychometrics of the newly constructed lists of stereotyped traits, undergraduate participants were asked to rate the student-athlete and non-athlete student stereotypicality of the traits that were created in Hypothesis 1. Using these ratings in conjunction with the information from Hypothesis 3, trait groups were created. It was predicted that several groupings could appear: male student-athlete; female student-athlete; male non-athlete student; female non-athlete student; not male student-athlete (traits that are definitely not associated with this group); not female student-athlete; not

male non-athlete student; not female non-athlete student; masculine; feminine; athletic; non-athletic. Other groupings may appear, but were not predicted in this hypothesis. These groupings could be used in the future for stereotype research as a basis for addressing perceptions individuals have of student-athletes. This hypothesis was evaluated using several reliability analyses.

CHAPTER 3: METHODS

The methods section is split into three parts for clarity. The first part describes the aspects of the study the undergraduate research assistants were a part of. The second part describes the in-lab and consequential online portion of the study. Finally, the third part describes the solely online condition of the study. IRB approval was granted for all parts of the study (see Appendix A).

Part 1: Development of Stereotype Taxonomy

Participants

Participants for this part of the study were eleven undergraduate research assistants of the Iowa State University Identity Development Lab. They were trained to serve as raters of potential stereotype terms for use in the study. They received credit in the research assistant course at Iowa State University.

Measures

Student-Athlete Stereotype Item Selection. A list of 555 person-adjectives (Anderson, 1968) was evaluated for potential use as measures of student-athlete stereotypes (see Appendix B for full list of items). Undergraduate research assistants trained in rating procedures evaluated each adjective using procedures similar to those outlined in Anderson (1968), who evaluated the terms for positive, negative, and neutral valence. They were informed to rate items based on what they believed were underlying stereotypes associated with each item, regardless of whether or not they personally believed in the stereotype. Undergraduate research assistants rated the adjectives on a five-point Likert-type response format using six response dimensions: Stereotypical of student-athletes, stereotypical of non-athlete students, masculine, feminine,

prestige/status, and familiarity/comprehension of the term. Additionally, the research assistants were asked the same questions on likability as Anderson (1968) to determine differences in likability over the difference in time periods. An example of the assessment ratings are presented in Appendix C. The 72 words that were selected for use in the present study are listed in Appendix D.

In addition to rating the person-adjectives, undergraduate research assistants were involved in the process of compiling a list of all the specific items ever studied regarding stereotypes and student-athletes. This procedure was used to evaluate the overlap between terms used in previous research and items identified from Anderson's (1968) list in the current study. Research assistants were given access to an exhaustive folder of student-athlete stereotype literature. They were trained on how to collect and report the necessary information needed to create a list of all the stereotypes tested in this area. The necessary information is as follows: author, number of items, the actual items, how the items were measured, and the scale the items were on. This information was used to inform decisions regarding item selection for the card-sorting procedure by taking into account frequencies of previous word choices in addition to stereotype ratings given by the undergraduate research assistants.

Part 2: Evaluation of Stereotype Taxonomy

Participants

There were 464 participants in this study (193 male; 271 female) recruited from a large, Midwestern university from introductory undergraduate psychology courses who received course credit for their participation. After removing participants for not following the procedure correctly, as well as participants who did not complete both the in-lab and

online portion of the study, 369 participants remained (143 male; 226 female). The age range of participants was between 18 and 33, with the majority of participants being 19 (47.2%). Most of the participants were Freshmen (n = 190) followed by Sophomores (n = 105), Juniors (n = 47), and Seniors (n = 27). Participants primarily identified as White/European American (n = 315), followed by Asian American (n = 19), Hispanic American (n = 16), African American (n = 13), Native American (n = 2), and Other (n = 4). Additionally, participants were asked their current collegiate student-athlete status, as well as their participation in sports outside of the university. Most participants were not members of university-sponsored teams (n = 353; 95.7%). The remaining 4.3% of participants who were members of university-sponsored teams is a higher proportion than the national average by about 1%..

Measures

Demographics Questionnaire. Participants completed a 1-page questionnaire asking for demographic information. The questionnaire asked for each participant's name, university ID number, NetID, age, major program of study, current grade point average (GPA), sex, year in school, and ethnicity/cultural identity (see Appendix F to view the questionnaire).

Student-Athlete Stereotype Forced-Choice Card Sort. A card sorting procedure was developed for administration of the present study. Participants were asked to sort a set of 72 adjectives describing potential student-athlete stereotypes into one of four categories: Male student-athlete, female student-athlete, male student, and female student. Participants were asked to make assignments of adjectives to categories based on their perceptions of which category was most likely to be described using each adjective. The 72

adjectives describing potential student-athlete stereotypes were selected from the larger set of 555 person adjectives developed by Anderson (1968) that are frequently used in psychological research (e.g., Larose, Tracy, & McKelvie, 1993; Loosemore & Tan, 2000; Owuamalam, Tarrant, Farrow, & Zagefka, 2013) using procedures outlined below.

Previous Measures of Student-Athlete Stereotypes and Traits. Participants were also asked to rate adjectives taken from previous studies measuring student-athlete traits that have little to no theoretical basis. This was done to determine the validity of previous measures, as well as improve the strength of the present study's proposal. These questions were rated on different scales depending on the authors, but were all based on bi-polar methods. For example, individuals in Pedersen 's (1997) study were asked to rate student-athletes on a Likert-type scale from one to seven, with one being *competitive* and nine being *cooperative*. The problematic assumption with this measure is that one cannot be both competitive and cooperative. However, as this is how the traits have been measured in the past, and we would like to determine convergent and discriminant validity, participants answered the questions as they were presented in the literature. The full set of items used from previous studies is presented in Appendix G.

Procedure

Participants were recruited from the Psychology Department's Research Participant Pool through the SONA system. Participants completed the study in two parts. For the first part of the study, participants signed up for a time to come into a designated research laboratory in the psychology department to begin the study. When they arrived at the laboratory, the procedures of the study were described to them, and they were given an informed consent document to carefully read. This document outlined the purpose of the

study, procedures, risks, benefits, costs and compensation, participant rights, confidentiality of the participants, and contact information for participants if they had questions about the study. If the participant agreed to participate, he or she was asked to complete demographics questionnaire, the trait-adjective card-sorting task, the Bem Sex Role Inventory, and the Attitudes toward Women Scale – Short Form. In the card-sorting task, participants were instructed to sort all 72 person-adjectives into one of four categories (male student-athlete, female student-athlete, male student, female student). They were told to sort into each category equally, such that each category had 18 traits. Participants were asked to write down the trait on a record form given to them by the research assistants. See Appendix H for the record form.

After completing the first part of the study in the lab, participants were reminded that they would receive an email within one week that provided the link for them to complete additional surveys online. The link e-mailed to participants was a web-based survey instrument including rating traits based on previous other-reported student-athlete trait measures (see Appendix G), if they were currently a member of an athletic team at Iowa state, if they were a member of an athletic team in high school, as well as indicating who they were thinking of when asked about male student-athletes and female student-athletes. At the end of this survey, participants were shown a debriefing page and thanked for their time. The debriefing message provided contact information for the researchers in case of questions.

Part 3: Additional Survey Evidence

Participants

There were 125 participants for this part of the study (65 male; 60 female) recruited from a large, Midwestern university from introductory undergraduate psychology courses who received course credit for their participation. The age range of participants was between 18 and 38, with the majority of participants being 19 (28.0%). **Measures**

Demographics Questionnaire. Participants completed a 1-page questionnaire asking for demographic information. The questionnaire asked for each participant's name, university ID number, NetID, age, major program of study, and sex.

Participant Ratings of Student-Athlete Stereotypes. Participants were asked to rate the 72 person-adjectives in the online portion of the study. These traits were measured on a five-point Likert-type response format using two response dimensions: stereotypical of student-athletes and stereotypical of non-athlete students. This was done as a measure of reliability; if participants rate traits similarly to how the traits were rated by the expert undergraduate research assistants (e.g., student-athlete traits will be paired with student-athletes), then the proposed 72 traits were consistent measures of underlying stereotypes toward student-athletes.

CHAPTER 4: RESULTS

Hypothesis 1: Taxonomy of Student-Athlete Stereotypes. Results from the person-adjective rating section of this study were analyzed using inter-rater reliability methods with consistency agreement. This was done to validate part of Hypothesis 1, stating there is an underlying taxonomy of student-athlete stereotype traits, with consistency measure of inter-rater agreement indicating the extent to which raters were able to access a shared working understanding of stereotypes. Due to low ratings of understandability by the undergraduate research assistants, 43 words were removed before conducting the analysis. Based on the overall distribution understandability ratings, any word that resulted in less than 4.3 understandability on a scale of 1 – 5 was removed. Results from the inter-rater reliability analyses concluded highly consistent ratings between the 10 members of the Identity Development Laboratory. Intraclass correlation coefficients ranged from .735 (Stereotypicality of non-athlete students ratings of traits) to .968 (likability ratings of traits). See Table 1 for a summary of the results.

Table 1. Intraclass Correlations for Consistency of Trait Adjective Ratings

Rating Scale	Intraclass Correlation
Student-athletes	.824
Non-athlete students	.735
Masculine	.802
Feminine	.847
Likability	.968

To determine the final list of person-adjectives, cutoffs were in place. The positive trait cutoff was a rating between 5.0 and 7.0 (from a scale of 1-7) taken from Anderson

(1968). The neutral trait cutoff was a rating of between 3.0 and 4.9. The negative trait cutoff was a rating between 1.0 and 2.9. Analyses were run to determine the 36 traits rated as being more stereotypical of student-athletes, as well as the 36 traits rated as being more stereotypical of non-athlete students. Traits that were identified as being good predictors of group were kept, while synonymous traits were deleted if they did not differentiate as well. Good predictors were chosen based on the squared deviation between student-athlete stereotypicality and non-athlete student stereotypicality. For example, the word *cautious* was rated as being a little over average in stereotypical of student-athletes (3.4 out of 5), and a little below average in stereotypical of non-athlete students (2.3 out of 5). The squared deviation for the word *cautious* would therefore be 1.21, which we determined as a good indicator of group membership. All 72 final traits had student-athlete/non-athlete student deviations of 1.0 or larger. The final traits are presented in Appendix D. The valance ratings of the final 72 traits can be found in Appendix E. Deviations of femininity and masculinity of the trait were also assessed to ensure that the selected traits were balanced in terms of the number strongly associated with each gender. From there, a content analysis was run to determine themes. This was used to validate the thematic aspects of Hypothesis 1.

Binary questions from previous literature were analyzed in the present study using the sample of 369 participants to determine themes present in previous research. Exploratory Factor Analyses (EFAs) were conducted to determine factors common amongst the questions. While previous research claims some evidence of the minimum number of factors that would appear, it was not enough to warrant the use of a confirmatory factor analysis. In EFA, correlations are conducted between all variables and

rotated based shared correlations between factors. Given the previous student-athlete stereotype research, Principal Axis Factoring (PAF) was employed to decrease the likelihood of overfitting the data. Additionally, oblique rotations were used, as there were correlations between items. It was predicted that several themes would emerge, including *intelligence*, *masculinity*, and more negative valence words would all be associated with student-athletes more than non-athlete students.

Two main factors emerged through EFA when assessing male student-athletes; one comprising of athlete items and another comprising intelligence items. A total of 9 factors emerged using the items from past research, but as some questions were similar (e.g., both Harris & Hall (1978) and McMartin & Klay (1983) used the bipolar anchors of *conservative* and *liberal*), and those were the only items loading on that particular factor (in this case, factor 7), they were deemed non-significant factors. Four main factors emerged through EFA when assessing female student-athletes, indicating differences in how these groups are perceived by others. These factors were masculinity, personality traits, private/public life, and athlete status. A total of 10 factors emerged using past research, but using the justification outlined above, most were deemed non-significant factors. The results of the factor analysis are presented in Appendix I.

Assessment of the word valence showed that the undergraduate research assistants associated 11 negative valence words, five neutral valence words, and two positive valence words with male student-athletes; nine negative valence words, four neutral valence words, and six positive valence words with female student-athletes; no negative valence words, seven neutral valence words, and 11 positive valence words with male non-athlete students; and three negative valence words, six neutral valence words, and nine positive

valence words with female non-athlete students. These categories were assumed to be equivalent. However, when participants sorted the trait-adjectives into categories, this was not the case. Overall, the proportion of negative, neutral, and positive valence for each category as rated by the undergraduate research assistants was similar to the proportion of words placed in each category by the participants, with more negative words being associated with males in general (91% of assigned traits) than any other category, followed by athletes in general (54% of assigned traits).

Hypothesis 2: Non-Random Assignment to Categories. One-sample chi-square tests were run to determine if participants were assigning traits in a non-random manner. Significant results at this level indicate that the sorting was not random and that participants used categories differently with different traits. The chi-square tests were significant for all 72 trait-adjectives using the Bonferoni adjusted significance values ($p < 0.0007$). These results suggest that participants were not randomly assigning the trait adjectives to the categories of male and female student-athletes and non-athlete students. The complete set of results are presented in Appendix J.

Hypothesis 3: Linking Sex with Athlete Status. Results were organized based on several categories: traits associated with sex type and athlete status (male student-athlete, female student-athlete, male non-athlete student, and female non-athlete student); traits associated with either sex or athlete status (athlete, non-athlete, masculine, feminine); and traits not associated with sex type and athlete status (not male student-athlete, not female student-athlete, not male non-athlete student, not female non-athlete student).

Organization of categories was decided based on the proportion of participants who placed a trait into that category. For example, the trait *dominating* was placed in the male

student-athlete category by 77% of the participants, with the next closest category being male non-athlete student at 11%. Therefore, this trait was assigned to the male student-athlete category. Traits that had similar percentages in two categories were placed into the more general category. For example, *quick* was placed within the male student-athlete category by 46% of the participants or in the female student-athlete category by 47% of the participants, resulting in this trait being assigned to the general athletic category. Each category has at least five of the most unique traits associated with that grouping, while some categories have up to eight. This was done to help make the categories more manageable.

Additionally, traits that were found to be not often associated with one or more of the categories were placed in a group containing the word "not" before the category it does not describe (e.g., not male student-athlete). This was determined using a cutoff score of 25 or fewer participants placing the adjective in a particular category. The complete set of results are presented in Appendix J.

Male Student-Athlete. Sixteen of the adjectives assessed (22.2%) were associated with male student-athletes. These adjectives were *hot-headed*, *aggressive*, *bragging*, *popular*, *tough*, *egotistical*, *obnoxious*, *dominating*, *overconfident*, *hot-tempered*, *showy*, *loud-mouthed, boastful*, *self-centered*, *short-tempered*, and *self-conceited*. Of these traits, the eight most unique ones are presented in Table 2. One of the three adjectives was assessed as negative, with the other two being assessed as neutral. This was consistent with previous predictions regarding male student-athletes having more negative valence words associated with them than female student-athletes.

Table 2. Male Student-Athletes Stereotype Trait-Adjectives Based on Proportions of Participants Assigning Trait Stereotypes to Group Categories

	Student-Athletes		Non-Athlete Students			
Trait	Male	Female	Male	Female	χ^2	C
Aggressive	0.72	0.11	0.16	0.01	457.76	0.076
Bragging	0.70	0.19	0.09	0.03	411.48	0.016
Dominating	0.77	0.10	0.11	0.01	545.72	0.009
Egotistical	0.60	0.18	0.19	0.03	262.34	0.085
Hot-headed	0.73	0.11	0.13	0.03	470.25	0.046
Obnoxious	0.56	0.16	0.27	0.05	181.43	0.093
Popular	0.66	0.28	0.03	0.04	237.65	0.138
Tough	0.63	0.23	0.11	0.01	324.97	0.126

Note. Sample Size = 369. Chi-square (χ^2) values above 11.5 and contingency coefficient (C) above .185 are statistically significant ($p < .0007$).

Female Student-Athlete. Six of the adjectives assessed (8.3%) were associated with female student-athletes. These adjectives were *energetic, lively*, *disciplined*, *self-confident, talented*, and *active.* All six of these adjectives were assessed as positive. This was consistent with previous predictions regarding female student-athletes having more positive valence words associated with them than male student-athletes. Results are presented in Table 3.

Table 3. Female Student-Athlete Stereotype Trait-Adjectives Based on Proportions of Participants Assigning Trait Stereotypes to Group Categories

	Student-Athletes		Non-Athlete Students			
Trait	Male	Female	Male	Female	χ^2	C
Active	0.32	0.61	0.04	0.03	332.17	0.121
Disciplined	0.26	0.58	0.10	0.07	237.65	**0.219**
Energetic	0.23	0.63	0.27	0.09	309.84	**0.238**
Lively	0.13	0.62	0.11	0.15	263.36	**0.258**
Self-confident	0.33	0.51	0.13	0.03	199.58	**0.282**
Talented	0.43	0.50	0.05	0.02	274.83	0.096

Note. Sample Size = 369. Chi-square (χ^2) values above 11.5 and contingency coefficient (C) above .185 are statistically significant ($p < .0007$). Significant C values are also presented in bold.

Male Non-Athlete Student. Eight of the adjectives assessed (11.1%) were associated with male non-athlete students. These adjectives were *mathematical*, *scientific*, *philosophical*, *ordinary*, *normal*, *intellectual*, *wise*, and *lonesome*. One of the eight adjectives was assessed as negative, five of the eight assessed as neutral, and the remaining two as positive. Results are presented in Table 4.

Table 4. Male Non-Athlete Student Stereotype Trait-Adjectives Based on Proportions of Participants Assigning Trait Stereotypes to Group Categories

	Student-Athletes		Non-Athlete Students			
Trait	Male	Female	Male	Female	χ^2	C
Intellectual	0.02	0.16	0.54	0.29	216.79	**0.387**
Lonesome	0.04	0.17	0.50	0.30	171.09	**0.341**
Mathematical	0.02	0.05	0.86	0.07	745.33	**0.457**
Normal	0.05	0.13	0.57	0.26	230.45	**0.316**
Ordinary	0.02	0.13	0.58	0.27	258.26	**0.374**
Philosophical	0.03	0.09	0.61	0.27	305.48	**0.281**
Scientific	0.01	0.03	0.84	0.11	700.17	**0.314**
Wise	0.05	0.14	0.54	0.27	195.87	**0.299**

Note. Sample Size = 369. Chi-square (χ^2) values above 11.5 and contingency coefficient (C) above .185 are statistically significant ($p < .0007$). Significant C values are also presented in bold.

Female Non-Athlete Student. Ten of the adjectives assessed (7.2%) were associated with female non-athlete students. These adjectives were *thoughtful*, *quiet*, *gentle*, *artistic*, *sensitive*, *soft-hearted*, *weak*, *soft-spoken*, *shy*, and *timid*. Of these traits, the eight most unique ones are presented in Table 5. Two of the ten adjectives were assessed as negative, four as neutral, and the remaining four being assessed as positive.

Table 5. Female Non-Athlete Student Stereotype Trait-Adjectives Based on Proportions of Participants Assigning Trait Stereotypes to Group Categories

	Student-Athletes		Non-Athlete Students			
Trait	Male	Female	Male	Female	χ^2	C
Artistic	0.01	0.10	0.11	0.78	568.66	0.045
Gentle	0.01	0.11	0.07	0.81	626.61	0.042
Sensitive	0.01	0.16	0.06	0.77	547.69	0.015
Shy	0.01	0.10	0.26	0.64	349.75	0.158
Soft-hearted	0.01	0.19	0.05	0.76	531.15	0.029
Thoughtful	0.03	0.19	0.17	0.61	273.89	0.088
Timid	0.03	0.19	0.19	0.59	253.73	0.107
Quiet	0.02	0.19	0.23	0.56	227.46	**0.185**

Note. Sample Size = 369. Chi-square (χ^2) values above 11.5 and contingency coefficient (C) above .185 are statistically significant ($p < .0007$). Significant C values are also presented in bold.

Masculine. Four of the adjectives assessed (5.6%) were masculine traits. These adjectives were *immature*, *crude*, *inattentive*, and *smug*. All four of the adjectives were assessed as negative. Results are presented in Table 6.

Table 6. General Masculine Stereotype Trait-Adjectives Based on Proportions of Participants Assigning Trait Stereotypes to Group Categories

	Student-Athletes		Non-Athlete Students			
Trait	Male	Female	Male	Female	χ^2	C
Crude	0.45	0.12	0.38	0.05	167.14	0.103
Immature	0.41	0.05	0.52	0.02	277.65	0.153
Inattentive	0.43	0.14	0.35	0.08	122.22	0.077
Smug	0.43	0.24	0.29	0.04	220.58	**0.236**

Note. Sample Size = 369. Chi-square (χ^2) values above 11.5 and contingency coefficient (C) above .185 are statistically significant ($p < .0007$). Significant C values are also presented in bold.

Feminine. Seven of the adjectives assessed (9.7%) were feminine traits. These adjectives were *cautious*, *modest, humble*, *respectful*, *attentive*, *sensible*, and *well-mannered.* One of the seven adjectives was assessed as neutral, and the remaining six as positive. Results are presented in Table 7.

Table 7. General Feminine Stereotype Trait-Adjectives Based on Proportions of Participants Assigning Trait Stereotypes to Group Categories

	Student-Athletes		Non-Athlete Students			
Trait	Male	Female	Male	Female	χ^2	C
Attentive	0.07	0.38	0.21	0.35	90.24	**0.249**
Cautious	0.05	0.34	0.13	0.48	165.47	0.096
Humble	0.06	0.43	0.26	0.30	109.34	**0.317**
Modest	0.03	0.42	0.19	0.37	141.28	**0.317**
Respectful	0.05	0.39	0.20	0.36	107.04	**0.262**
Sensible	0.03	0.27	0.24	0.47	143.70	**0.244**
Well-mannered	0.05	0.33	0.20	0.42	112.25	**0.196**

Note. Sample Size = 369. Chi-square (χ^2) values above 11.5 and contingency coefficient (C) above .185 are statistically significant ($p < .0007$). Significant C values are also presented in bold.

Athletic. Five of the adjectives assessed (69%) were associated with athletes in general. These adjectives were *quick*, *conceited*, *vigorous*, *boisterous,* and *outgoing* One of the five adjectives was assessed as negative, three as neutral, and the remaining one as positive. Results are presented in Table 8.

Table 8. General Student-Athlete Stereotype Trait-Adjectives Based on Proportions of Participants Assigning Trait Stereotypes to Group Categories

	Student-Athletes		Non-Athlete Students			
Trait	Male	Female	Male	Female	χ^2	C
Boisterous	0.44	0.32	0.20	0.04	128.92	**0.206**
Conceited	0.46	0.34	0.11	0.08	148.71	0.005
Outgoing	0.24	0.44	0.19	0.13	79.88	**0.214**
Quick	0.46	0.47	0.05	0.02	269.84	0.126
Vigorous	0.42	0.37	0.18	0.04	136.14	**0.239**

Note. Sample Size = 369. Chi-square (χ^2) values above 11.5 and contingency coefficient (C) above .185 are statistically significant ($p < .0007$). Significant C values are also presented in bold.

Non-Athletic. Seven of the adjectives assessed (9.7%) were associated with non-athletes in general. These adjectives were *inquisitive*, *smart*, *intelligent*, *studious*, *educated*, *clumsy*, and *literary*. One of the seven adjectives was assessed as neutral, with the remaining seven adjectives assessed as positive. Results are presented in Table 9.

Table 9. General Non-Athlete Stereotype Trait-Adjectives Based on Proportions of Participants Assigning Trait Stereotypes to Group Categories

	Student-Athletes		Non-Athlete Students			
Trait	Male	Female	Male	Female	χ^2	C
Clumsy	0.04	0.07	0.32	0.57	263.58	0.009
Educated	0.02	0.19	0.46	0.32	154.44	**0.367**
Inquisitive	0.04	0.24	0.40	0.32	105.50	**0.354**
Intelligent	0.04	0.20	0.49	0.27	151.88	**0.381**
Literary	0.01	0.13	0.31	0.55	239.03	**0.196**
Smart	0.04	0.22	0.45	0.30	131.46	**0.376**
Studious	0.04	0.18	0.31	0.47	150.86	**0.190**

Note. Sample Size = 369. Chi-square (χ^2) values above 11.5 and contingency coefficient (C) above .185 are statistically significant ($p < .0007$). Significant C values are also presented in bold.

Traits Not Assigned to a Category. Nine of the adjectives assessed (12.5%) did not have proportions that differentiated enough between two or fewer groups to be placed within a single category or a general category. These adjectives were *meek*, *bright*, *impressionable*, *sociable*, *fault-finding*, *self-concerned*, *realist*, *broad-minded*, and *vain*. Three of the nine adjectives were assessed as negative, three as neutral, and three as positive. Results are presented in Table 10.

Table 10. Non-Categorized Trait-Adjectives Based on Proportions of Participants Assigning Trait Stereotypes to Group Categories

	Student-Athletes		Non-Athlete Students			
Trait	Male	Female	Male	Female	χ^2	C
Bright	0.03	0.33	0.31	0.33	98.13	**0.383**
Broad-minded	0.11	0.21	0.47	0.22	102.77	**0.300**
Fault-finding	0.17	0.28	0.23	0.32	17.53	0.038
Impressionable	0.18	0.40	0.19	0.23	47.53	0.146
Meek	0.07	0.25	0.25	0.43	91.61	0.143
Realist	0.05	0.24	0.49	0.22	148.52	**0.425**
Self-concerned	0.24	0.37	0.20	0.18	32.49	0.112
Sociable	0.19	0.42	0.20	0.20	53.43	**0.190**
Vain	0.42	0.26	0.21	0.11	75.54	0.029

Note. Sample Size = 369. Chi-square (χ^2) values above 11.5 and contingency coefficient (C) above .185 are statistically significant ($p < .0007$). Significant C values are also presented in bold.

Not Male Student-Athlete. Thirty-four of the adjectives assessed (47.2%) were distinctly not associated with male student-athletes. These adjectives were *clumsy, modest, literary, soft-hearted, scientific, gentle, quiet, well-mannered, humble, intellectual, artistic, studious, mathematical, realist, soft-spoken, inquisitive, ordinary, shy, broad-minded, bright, meek, sensitive, wise, smart, timid, lonesome, weak, cautious, philosophical, thoughtful, intelligent, respectful, sensible,* and *educated*. The trait *bright* was significant (C = .383, p <0.001), but both female student-athlete and female non-athlete student had the same number of assignments. Additionally, male non-athlete student had seven fewer participant assignment than female student-athlete and female non-athlete student, making it even more problematic. Therefore, it was placed in the not male student-athlete category

because it was clearly not associated with that category. Three of the 34 adjectives were assessed as negative, 12 as neutral, and the remaining 19 as positive.

Not Female Student-Athlete. Three of the adjectives assessed (4.2%) were distinctly not associated with female student-athletes. These adjectives were *scientific*, *mathematical*, and *immature*. One of the three adjectives was assessed as negative, with the remaining two being neutral.

Not Male Non-Athlete Student. Five of the adjectives assessed (6.9%) were distinctly not associated with male non-athlete students. These adjectives were *soft-hearted*, *popular*, *active*, *sensitive*, and *quick*. Three of the five adjectives were assessed as neutral, with the remaining two assessed as positive.

Not Female Non-Athlete Student. Twenty-two of the adjectives assessed (30.6%) were distinctly not associated with female non-athlete students. These adjectives were *crude*, *obnoxious*, *hot-tempered*, *popular*, *self-confident*, *bragging*, *active*, *hot-headed*, *tough*, *vain*, *short-tempered*, *vigorous*, *over-confident*, *egotistical*, *immature*, *dominating*, *boastful*, *showy*, *smug*, *quick*, *talented*, and *boisterous*. Twelve of the 22 adjectives were assessed as negative, seven as neutral, and the remaining three as positive.

In 2x2 chi squares, contingency coefficients can be assessed, which are used to determine the interaction between each nominal category. The coefficient can range from 0 to 1, with 1 being stronger association. Significant *p* values indicate that placement in one category may be more tied to sex than athlete status, and vice versa. There were a total of 33 trait-adjectives that had a significant contingency coefficient. While interactions can be interpreted as sex being contingent upon athlete status and athlete status being contingent upon sex, some make more sense to be categories into different groupings. This by no

means implies causation, but for the sake of clear interpretation, the 33 traits were placed into one of two groups: one where sex was primary and one where athlete status was primary. A summary of the results of the contingency coefficient tests for the card-sort are presented in the master table in Appendix J.

Contingency Coefficients: Sex Primary Interactions

Seventeen of the 33 trait-adjectives that had significant contingency coefficients made the most sense by interpreting the interactions by sex. Within this grouping, several distinct interpretations can be made. If participants decided the following traits were masculine, they would not place them in the athlete category; if participants decided they were feminine, athlete and non-athlete categories were equivalent: *mathematical*, *wise*, *educated*, *respectful*, *well-mannered*, *modest*, and *bright*. If participants decided the following traits were masculine, they would not place them in the athlete category; if participants decided they were feminine, they were more likely to place the traits into non-athlete than athlete categories: *ordinary*, *normal*, *lonesome*, *quiet*, *studious*, and *literary*. If participants decided the following traits were feminine, they would not place them in the non-athlete category; if participants decided they were masculine, they were more likely to place the traits into athlete than non-athlete categories: *vigorous* and *smug*. If participants decided the following trait was feminine, they would not place them in the non-athlete category; if participants decided it was masculine, athlete and non-athlete categories were equivalent: *energetic*. If participants decided the following trait was feminine, they would place the trait more often in the athlete category over the non-athlete category; if the participants decided it was masculine, athlete and non-athlete categories were equivalent: *outgoing*.

Contingency Coefficients: Athlete Primary Interactions

Sixteen of the 33 trait-adjectives that had significant contingency coefficients made the most sense by interpreting the interactions by athlete status. Within this grouping, several distinct interpretations can be made. If participants decided the following traits were athletic, they would not place them in the male category; if participants decided they were non-athletic, male and female categories were equivalent: *inquisitive*, *attentive*, and *humble*. If participants decided the following traits were athletic, they would not place them in the male category; if participants decided they were non-athletic, they were more likely to place the traits into male than female categories: *intelligent*, *smart*, and *realist*. If participants decided the following trait was athletic, they would not place them in the male category; if participants decided it was non-athletic, they were more likely to place the trait into female than male categories: *sensible*. If participants decided the following traits were athletic, they would place them into the female more than male category; if participants decided they were non-athletic, male and female categories were equivalent: *self-confident*, *disciplined*, *lively*, and *sociable*. If participants decided the following traits were non-athletic, they would not place them in the female category; if participants decided they were athletic, male and female categories were equivalent: *scientific* and *boisterous*. If participants decided the following traits were non-athletic, they would place them into the male more than female category; if participants decided they were athletic, male and female categories were equivalent: *philosophical* and *broad-minded*. If participants decided the following trait was non-athletic, they would place it in the male more than female category; if participants decided it was athletic, they would place it in the female more than male category: *intellectual*.

Hypothesis 4: Participant Sex Differences in Stereotype Assignment. A series of 2X4 (sex of participant X male student-athlete/female student-athlete/male non-athlete student/female non-athlete student) chi-square tests of association were run to determine if the sex of the participant impacted their placement of cards. A total of 16 of significant differences were found, but only 11 were interpretable. The complete list of words with significant differences are presented in Appendix K.

Two traits were placed in the same categories by participants, but had different ratios of assignment. *Short-tempered* was placed by male participants into the male student-athlete category four times more often than in the male non-athlete student category. Female participants placed this term in the male student-athlete category twice as often as the male non-athlete student category. Both male and female participants placed the term *soft-spoken* more often in the female non-athlete student category, but males were twice as likely to place it in that category over the female student-athlete category, while females were six times as likely to make the same assignment.

Six traits were differentially assigned by one sex but not by the other. The trait *modest* was differentially assigned by sex, with males being more likely to place it in the female student-athlete category, and females being more likely to not differentiate between athlete status by placing it equally in both female categories. Males were more likely to place *self-conceited* into a non-differentiating athlete category, while females were twice as likely to place it in the male student-athlete category than the female student-athlete category. However, both males and females placed the trait overwhelmingly into the general athlete category. With the trait *humble*, females were more likely to place it into a non-differentiating female category, while males were twice is likely to put it in the female

student-athlete category than the female non-athlete student category. Both females and males placed the trait overwhelmingly in the general female category. For the trait *vain*, males were more likely to place it in either athlete category, while females were twice as likely to place it in the male student-athlete category than either female student-athlete or male non-athlete student. Males placed the trait *outgoing* equally across all categories, while female participants assigned it as an athlete category, with it being twice as likely to be assigned to the female student-athlete category than the male student-athlete category. Finally, *conceited* was associated by males as being athletic, with the lowest athletic group being male student-athletes. Females placed this term one and a half times more often in male student-athlete category than female student-athlete category.

Two of the traits appeared to not have similar portions in one category more than another, implying that the sexes may drastically differ on their perceptions of these traits. *Inquisitive* was not differentiating across female student-athlete, male non-athlete student, and female non-athlete student with male participants. However, female participants assigned this word in the male non-athlete student category above and beyond the other categories. Additionally, *meek* was assigned by male participants as not differentiating between female categories, while it was assigned by female participants not differentiating between nonathlete categories.

Hypothesis 5: Validity of Sex and Athlete Status Grouping. Reliability analyses were run on each grouping addressed in Hypothesis 3. This was done to determine how accurate the groupings were. The participants for this hypothesis were the 125 undergraduates who participated in the third (online only) phase of data collection. These individuals rated each of the 72 trait adjectives on stereotypicality of student-athletes and

stereotypicality of non-athlete students. From there, reliability analyses were run using SPSS. Each grouping assigned in Hypothesis 3 was run for both of the ratings to determine which rating was more reliable. It was predicted that groupings related to student-athletes (e.g., athlete group; female student-athlete group) would be more reliable when using the stereotypicality of student-athlete ratings. It was also predicted that groupings related to non-athlete students (e.g., non-athlete group, male non-athlete student group) would be more reliable when using the stereotypicality of non-athlete student ratings. The grouping for males was predicted as being more reliable when using the stereotypicality of student-athlete traits due to previous research linking males with student-athlete stereotypes (e.g., Steinfeldt, Carter, Benton, & Steinfeldt, 2011). The grouping for females was not predicted in either direction as previous research has not provided enough evidence to support a direction hypothesis.

All of the reported alpha coefficients are the most reliable measures. They also all fall within highly reliable ranges (Cohen & Swerdlik, 2012). The remaining coefficients are presented in Table 11. The 16 male student-athlete traits, six female student-athlete traits, eight male non-athlete student traits, 10 female non-athlete student traits, five athletic traits, and four masculine traits, when using the student-athlete stereotype ratings, had alpha coefficients of .983, .948, .903, .939, .907, and .755 respectively. The seven non-athletic traits and the seven feminine traits, when using the non-athlete student stereotype ratings, had alpha coefficients of .916 and .887, respectively

Table 11. Reliability Analyses for Typicality of Stereotype Ratings

Grouping	Athlete	Non-Athlete
Male Student-Athlete	0.983	0.932
Female Student-Athlete	0.948	0.668
Male Non-Athlete Student	0.903	0.885
Female Non-Athlete Student	0.939	0.890
Athletic	0.907	0.688
Non-Athletic	0.861	0.916
Masculine	0.755	0.677
Feminine	0.839	0.887

Note. Sample Size = 125. Coefficient alpha was reported.

Correlations were run between each grouping using scale scores calculated from the stereotypicality of the trait-adjective ratings. Significant correlations occurred between all eight groups for each correlational paring (p <0.001). The direction of the correlation indicates the relationship each group has with the other groups. All correlations are presented in Appendix L.

These ratings of stereotypicality were also analyzed using EFA and resulted in two factors for student-athletes, which are presented in Appendix M. Eight factors with Eigenvalues above 1.0 were found, indicating eight distinct factors. However, the first factor had an Eigenvalue of 38.56, the second 7.34, and the rest having values less than two. Therefore, it was decided that two distinct factors had emerged within this factor analysis. One factor appeared to be *athletic status*, while the other factor was most likely *non-athletic status*. Used in conjunction with the card sort groupings, every trait-adjective in the Athlete grouping, Male Student-Athlete grouping, and Male grouping loaded on the same factor.

CHAPTER 5: DISCUSSION

Research about stereotypes of student-athletes has not addressed important validity, reliability, and objectivity concerns adequately. (e.g., Elman & McKelvie, 2003; Baucom & Lantz, 2001; Carter & Shannon, 1940). These issues were addressed in the present study using a multitude of rating systems, assessment techniques, and interpretation strategies. Therefore, conclusions that can be made using the present study are more accurate and reliable than previous conclusions. The trait-adjective categories presented in this study can contribute to sports psychology research arena in ways similar to the contributions researchers have made in the personality domain through the development of trait-based taxonomies (e.g., Allport & Odbert, 1936; Goldberg, 1993).

Consistency of Stereotype Ratings. Intraclass reliability analyses were conducted on the undergraduate research assistants to determine how consistent their responses were. As reported previously, using the trait ratings provided by the undergraduate research assistants, intraclass correlations were done for student-athletes, non-athlete students, masculinity, femininity, and likability. Results showed consistent reliability for each of the rating scales, with the lowest being non-athlete students, followed by masculinity, student-athletes, femininity, and likability. Lower consistency on non-athlete student ratings could be due to limited stereotypes available about non-athletes. Because that group encompasses the majority of people on college campuses, it could be that it is hard to know what stereotypes exist, if any, regarding that population. Student-athlete, masculinity, and femininity all have intraclass correlations above .8, indicating high consistency. It also appeared that the undergraduate research assistants agreed the most when assessing the likability of the trait-adjective.

Ratings given by the undergraduate research assistants appeared to match closely with the card-sorting task completed by participants. Specifically, the experts and card-sort participants agreed on overall word valence per category, but the specific word associated with each category was different depending on the participants. Using the expert raters' information, 18 trait-adjectives were placed in each of the four original categories: male student-athlete, female student-athlete, male non-athlete student, and female non-athlete student. However, results from participants who sorted the trait-adjectives into one of those four categories indicated non-equal traits per associated category. Given that the information given to both the undergraduate research assistants and the participants was the same minimal stereotype cues, and that the instructions were not deceptive about what the study was about, the consistency between these groups of people is of note. This finding is consistent with the basic assumptions of stereotype activation: that stereotypes are automatic; they are cognitively efficient; and that they are shared group beliefs (e.g., Bargh, 1992; Cox, Abramson, Devine & Hollon, 2012; Devine, 1989; Fehr, Sassenberg, & Jonas, 2012; McGarty, Yzerbyt, & Spears, 2002; Myers, 2010). The fact that all groups were able to have consistent stereotype assumptions of each group with minimal activation triggers suggests that the thoughts were automatic, that the majority of individuals were consistent with ratings, and that the minimal stimuli resulted in efficient activations of ingrained perceptions.

Factor Analysis of Stereotype Ratings. Several interesting trends appeared in the EFA of the previous items. There were several differences between participants' perception of male and female student-athletes. Given that the male student-athlete EFA placed both athletic status as well as other masculine traits into the same factor, it could be postulated

that their identity as a student-athlete is more linked with their overall perception of self more so than female student-athletes. Contrasting that with the female student-athlete EFA showed that the student-athlete identity piece was separate from the traditional masculine traits. The differences between female non-athlete students and male non-athlete students were such that, while both have an athletic factor, the items that load on the factor are not the same. Female non-athlete students appeared to be tied more to the feminine/masculine item, as well as the aggressive/nonaggressive item than male non-athlete students. This could show support for previous findings that if a female is seen as non-athletic, she will be seen as more feminine and less aggressive (e.g., Atkins, Morse, & Zewigenhaft, 1978; Curry & Rehm, 1997; Uguccioni & Ballantyne, 1980).

The factors that appear when using EFA are consistent with previous literature: masculine and intelligence. However, this could be due to the nature of the previous literature questions that were asked. Because previous researchers expected to find these factors, they most likely chose bipolar items that were specific to those factors, resulting in a cyclical argument about one being able to predict another. Therefore, the specifics of these results should be interpreted with caution. For that reason, these results were used in conjunction with other results from the study to help support or refute the claims made by previous studies as well as the present study.

Gender and Student-Athlete Stereotypes: Sex and Athletic Status. It was predicted that participants would differentially sort adjectives into categories based on the sex of the category, as well as the athlete status. Each status would be dependent on the other when placing cards into categories as outlined by Freeman and Ambady (2011b), which stated that people use multiple sources of information when determining stereotypes. Indeed, the

majority of adjectives being sorted were associated with groupings that were linked to both athlete status and sex (55.4%). However, the original hypothesis regarding groupings indicated four distinct groups would occur, not the eight that were found. This could be due to spillover effects, where even when the trait was being sorted mostly to one category, the categories surrounding it pulled away from the majority category, resulting in non-significant contingency coefficients. This seemed to happen most often with the masculine, athletic, and male student-athlete traits, where the majority of individuals would sort traits into the male student-athlete category, but spillover into the general masculine or general athletic category occurred. It would be interesting to see if there would be a difference if participants were given the option of sorting an unlimited amount of cards into each category instead of a forced-choice sort.

The majority of the reliability analyses for the trait groupings were in the predicted direction. When using the student-athlete stereotypicality ratings for the masculine items, the reliability was higher than when using the non-athlete student ratings (.755 versus .677). This could mean that *student-athlete* and *masculine* are linked together in ways that are challenging to separate. The opposite was true for the feminine terms: the reliability was higher when using the non-athlete student ratings than the student-athlete ratings (.887 versus .839). This could mean that feminine traits are separate from athlete traits, and that female student-athletes may not have such strong association between their feminine identity and their athlete identity.

Perceptions of male student-athlete identities may be so connected with both their sex and their athlete status that the stereotypes associated with masculine and athletes are actually combining into the typical male athlete. Additional support for this interpretation

comes from the fact that 95% of the traits identified as not female non-athlete student are placed in masculine, student-athlete, or male student-athlete categories. It appeared that female non-athlete students are perceived to be the exact opposite of male student-athletes, as well as males and student-athletes as general categories. The only trait that was not associated with female non-athlete students and none of the above three categories was *self-confident*, which was placed in the female student-athlete category.

Nine traits could not be placed in any category due to nondifferentiation across more than two groups when they were sorted: *bright*, *meek*, *impressionable*, *sociable*, *fault-finding*, *self-concerned*, *realist*, *broad-minded*, and *vain.* The majority of these traits appear to be definitely not male student-athlete traits, but participants may have had trouble non-randomly placing the trait-adjectives into the other three categories. These traits may therefore not be stereotypical enough of any of the categories to be useful. However, as mentioned previously, it would be interesting to see if different methods of assessing traits (e.g., free-choice card sort) would result in different findings and interpretations.

None of the traits paired with male student-athletes were positive. This result supplements previous findings regarding negatively-associated words with student-athletes in general (e.g., Baucom & Lantz, 2001; Engstrom, Sedlacek, and McEwen, 1995). However, of the words that were associated with athletes, one was positive (*outgoing*), indicating that previous research may have overlooked positive attributes student-athletes possess. Female student-athletes were only associated with positive traits, giving support to previous studies that identified that female student-athletes were perceived differently than male student-athletes (e.g., Atkins, Morse, & Zewigenhaft, 1978), and again providing

support that previous researchers may have overlooked positive traits associated with student-athletes.

Gender and Student-Athlete Stereotypes: Sex Differences in Stereotype Assignment. It appeared that the current sample of participants believed males have more negative stereotypes associated with them than females. Indeed, the proportion of male to female negative traits across all three category groupings (masculine, male student-athlete, and male non-athlete student; feminine, female student-athlete, and female non-athlete student) was 8.5:1, with males overwhelmingly having more negative traits. The number of traits assigned to males versus females was almost equivalent (males = 28; females = 23), making this finding even stronger. The male non-athlete student category had one negative trait assigned to it (*lonesome*), indicating that overall, male non-athlete students were seen in a neutral to positive light. The proportion of female to male positive traits across all three category groupings was 8:1, with females having more positive traits. Again, this is support for previous findings, but it needs to be interpreted with caution due to the proportion of female to male participants being almost 2:1. It could be argued that the reason why females had more positive traits associated with them was due to self-identification among participants, with females wanting more positive than negative traits associated with themselves.

Eleven of the total assignments were differentially assigned based on the participant sex. None of them appeared to make significant differences in the contingency coefficient strength to warrant differential analysis based on sex. It did appear that female participants were more likely to place negative words in the male student-athlete category over most of the other categories, while male participants were more likely to not

differentiate between athlete status or sex as much. Perhaps the female participants had more negative experiences with male student-athletes and projected those experiences as stereotypes more strongly than male participants. Perhaps female participants had more negative experiences with men in general and that impacted their placement of adjectives. It could also be that each sex wanted to associate more positive than negative traits with the categories of their own sex. This last explanation can clearly be seen when looking at *talented*, where males placed the word more often in the male student-athlete category and females placed the word more often in the female student-athlete category. However, the interpretation of the full range of potential effects of self-identification is beyond the scope of this specific study.

The present study was able to show that there were distinct differences between male and female student-athletes that have not been addressed adequately before. As discussed by Freeman and Ambady (2011b), people use many cues in combination to assess stereotypes associated with a target person. Therefore, it makes sense that participants used the combination of *female* and *student-athlete* to think of trait-adjectives that were feminine in nature and more athletic than not. Additionally, the stereotypes participants used match with previous researched gender interest areas, such that males are seen as being more *intelligent*, *mathematical*, and *scientific*, while females are seen as being *literary*, *quiet*, and *studious*. Previous research regarding Holland's model of vocational interests has shown quite distinctly that different genders are perceived to be more or less interested in different occupational areas (e.g., Holland, 1962; Deng, Armstrong, & Rounds, 2007). This was a result that was not predicted to happen, but

connects the area of sport psychology research to the well-developed area of vocational research.

Implications

Research implications are as follows. The biggest contribution this study has to the field of sport psychology is the ability to use the empirically supported lists of stereotypes to assess research questions in a more objective manner. Researchers could use these lists to replicate previous findings, or to move forward in the field the way other major fields in psychology have (e.g., personality). This study also provides an example of how to create lists using valid and reliable means for a variety of applications, including other stereotypes, perceptions, or attributions.

Clinical implications require more extrapolation. As is cited in previous literature on stereotype application, increasing awareness of the stereotypes associated with a particular group can help prevent the application of those stereotypes (Devine, 1989). This study can, therefore, provide trait-adjectives to link with the general public's feelings about student-athletes. This could also prove useful for clinicians who work with student-athletes in understanding the difficulty of their world and how others perceive them, resulting in increased empathy. Teachers may be able to use this information to increase their awareness of how internal biases may impact their interaction with student-athletes in their classrooms.

Limitations

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 from a primarily White Midwestern university, meaning it may not be applicable to how

minority individuals see student-athletes. Second, as previous literature has shown, race/ethnicity of the individual being assessed can have an impact on the stereotypes that are associated with them. This study did not ask specifically about a racial/ethnic student-athlete or non-athlete student, which could be problematic depending on who the participants were thinking of when they assigned traits. It could be that this study found support for stereotypes White undergraduates have of Black athletes.

Second, retention problems occurred, with 95 of the original participants who sorted the cards in lab having to be removed due to various concerns. Several participants used some cards more than once instead of using each trait only once. Others put more than the allotted 18 cards per category into a category. Combined, these two errors accounted for 72 participant removals. Thirty more participants did not complete both the in-lab portion of the study as well as the online portion, creating challenges to compare data from both parts of the study with each individual participant. It could be that 72 traits are too many to sort, and that fewer cards could have resulted in more accurate categorization.

Finally, several challenges occurred regarding consistent data collection. Collecting data using three different samples created more limitations with the types of data analyses that would be able to be run. For example, the original participants did not rate each trait on its stereotypicality of student-athletes and non-athlete students, meaning there were limited ways to predict category assignment based on participant ratings of traits.

Future Directions

Many future studies can make use of the findings of this study. Given the magnitude of the effects found within this study using minimal instructional stimuli, one future step

could be learning at what point do the stereotypes break down. According to Freeman and Ambady (2011b), people use multiple sources of information to form stereotypes, meaning that more information about a person would probably impact the perception someone has of that person. It could be that for some categories within this study, it would take many more additional details before separation of attributes is achieved, while others may take very few. The current study used the minimal cues of sex and athlete status, and participants were able to consistently use those cues to inform their decision of where a trait-adjective should be placed, but it is unclear as to what might happen if additional or different information was presented.

Replication may be important to build on the psychometric qualities of the findings, especially given the limitations of retention and generalizability. Repeating the procedure with other institutions that are more diverse than the current sample could either provide evidence that these stereotypes are universal, or that stereotype perception may be impacted by location and culture. Additionally, if other institutions that are primarily White and Midwestern do not find the same groupings, that could provide evidence that the current procedure and method has some flaws that need to be addressed.

Scale validation may be another future research opportunity. Specifically, choosing words that are part of the lists and asking participants to say what group a person who has those qualities belongs to may be a way of determining if the groupings are accurate. An example would be asking a person what category someone might belong to if they are *popular*, *boastful*, *obnoxious*, and *smug*. If participants place that person in the male student-athlete category, it could provide support for the validity of the current study.

Adding other aspects individuals may be using to stereotype student-athletes would be crucial to understanding stereotypes of different types of student-athletes. For example, including information about the race/ethnicity of the person may result in different groupings. The type of sport (e.g., individual vs. group; high vs. low profile) may also have an impact on how people perceive the athlete. How those additional attributes may be addressed could happen implicitly or explicitly. The present study is an example of explicit stereotype activation, but a more subtle way at addressing stereotypes could be writing a brief paragraph about a person and asking specific questions about them. For example, "Bill (Emily/Dante/Loquisha) has never (always) played sports, and is not (very) interested in sports. He (she) does not participate (participates) in sports at a collegiate level. What traits do you associate with Bill (Emily/Dante/Loquisha)?" This statement encompasses sex, athlete status, and race/ethnicity without explicitly asking participants to place traits into categories.

One simple way to further this area of research would be to compare participant ratings of a forced-choice card sort to a free-choice card sort. Potentially, participants may change how they sort the trait-adjectives if given the ability to place however many traits in whatever category they preferred. Indeed, when training the research assistants on the in-lab procedure, the most common feedback given was regarding difficulty containing only 18 trait-adjectives to the male student-athlete category. Multi-method assessment would be beneficial to adding validity and reliability support to the present study's claims.

After more replication and validation studies have taken place, the next logical step would be to use these groupings to address previous questions in a more systematic way and to move forward in the field of sport psychology. This study could be the impetus that

drives change and asking new questions within this field in similar ways that previous personality researchers have. Any number of studies regarding stereotype activation, application, and management could be produced. Stereotype threat researchers may use this information to see if differences occur at different levels of sport type, something that has not been addressed in the past.

Summary and Conclusions

This study has shown there are differences in perceptions college students have toward student-athletes. Student-athletes in general are seen much more negatively than non-athlete students, which was also found in previous research (e.g., Baucom & Lantz, 2001). Male student-athletes and female student-athletes are viewed differently, something previous researchers assumed when assessing perceptions, but has not been empirically supported until the current study. The masculine traits were highly correlated with athlete traits, meaning that on some level, student-athletes and masculinity are interrelated. When combining masculine, athlete, and male student-athlete categories, they are seen as more negative, self-centered, and smug than their female counterparts.

Previous research that used stereotypes created by researcher's subjective experiences had some merit: results from the current study show that, for the most part, previous perceptions used were accurate stereotypes. However, they did not capture several key aspect people think of when they assess student-athletes, specifically regarding positive traits. Therefore, as shown by the present study. the construct validity of previous studies was, at best, incomplete. Researchers either ignored, were unaware of, or were not interested in addressing the potential of positive stereotypical qualities student-athletes are perceived to have. These positive valence stereotypes include the notion that student-

athletes are talented, active, or in the case of female student-athletes, lively, energetic, and outgoing. Having uncovered these stereotypes in the present study, an entire area of person-adjectives that had not been assessed is now available for investigators to examine and address in future research.

REFERENCES

Ackerman, C. (2013). *Exploration of factors related to the development of vocational identity in collegiate student-athletes.* (Doctoral dissertation, University of Kansas).

Adler, P., & Adler, P. A. (1985). From idealism to pragmatic detachment: The academic performance of college athletes. *Sociology of Education, 58*, 241-250.

Ahlgren, R. L. (2001). *An investigation of demographic, psychosocial and self-reported behavioral influences on career maturity levels of college student-athletes* (Doctoral dissertation, West Virginia University).

Albion, M. J., & Fogarty, G. J. (2005). Career decision making for young elite athletes: are we ahead on points? *Australian Journal of Career Development, 14*(1), 51-63.

Allport, G. W., & Odbert, H. S. (1936). Trait-names: A psycho-lexical study. *Psychological Monographs, 47*(1), iii-171.

Anderson, N. H. (1968). Likableness ratings of 555 personality-trait words. *Journal of Personality and Social Psychology, 9*(3), 272-279.

Arrindell, W. A., & Van der Ende, J. (1985). An empirical test of the utility of the observations-to-variables ratio in factor and components analysis. *Applied Psychological Measurement, 9*, 165-178.

Atkins, C., Morse, C., & Zweigenhaft, R. (1978). The stereotype and recognition of female athletes. *The Journal of Psychology, 100*, 27-31.

Babin, B. J., Boles, J. S., & Darden, W. R. (1995). Salesperson stereotypes, consumer emotions, and their impact on information processing. *Journal of the Academy of Marketing Science, 23*(2), 94-105.

Bargh, J. A. (1992). The ecology of automaticity: Toward establishing the conditions needed to produce automatic processing effects. *The American Journal of Psychology, 105*(2), 181-199.

Bargh, J. A., Chen, M., & Burrows, L. (1996). Automaticity of social behavior: Direct effects of trait construct and stereotype activation. *Journal of Personality and Social Psychology, 71*(2), 230-244.

Bar-On, R. (1997). The emotional intelligence inventory (EQ-I): Technical manual. *Toronto, Canada: Multi-Health Systems.*

Baucom, C., & Lantz, C. D. (2001). Faculty attitudes toward male division II student athletes. *Journal of Sport Behavior, 24*(3), 265-276.

Bellezza, F. S., & Bower, G. H. (1981). Person stereotypes and memory for people. *Journal of Personality and Social Psychology, 41*(5), 856-865.

Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology, 42*, 155-162.

Burke, K. L. (1993). The negative stereotyping of student athletes. In Kirk, W. D., & Kirk, S. V. *Student athletes: Shattering the myths & sharing the realities* (93-98). Virginia: American Counseling Association.

Caron, S. L., Carter, D. B., & Brightman, L. A. (1985). Sex-role orientation and attitudes towards women: Differences among college athletes and nonathletes. *Perceptual and Motor Skills, 61*, 803-806.

Carter, G. C., & Shannon, J. R. (1940). Adjustment and personality traits of athletes and non-athletes. *The School Review, 48*(2), 127-130.

Cattell, R. B. (1943). The description of personality: Basic traits resolved into clusters. *Journal of Abnormal and Social Psychology, 38*, 476-506.

Clift, B. C., & Mower, R. L. (2013). Transitioning to an athletic subjectivity: First semester experiences at a corporate (sporting) university. *Sport, Education and Society, 18*(3), 349-369.

Cockley, W. T., & Roswal, G. M. (1994). A comparison study of faculty members' perceived knowledge and satisfaction regarding NCAA athletic programs. *Journal of Sport Behavior, 17*(4), 217-226.

Cohen, R. J., & Swerdlik, M. E. (2002). *Psychological testing and assessment: An introduction to tests and measurement*. McGraw-Hill.

College Enrollment Statistics. Accessed April 1, 2014. Retrieved from http://www.statisticbrain.com/college-enrollment-statistics/.

Comeaux, E. (2010). Racial differences in faculty perceptions of collegiate student athletes' academic and post-undergraduate achievements. *Sociology of Sport Journal, 27*, 390-412.

Cox, W. T. L., Abramson, L. Y., Devine, P. G., & Hollon, S. D. (2012). Stereotypes, prejudice, and depression: The integrated perspective. *Perspectives on Psychological Science, 7*, 427-449.

Creasy, A. C. (2006). *The effects of gender, year in school, plans to play professionally, and identity on student athletes' adoption of goal orientations in academics.* (Doctoral dissertation from University of Texas-Austin).

Cuddy, A. J. C., Fiske, S. T., Kwan, V. S. Y., Glick, P., Demoulin, S. Leyens, J. P., Bond, M. H., Croizet, J. C., Ellemers, N., Sleebos, E., Htun, T. T., Kim, H. J., Maio, G., Perry, J., Petkova, K., Todorov, V., Rodriguez-Bailón, R., Morales, E., Moya, M., Palacios, M., Smith, V., Perez, R. Vala, J., & Ziegler, R. (2009). Stereotype content model across cultures: Toward universal similarities and some differences. *British Journal of Social Psychology, 48*, 1-33.

Curry, L. A., & Rehm, M. (1997). Participation in NCAA division I athletics: Self-perception differences in athletes and nonathletes. *College Student Journal*, *31*, 96-103.

Czopp, A. M. (2010). Studying is lame when he got game: Racial stereotypes and the discouragement of Black student-athletes from schoolwork. *Social Psychological Education, 13*, 485-498.

Daugherty, C. G., & Dambrot, F. H. (1986). Reliability of the Attitudes toward Women Scale. *Educational and Psychological Measurement, 46,* 449-453.

Deng, C. P., Armstrong, P. I., & Rounds, J. (2007). The fit of Holland's RIASEC model to US occupations. *Journal of Vocational Behavior, 71*(1), 1-22.

Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology, 56*(1), 5-18.

Duncan, B. L. (1976). Differential social perception and attribution of intergroup violence: Testing the lower limits of stereotyping of Blacks. *Journal of Personality and Social Psychology, 34*(4), 590-598.

Elman, W. F., & McKelvie, S. J. (2003). Narcissism in football players: Stereotype or reality? *Athletic Insight, 5*(1), 38-46.

Endler, N. S., Parker, J. D. A., Ridder, D. T. D., & van Heck, G. L. (2004). *Coping inventory for stressful situations*. Swets Test Publ.

Engstrom, C. M., & Sedlacek, W. E. (1989). Attitudes of residence hall students toward student-athletes: Implications for advising, training, and programming. Counseling Research Report #19-89. College Park: University of Maryland.

Engstrom, C, M., & Sedlacek, W. E. (1991). A study of prejudice toward university student-athletes. *Journal of Counseling and Development, 70,* 189-193.

Engstrom, C. M., Sedlacek, W. E., & McEwen, M. K. (1995). Faculty attitudes toward male revenue and nonrevenue student-athletes. *Journal of College Student Development, 36*(3), 217-227.

Eysenck, H. J., & Eysenck, S. B. G. (1975). *Manual for the Eysenck Personality Questionnaire*. San Diego, CA: Educational and Industrial Testing Service.

Fehr, J., Sassenberg, K., & Jonas, K. J. (2012). Willful stereotype control: The impact of internal motivation to respond without prejudice on the regulation of activated stereotypes. *Zeitschrift für Psychologie, 220*(3), 180-186.

Field, A. (2009). *Discovering statistics using SPSS: Third edition.* London, England: SAGE Publications Ltd.

Freeman, J. B., & Ambady, N. (2009). Motions of the hand expose the partial and parallel activation of stereotypes. *Psychological Science, 20,* 1183-1188.

Freeman, J. B., & Ambady, N. (2011a). When two become one: Temporarlly dynamic integration of the face and voice. *Journal of Experimental Social Psychology, 47,* 259-263.

Freeman, J. B., & Ambady, N. (2011b). A dynamic interactive theory of person construal. *Psychological Review, 118*(2), 247-279.

Football – 2014 Roster. Accessed July 11, 2014. Retrieved from http://www.cyclones.com/SportSelect.dbml?&DB_OEM_ID=10700&SPID=4653&SPSID=48388.

Gabriel, P. E., & Schmitz, S. (2007). Gender differences in occupational distributions among workers. *Monthly Labor Review 130*(6), 19-24.

Ganim, S. (January 8, 2014). *CNN analysis: Some college athletes play like adults, read like 5th-graders.* Retrieved from http://www.cnn.com/2014/01/07/us/ncaa-athletes-reading-scores/.

Ganim, S. (April 8, 2014). *UNC fake class scandal and NCAA's response wind their way to Washington.* Retrieved from http://www.cnn.com/2014/04/08/us/unc-academic-fraud-investigation/.

Gebhardt, W. A., Van der Doef, M. P., & Paul, L. B. (2001). The revised health hardiness inventory (RHHI-24): Psychometric properties and relationship with self-reported health and health behavior in two Dutch samples. *Health Education Research, 16*(5), 579-592.

Gilbert, D. T., & Hixon, J. G. (1991). The trouble of thinking: Activation and application of stereotypic beliefs. *Journal of Personality and Social Psychology, 60*(4), 509-517.

Gould, D., & Carson, S. (2008). Life skills development through sport: Current status and future directions. *International Review of Sport and Exercise Psychology, 1*(1), 58-78.

Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist, 48*(1), 26-34.

Grove, J. R., & Paccagnella, M. (1995). Tall poppies in sport: Attitudes and ascribed personality traits. *Australian Psychologist, 30*(2), 88-91.

Haberman, S. J. (1978). *Analysis of qualitative data.* London: Academic Press.

Hansen, J., & Wänke, M. (2009). Think of capable others and you can make it! Self efficacy mediates the effect of stereotype activation on behavior. *Social Cognition, 27*(1), 76-88.

Harahousou-Kabitsi, Y. S., & Kabitsis, C. N. (1995). Statistical evaluation of an inventory for assessing Greek men's and women's attitudes toward women in sport. *International Journal of Sport Psychology, 26*, 398-412.

Harris, M. B., & Hall, C. (1978). Sex stereotypes and ratings of athletes. *The Journal of Social Psychology, 105*, 151-152.

Harrison, C. K., Lawrence, S. M., & Bukstein, S. J. (2011). College students' explanations of White (and Black) athletic performance: A qualitative investigation of White college students. *Sociology of Sport Journal, 28*, 347-361.

Harrison, C. K., Stone, J., Shapiro, J., Yee, S., Boyd, J. A., & Rullan, V. (2009). The role of gender identities and stereotype salience with the academic performance of male and female college athletes. *Journal of Sport & Social Issues*, *33*, 78-96.

Hertel, P. T., & Mathews, A. (2011). Cognitive bias modification: Past perspectives, current findings, and future applications. *Perspectives on Psychological Science, 6*, 521-536.

Hilton, J. L., & von Hippel, W. (1996). Stereotypes. *Annual Review of Psychology, 47*, 237-271.

Holland, D. L. (2010). *Community college student affairs administrators' perceptions regarding intercollegiate athletics.* (Doctoral dissertation, Clemson University).

Holland, J. L. (1962). Some explorations of a theory of vocational choice: I. One-and two-year longitudinal studies. *Psychological Monographs: General and Applied, 76*(26), 1.

Hook, L. L. (2012). *Athletic identity, vocational identity, and occupational engagement in college student-athletes and non-athletes.* (Doctoral dissertation, University of Kansas).

Hřebíčková, M., & Graf, S. (2014). Accuracy of national stereotypes in central Europe: Outgroups are not better than ingroup in considering personality traits of real people. *European Journal of Personality, 28*, 60-72.

Hughes, R., & Coakley, J. (1991). Positive deviance among athletes: The implications of overconformity to the sport ethic. *Sociology of Sport Journal, 8*, 307-325.

Iowa State University. Accessed July 11, 2014. Retrieved from http://www.forbes.com/colleges/iowa-state-university/.

Judd, C., & Park, B. (1993). Definition and assessment of accuracy in social stereotypes. *Psychological Review, 100*, 109-128.

Kunda, Z., & Thagard, P. (1996). Forming impressions from stereotypes, traits, and behaviors: A parallel-constraint-satisfaction theory. *Psychological Review, 103*(2), 284-308.

La Piere, R. T. (1936). Type-rationalizations of group antipathy. *Social Forces, 15*, 232-237.

Larose, H., Tracy, J., & McKelvie, S. J. (1993). Effects of gender on the physical attractiveness stereotype. *The Journal of Psychology, 127*(6), 677-680.

Leonard, W. M. II. (1986). Exploitation in collegiate sport: The views of basketball players in NCAA divisions I, II, and III. *Journal of Sport Behavior, 9*(1), 11-30.

Lewis, M. P. (1988). *Fair or foul? An investigation into the common stereotypes of athletes.* (Doctoral dissertation, University of Arizona).

Loosemore, M., & Tan, C. C. (2000). Occupational stereotypes in the construction industry. *Construction Management and Economics, 18*, 559-566.

López, R. L., & Levy, J. J. (2010). Student athletes' perceived barriers to and preferences for seeking counseling. *Journal of College Counseling 16*, 19-31.

Macrae, C. N., Milne, A. B., & Bodenhausen, G. V. (1994). Stereotypes as energy saving devices: A peek inside the cognitive toolbox. *Journal of Personality and Social Psychology, 66*(1), 37-47.

Martens, M. P., & Cox, R. H. (2000). Career development in college varsity athletes. *Journal of College Student Development, 41*(2), 172-180.

McCabe, A. E., & Brannon, L. A. (2004). Effect of shifting standards on evaluations of white subtype members. *Journal of Social Psychology, 144*, 91-92.

McDonald, R. P. (1999). *Test theory.* Mahwah, NJ: Erlbaum.

McGarty, C., Yzerbyt, V. Y., & Spears, R. (Eds.). (2002). *Stereotypes as explanations: The formation of meaningful beliefs about social groups*. Cambridge University Press.

McMartin, J., & Klay, J. (1983). Some perceptions of the student-athlete. *Perceptual and Motor Skills, 57*, 687-690.

Michael, M. E., Gilroy, F. D., & Sherman, M. F. (1984). Athletic similarity and attitudes towards women as factors in the perceived physical attractiveness and liking of a female varsity athlete. *Perceptual and Motor Skills, 59*, 511-518.

Myers, D. G. (2012). *Exploring Social Psychology (Sixth Edition).* New York: McGraw Hill.

Neemann, J., & Harter, S. (1986). *Manual for the self-perception profile for college students.* University of Denver.

NCAA College Athletics Statistics. Accessed April 1, 2014. Retrieved from http://www.statisticbrain.com/ncaa-college-athletics-statistics/.

Nunnally, J. C., & Bernsteinm, I. H. (1994). *Psychometric Theory: Third Edition.* New York, NY: McGraw-Hill.

Owuamalam, C. K., Tarrant, M., Farrow, C. V., & Zagefka, H. (2013). The effect of metastereotyping on judgements of higher-status outgroups when reciprocity and social image improvement motives collide. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement, 45*(1), 12-23.

Pedersen, D. M. (1997). Perceived traits of male and female athletes. *Perceptual and Motor Skills, 85*, 547-550.

Pelham, B. W., & Swann, W. B. (1989). From self-conceptions to self-worth: on the sources and structure of global self-esteem. *Journal of personality and social psychology, 57*(4), 672.

Potuto, J. R., O'Hanion, J. (2007). National study of student-athletes regarding their experiences as college students. *College Student Journal, 41*(4), 947-966.

Price, F. L. (2000). *Racial determinants of academic success and failure of division I football players.* (Doctoral dissertation, University of Wyoming).

Putler, D. S., & Wolfe, R. A. (1999). Perceptions of intercollegiate athletic programs: Priorities and tradeoffs. *Sociology of Sport Journal, 16*, 301-325.

Raskin, R. N., & Hall, C. S. (1989). An MMPI description of the narcissitic personality. *Journal of Personality Assessment, 53*, 66-80.

Remer, R., Tongate, F. A., & Watson, J. (1978). Athletes: Counseling the overprivileged minority. *Personnel and Guidance Journal, 56*(10), 626-629.

Renfrow, N. E., & Bolton, B. (1981). Physiological and psychological characteristics associated with women's participation in intercollegiate athletics. *Perceptual and Motor Skills, 53*, 90.

Ridpath, B. D. (2008). Can the faculty reform intercollegiate athletics? A past, present, and future perspective. *Journal of Issues in Intercollegiate Athletics, 1*, 11-25.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological monographs: General and applied, 80*(1), 1.

Royce, W. S., Gebelt, J. L., & Duff, R. W. (2003). Female Athletes: Being both athletic and feminine. *Athletic Insight, 5*(1), 47-61.

Sagar, H. A., & Schofield, J. W. (1980). Racial and behavioral cues in black and white children's perceptions of ambiguously aggressive acts. *Journal of Personality and Social Psychology, 39*, 590-598.

Sailes, G. A. (1993). An investigation of campus stereotypes: The myth of black athletic superiority and the dumb jock stereotype. *Sociology of Sport Journal, 10*, 88-97.

Schneider, R. G. (2001). College students' perceptions on the payment of intercollegiate student-athletes. *College Student Journal, 35*(2), 232-241.

Schrack-Walters, A., O'Donnell, K. A., & Wardlow, D. L. (2009). Deconstructing the myth of the monolithic male athlete: A qualitative study of men's participation in athletics. *Sex Roles, 60*, 81-99.

Simons, H. D., Bosworth, C., Fujita, S., & Jensen, M. (2007). The athlete stigma in higher education. *College Student Journal, 41*(2), 251-273.

Sibicky, M., & Dovidio, J. F. (1986). Stigma of psychological therapy: Stereotypes, interpersonal reactions, and the self-fulfilling prophecy. *Journal of Counseling Psychology, 33*(2), 148-154.

Skinner, B.F. (1938). *The behavior of organisms: An experimental analysis*. New York, NY: Appleton-Century.

Sowa, C. J., & Gressard, C. F. (1983). Athletic participation: Its relationship to student development. *Journal of College Student Personnel, 24*(3), 236-239.

Spence, J. T., & Helmreich, R. L. (1972). *The Attitudes Toward Women Scale: An objective instrument to measure attitudes toward the rights and roles of women in contemporary society.* American Psychological Association.

Spence, J. T., Helmreich, R., & Stapp, J. (1973). A short version of the Attitudes toward Women Scale (AWS)*. *Bulletin of Psychonomic Society, 2*(4), 219-220.

Spencer, S. J., Steele, C. M., & Quinn, D. M. (1999). Stereotype threat and women's math performance. *Journal of Experimental and Social Psychology, 35*, 4-28.

Stafford, T. F., Leigh, T. W., & Martin, L. L. (1995). Assimilation and contrast priming effects in the initial consumer sales call. *Psychology & Marketing, 12*(4), 321-347.

Stalnaker, J. M. (1933). Attitudes toward intercollegiate athletics. *School and Society, 37*(955), 499-504.

Steinfeldt, J. A., Carter, H., Benton, E., & Steinfeldt, M. C. (2011). Muscularity beliefs of female college student-athletes. *Sex Roles, 64*, 543-554.

Stephan, W. G., Ageyve, V., Stephan, C. W., Abalakina, M., Stefanenko, T., & Coates Shrider, L. (1993). Measuring stereotypes: A comparison of methods using Russian and American samples. *Social Psychology Quarterly, 56*(1), 54-64.

Stone, J. (2002). Battling doubt by avoiding practice: The effects of stereotype threat on self-handicapping in White athletes. *Personality and Social Psychology Bulletin, 28*(12), 1667-1678.

Stone, J. (2012). A hidden toxicity in the term "student-athlete": Stereotype threat for athletes in the college classroom. *Wake Forest Journal of Law & Policy, 2*, 179-197.

Stone, J., Harrison, C. K., & Mottley, J. (2012). "Don't call me a student-athlete": The effect of identity priming on stereotype threat for academically engaged Black college athletes. *Basic and Applied Social Psychology, 34*, 99-106.

Stone, J., Lynch, C. I., Sjomeling, M., & Darley, J. M. (1999). Stereotype effects on Black and White athletic performance. *Journal of Personality and Social Psychology, 77*(6), 1213-1227.

Stone, J., Perry, Z. W., & Darley, J. M. (1997). "White men can't jump": Evidence for the perceptual confirmation of racial stereotypes following a basketball game. *Basic and Applied Social Psychology, 19*(3), 291-306.

Sue, D. W. & Sue, D. (2013). *Counseling the Culturally Diverse: Theory and Practice (6th Edition).* New York: John Wiley & Sons.

Symonds, P. M., & Jackson, C. E. (1930). An adjustment survey. *The Journal of Educational Research, 21*(5), 321-330.

Tajfel, H. (1974). Social identity and intergroup behavior. *Social Science Information, 13*(2), 65-93.

Tomon, J. E., & Ting, S. R. (2010). Effects of team climate on substance use behaviors, perceptions, and attitudes of student-athletes at a large, public university. *Journal of College Student Development, 51*(2), 162-179.

Uguccioni, S. M., & Ballantyne, R. H. (1980). Comparison of attitude and sex roles for female athletic participants and nonparticipants. *International Journal of Sport Psychology, 11*(1), 42-48.

Ware Jr, J. E., & Sherbourne, C. D. (1992). The MOS 36-item short-form health survey (SF-36): I. Conceptual framework and item selection. *Medical care*, 473-483.

Weissmann, J. (March 28, 2014). *Here's the awful 146-word "essay" that earned an A for a UNC jock.* Retrieved from http://www.slate.com/blogs/moneybox/2014/03/27/the_unc_fake_class_scandal_athlete_got_an_a_for_a_one_paragraph_paper.html.

Wheeler, S. C., & Petty, R. E. (2001). The effects of stereotype activation on behavior: A review of possible mechanisms. *Psychological Bulletin, 127*(6), 797-826.

Wulfsberg, C. D. (1990). *College athletic department administrators' attitudes toward college student athletes and their academic and athletic success.* (Doctoral dissertation, University of Arizona).

Yopyk, D. J. A. (2007). *The student-athlete: One identity or two separate identities? The role of identity salience and stereotype threat in athletic and academic performance.* (Doctoral dissertation, University of Massachusetts-Amherst).

Yopyk, D. J. A., & Prentice, D.A. (2005). Am I an athlete or a student? Identity salience and stereotype threat in student-athletes. *Basic and Applied Social Psychology, 27*(4), 329-336.

APPENDIX A: IRB APPROVAL

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office for Responsible Research
Vice President for Research
1138 Pearson Hall
Ames, Iowa 50011-2207
515 294-4566
FAX 515 294-4267

Date: 2/10/2015

To: Caitlin Anderson
W112 Lagomarcino Hall

CC: Dr. Patrick Armstrong
W237 Lagomarcino Hall

From: Office for Responsible Research

Title: Perceptions of Student-Athletes

IRB ID: 14-688

Approval Date:	2/10/2015	**Date for Continuing Review:**	2/9/2017
Submission Type:	New	**Review Type:**	Expedited

The project referenced above has received approval from the Institutional Review Board (IRB) at Iowa State University according to the dates shown above. Please refer to the IRB ID number shown above in all correspondence regarding this study.

To ensure compliance with federal regulations (45 CFR 46 & 21 CFR 56), please be sure to:

- **Use only the approved study materials** in your research, **including the recruitment materials and informed consent documents that have the IRB approval stamp**.
- **Retain signed informed consent documents for 3 years after the close of the study**, when documented consent is required.
- **Obtain IRB approval prior to implementing any changes** to the study by submitting a Modification Form for Non-Exempt Research or Amendment for Personnel Changes form, as necessary.
- **Immediately inform the IRB of** (1) **all serious and/or unexpected adverse experiences** involving risks to subjects or others; and (2) **any other unanticipated problems involving risks** to subjects or others.
- **Stop all research activity if IRB approval lapses**, unless continuation is necessary to prevent harm to research participants. Research activity can resume once IRB approval is reestablished.
- **Complete a new continuing review form** at least three to four weeks prior to the **date for continuing review** as noted above to provide sufficient time for the IRB to review and approve continuation of the study. We will send a courtesy reminder as this date approaches.

Please be aware that IRB approval means that you have met the requirements of federal regulations and ISU policies governing human subjects research. **Approval from other entities may also be needed.** For example, access to data from private records (e.g. student, medical, or employment records, etc.) that are protected by FERPA, HIPAA, or other confidentiality policies requires permission from the holders of those records. Similarly, for research conducted in institutions other than ISU (e.g., schools, other colleges or universities, medical facilities, companies, etc.), investigators must obtain permission from the institution(s) as required by their policies. **IRB approval in no way implies or guarantees that permission from these other entities will be granted.**

Upon completion of the project, please submit a Project Closure Form to the Office for Responsible Research, 1138 Pearson Hall, to officially close the project.

Please don't hesitate to contact us if you have questions or concerns at 515-294-4566 or IRB@iastate.edu.

APPENDIX B: LIST OF 555 PERSON-ADJECTIVES

Able	Humble	Rude
Absent-minded	Humorless	Sad
Abusive	Humorous	Sarcastic
Accurate	Hypochondriac	Satirical
Active	Idealistic	Scheming
Admirable	Ill-Mannered	Scientific
Adventurous	Ill-Tempered	Scolding
Aggressive	Illogical	Scornful
Agreeable	Imaginative	Self-Assured
Aimless	Imitative	Self-Centered
Alert	Immature	Self-Conceited
Ambitious	Immodest	Self-Concerned
Amiable	Impolite	Self-Confident
Amusing	Impractical	Self-Conscious
Angry	Impressionable	Self-contented
Annoying	Impulsive	Self-Controlled
Antisocial	Inaccurate	Self-Critical
Anxious	Inattentive	Self-Disciplined
Appreciative	Incompetent	Self-Possessed
Argumentative	Inconsistent	Self-Reliant
Artistic	Indecisive	Self-Righteous
Attentive	Independent	Self-Satisfied
Authoritative	Indifferent	Self-Sufficient
Average	Individualistic	Selfish
Bashful	Inefficient	Sensible
Belligerent	Inexperienced	Sensitive
Blunt	Informal	Sentimental
Boastful	Ingenious	Serious
Boisterous	Inhibited	Shallow
Bold	Innocent	Sharp-Witted
Boring	Inoffensive	Short-Tempered
Bossy	Inquisitive	Showy
Bragging	Inquisitive	Shrewd
Bright	Insecure	Shy
Brilliant	Insincere	Silent
Broad-Minded	Insolent	Silly
Calm	Insulting	Sincere
Candid	Intellectual	Skeptical
Capable	Intelligent	Skilled
Careful	Interesting	Skillful
Careless	Intolerant	Sloppy
Casual	Inventive	Sly

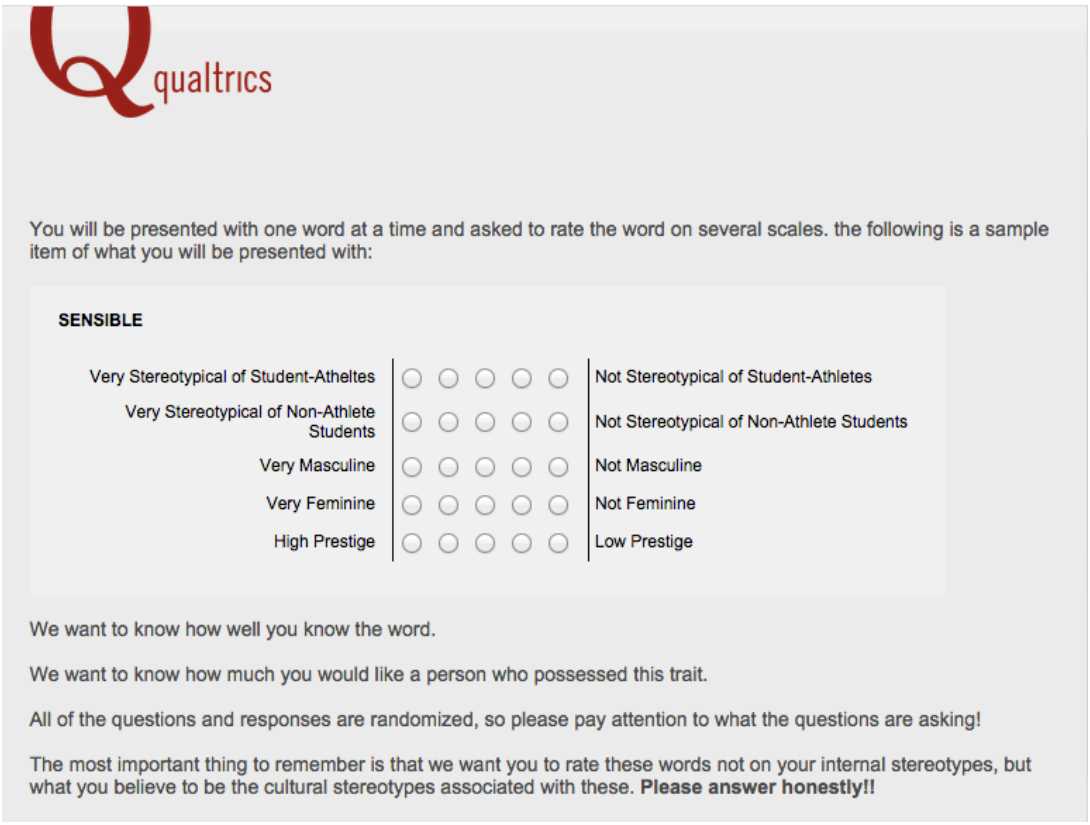
Cautious	Irrational	Smart
Changeable	Irreligious	Smug
Charming	Irresponsible	Snobbish
Cheerful	Irritable	Sociable
Childish	Irritating	Social
Choosy	Jealous	Soft-Hearted
Clean	Jumpy	Soft-Spoken
Clean-Cut	Kind	Solemn
Clear-Headed	Kind-hearted	Sophisticated
Clever	Kindly	Spendthrift
Clownish	Lazy	Spirited
Clumsy	Level-Headed	Spiteful
Cold	Liar	Sportsmanlike
Comical	Lifeless	Squeamish
Companionable	Light-Hearted	Stern
Competent	Likable	Stingy
Complaining	Listless	Strict
Composed	Literary	Strong-Minded
Compulsive	Lively	Stubborn
Conceited	Logical	Studious
Confident	Lonely	Suave
Conforming	Lonesome	Submissive
Conformist	Loud-Mouthed	Subtle
Congenial	Loyal	Superficial
Conscientious	Lucky	Superstitious
Conservative	Maladjusted	Suspicious
Considerate	Malicious	Sympathetic
Consistent	Materialistic	Systematic
Constructive	Mathematical	Tactful
Conventional	Mature	Tactless
Convincing	Mean	Talented
Cool-Headed	Meddlesome	Talkative
Cooperative	Mediocre	Temperamental
Cordially	Meditative	Tender
Courageous	Meek	Tense
Courteous	Melancholy	Theatrical
Cowardly	Messy	Thorough
Crafty	Methodical	Thoughtful
Creative	Meticulous	Thoughtless
Critical	Middleclass	Thrifty
Crude	Misfit	Tidy
Cruel	Moderate	Timid
Cultured	Modern	Tiresome
Cunning	Modest	Tolerant
Curious	Moody	Touchy

Cynical	Moral	Tough
Daredevil	Moralistic	Troubled
Daring	Naïve	Troublesome
Daydreamer	Narrow-Minded	Trustful
Deceitful	Neat	Trusting
Decent	Neglectful	Trustworthy
Deceptive	Negligent	Truthful
Decisive	Nervous	Ultra-Critical
Definite	Neurotic	Unaccommodating
Deliberate	Nice	Unadventurous
Demanding	Noisy	Unagreeable
Dependable	Nonchalant	Unappealing
Dependent	Nonconfident	Unappreciative
Depressed	Nonconforming	Unattentive
Dignified	Noninquisitive	Uncivil
Diligent	Normal	Uncompromising
Direct	Nosey	Uncongenial
Disagreeable	Obedient	Unconventional
Disciplined	Objective	Uncultured
Discontented	Obliging	Undecided
Discourteous	Obnoxious	Underhanded
Discreet	Observant	Understanding
Discriminating	Obstinate	Unemotional
Dishonest	Offensive	Unenterprising
Dishonorable	Old-Fashioned	Unentertaining
Dislikable	Open-Minded	Unenthusiastic
Disobedient	Opinionated	Unethical
Disrespectful	Opportunist	Unfair
Dissatisfied	Optimistic	Unforgiving
Distrustful	Orderly	Unfriendly
Disturbed	Ordinary	Ungraceful
Dominating	Original	Ungracious
Domineering	Outgoing	Ungrateful
Down-Hearted	Outspoken	Unhappy
Dull	Outstanding	Unhealthy
Eager	Overcautious	Unimaginative
Earnest	Overconfident	Unindustrious
Easygoing	Overcritical	Uninspiring
Eccentric	Oversensitive	Unintellectual
Educated	Painstaking	Unintelligent
Efficient	Passive	Uninteresting
Egotistical	Patient	Unkind
Emotional	Perceptive	Unkindly
Energetic	Perfectionistic	Unlucky
Enterprising	Persistent	Unmethodical

Entertaining	Persuasive	Unobliging
Enthusiastic	Pessimistic	Unobservant
Envious	Petty	Unoriginal
Ethical	Philosophical	Unpleasant
Excitable	Phony	Unpleasing
Excited	Pleasant	Unpoised
Experienced	Poised	Unpopular
Extravagant	Polite	Unpredictable
Exuberant	Pompous	Unproductive
Fashionable	Popular	Unpunctual
Fault-Finding	Positive	Unreasonable
Fearful	Possessive	Unreliable
Fearless	Practical	Unromantic
Fickle	Precise	Unruly
Finicky	Prejudiced	Unselfish
Foolhardy	Preoccupied	Unskilled
Foolish	Prideful	Unsociable
Forceful	Productive	Unsocial
Forgetful	Profane	Unsophisticated
Forgiving	Proficient	Unsporting
Forward	Progressive	Unsportsmanlike
Frank	Prompt	Unstudious
Friendly	Proud	Unsympathetic
Frivolous	Prudent	Unsystematic
Frustrated	Punctual	Untidy
Generous	Purposeful	Untiring
Gentle	Purposeless	Untrustworthy
Gloomy	Quarrelsome	Untruthful
Good	Quick	Unwise
Good-Humored	Quick-Witted	Upright
Good-Natured	Quiet	Vain
Good-Tempered	Radical	Venturesome
Gossipy	Rash	Versatile
Gracious	Rational	Vigorous
Grateful	Realist	Vivacious
Greedy	Realistic	Vulgar
Grouchy	Reasonable	Warm
Gullible	Rebellious	Warm-Hearted
Happy	Reckless	Wasteful
Hard-Hearted	Refined	Weak
Headstrong	Relaxed	Well-Bred
Heartless	Reliable	Well-mannered
Helpful	Religious	Well-Read
Helpless	Resentful	Well-Spoken
Hesitant	Reserved	Wholesome

High-Spirited	Resigned	Wise
High-Strung	Resourceful	Wishy-Washy
Honest	Respectable	Withdrawing
Honorable	Respectful	Withdrawn
Hopeful	Responsible	Witty
Hostile	Restless	Wordy
Hot-Headed	Righteous	Worrier
Hot-Tempered	Romantic	Worrying

APPENDIX C: EXAMPLE OF QUALTRICS SURVEY INSTRUCTIONS AND QUESTIONS



Qualtrics

You will be presented with one word at a time and asked to rate the word on several scales. the following is a sample item of what you will be presented with:

SENSIBLE

Very Stereotypical of Student-Atheltes	○ ○ ○ ○ ○	Not Stereotypical of Student-Athletes
Very Stereotypical of Non-Athlete Students	○ ○ ○ ○ ○	Not Stereotypical of Non-Athlete Students
Very Masculine	○ ○ ○ ○ ○	Not Masculine
Very Feminine	○ ○ ○ ○ ○	Not Feminine
High Prestige	○ ○ ○ ○ ○	Low Prestige

We want to know how well you know the word.

We want to know how much you would like a person who possessed this trait.

All of the questions and responses are randomized, so please pay attention to what the questions are asking!

The most important thing to remember is that we want you to rate these words not on your internal stereotypes, but what you believe to be the cultural stereotypes associated with these. **Please answer honestly!!**

BLUNT

Very Feminine	○ ○ ○ ○ ○	Not Feminine
Very Masculine	○ ○ ○ ○ ○	Not Masculine
Very Stereotypical of Student-Atheltes	○ ○ ○ ○ ○	Not Stereotypical of Student-Athletes
Very Stereotypical of Non-Athlete Students	○ ○ ○ ○ ○	Not Stereotypical of Non-Athlete Students
High Prestige	○ ○ ○ ○ ○	Low Prestige

	Never seen this word before in my life				Can use it successfully in a sentence
Rate how well you understand the word	○	○	○	○	○

	Least favorable or desirable						Most favorable or desirable
Rate your likability of someone who possesses this word	○	○	○	○	○	○	○

APPENDIX D: FINAL LIST OF 72 TRAIT-ADJECTIVES

HOT-HEADED
BOISTEROUS
CONCEITED
BOASTFUL
LOUD-MOUTHED
TOUGH
ACTIVE
POPULAR
OUTGOING
SELF-CENTERED
AGGRESSIVE
SHOWY
EGOTISTICAL
ENERGETIC
OBNOXIOUS
BRAGGING
DISCIPLINED
SELF-CONCEITED
OVERCONFIDENT
QUICK
SOCIABLE
INQUISITIVE
SELF-CONCERNED
SMUG
SELF-CONFIDENT
CRUDE
VAIN
DOMINATING
IMPRESSIONABLE
LIVELY
FAULT-FINDING
VIGOROUS
HOT-TEMPERED
INATTENTIVE
SHORT-TEMPERED
IMMATURE
TALENTED
MEEK
LONESOME
NORMAL
MATHEMATICAL
GENTLE
ATTENTIVE
THOUGHTFUL
RESPECTFUL
SOFT-HEARTED
BROAD-MINDED
SENSITIVE
CAUTIOUS
BRIGHT
CLUMSY
MODEST
WELL-MANNERED
WISE
SENSIBLE
HUMBLE
REALIST
ARTISTIC
PHILOSOPHICAL
TIMID
SHY
LITERARY
WEAK
SMART
INTELLECTUAL
STUDIOUS
QUIET
INTELLIGENT
SOFT-SPOKEN
SCIENTIFIC
ORDINARY
EDUCATED

APPENDIX E: VALANCE OF 72 TRAIT-ADJECTIVES SORTED FROM LOWEST LIKABILITY RATINGS TO HIGHEST LIKABILITY RATINGS

Adjective	Likeability
Obnoxious	1.7
Inattentive	1.8
Crude	1.9
Egotistical	1.9
Shot-tempered	1.9
Smug	1.9
Hot-tempered	2.0
Loud-mouthed	2.0
Conceited	2.1
Hot-headed	2.1
Self-centered	2.1
Self-conceited	2.1
Lonesome	2.2
Vain	2.2
Immature	2.2
Weak	2.5
Aggressive	2.6
Fault-finding	2.6
Boastful	2.7
Overconfident	2.7
Showy	2.9
Timid	2.9
Boisterous	3.0
Meek	3.1
Clumsy	3.2
Bragging	3.3
Dominating	3.6
Quiet	3.6
Self-concerned	3.6
Shy	3.6
Scientific	3.8
Sensitive	3.9
Cautious	4.0
Soft-spoken	4.0
Ordinary	4.1
Vigorous	4.1
Impressionable	4.3
Quick	4.4
Realist	4.4

Normal	4.6
Philosophical	4.6
Mathematical	4.7
Popular	4.7
Tough	4.8
Inquisitive	5.0
Disciplined	5.1
Artistic	5.1
Soft-hearted	5.2
Gentle	5.3
Modest	5.3
Studious	5.3
Energetic	5.6
Literary	5.6
Active	5.6
Attentive	5.6
Broad-minded	5.6
Sensible	5.6
Lively	5.7
Self-confident	5.8
Talented	5.9
Wise	5.9
Humble	5.9
Outgoing	5.9
Sociable	6.0
Thoughtful	6.2
Intellectual	6.2
Bright	6.3
Educated	6.3
Intelligent	6.3
Smart	6.3
Well-mannered	6.4
Respectful	6.5

Note. Sample Size = 10. Likeability ratings were on a scale of 1 to 7, with 1 being *least favorable or desirable* and 7 being *most favorable or desirable*. Negative valence word cutoff: 1.0 – 2.9. Neutral valence word cutoff: 3.0 – 4.9. Positive valence word cutoff: 5.0 – 7.0.

Identity Development Laboratory

APPENDIX F: DEMOGRAPHIC QUESTIONNAIRE

Perceptions of Student-Athletes
Demographic Information

***Name** (print):* _____

University ID number: ___ ___ ___ ___ ___ ___ ___ ___ ___
(middle 9 digits)

NetID: _____

Age: _____

Gender: male female

Year in School: freshman sophomore junior senior

Major Program of Study: _____

Current GPA: _____

Ethnic/cultural identity: African American Asian American Hispanic American

Native American White/European American

Other (please specify): _____

APPENDIX G: SURVEY MEASURES FROM PREVIOUS STUDIES

Please rate a stereotypical male student-athlete on the following traits:

Non-athletic				Athletic
1	2	3	4	5
Unhealthy				Healthy
1	2	3	4	5
Introverted				Extroverted
1	2	3	4	5
Unfriendly				Friendly
1	2	3	4	5
Not Sexy				Sexy
1	2	3	4	5
Passive				Assertive
1	2	3	4	5
Intellectually Slow				Intellectually Bright
1	2	3	4	5
Boring				Interesting
1	2	3	4	5
Inhibited				Uninhibited
1	2	3	4	5
Conservative				Liberal
1	2	3	4	5
Not Competitive				Competitive
1	2	3	4	5

Please rate a stereotypical female student-athlete on the following traits:

Non-athletic				Athletic
1	2	3	4	5
Unhealthy				Healthy
1	2	3	4	5
Introverted				Extroverted
1	2	3	4	5
Unfriendly				Friendly
1	2	3	4	5
Not Sexy				Sexy
1	2	3	4	5
Passive				Assertive
1	2	3	4	5
Intellectually Slow				Intellectually Bright
1	2	3	4	5
Boring				Interesting
1	2	3	4	5
Inhibited				Uninhibited

1 2 3 4 5
Conservative Liberal
1 2 3 4 5
Not Competitive Competitive
1 2 3 4 5

Please rate a stereotypical male non-athlete student on the following traits:

Non-athletic Athletic
1 2 3 4 5
Unhealthy Healthy
1 2 3 4 5
Introverted Extroverted
1 2 3 4 5
Unfriendly Friendly
1 2 3 4 5
Not Sexy Sexy
1 2 3 4 5
Passive Assertive
1 2 3 4 5
Intellectually Slow Intellectually Bright
1 2 3 4 5
Boring Interesting
1 2 3 4 5
Inhibited Uninhibited
1 2 3 4 5
Conservative Liberal
1 2 3 4 5
Not Competitive Competitive
1 2 3 4 5

Please rate a stereotypical female non-athlete student on the following traits:

Non-athletic Athletic
1 2 3 4 5
Unhealthy Healthy
1 2 3 4 5
Introverted Extroverted
1 2 3 4 5
Unfriendly Friendly
1 2 3 4 5
Not Sexy Sexy
1 2 3 4 5
Passive Assertive
1 2 3 4 5
Intellectually Slow Intellectually Bright

1 2 3 4 5
Boring Interesting
1 2 3 4 5
Inhibited Uninhibited
1 2 3 4 5
Conservative Liberal
1 2 3 4 5
Not Competitive Competitive
1 2 3 4 5
(From McMartin & Klay, 1983)

Please rate a stereotypical male student-athlete on the following traits:

Goal-oriented Chaotic
1 2 3 4 5 6 7
Organized Disorganized
1 2 3 4 5 6 7
Rule Governed Idiosyncratic
1 2 3 4 5 6 7
Cultural Natural
1 2 3 4 5 6 7
Public Private
1 2 3 4 5 6 7
Instrumental Expressive
1 2 3 4 5 6 7
Controlling Controlled
1 2 3 4 5 6 7
Dominating Subordinate
1 2 3 4 5 6 7
Competitive Cooperative
1 2 3 4 5 6 7
Aggressive Submissive
1 2 3 4 5 6 7
Active Passive
1 2 3 4 5 6 7

Please rate a stereotypical female student-athlete on the following traits:

Goal-oriented Chaotic
1 2 3 4 5 6 7
Organized Disorganized
1 2 3 4 5 6 7
Rule Governed Idiosyncratic
1 2 3 4 5 6 7
Cultural Natural
1 2 3 4 5 6 7

Public						Private
1	2	3	4	5	6	7
Instrumental						Expressive
1	2	3	4	5	6	7
Controlling						Controlled
1	2	3	4	5	6	7
Dominating						Subordinate
1	2	3	4	5	6	7
Competitive						Cooperative
1	2	3	4	5	6	7
Aggressive						Submissive
1	2	3	4	5	6	7
Active						Passive
1	2	3	4	5	6	7

(From Pedersen, 1997)

Please rate a stereotypical female student-athlete on the following traits:

Healthy						Sickly
1	2	3	4	5	6	7
Leaders						Followers
1	2	3	4	5	6	7
Strong-willed						Weak willed
1	2	3	4	5	6	7
Brave						Cowardly
1	2	3	4	5	6	7
Strong						Weak
1	2	3	4	5	6	7
Masculine						Feminine
1	2	3	4	5	6	7
Unattractive						Attractive
1	2	3	4	5	6	7

(From Atkins, Morse, & Zweigenhaft, 1978)

Please rate a stereotypical male student-athlete on the following traits:

Sociable								Non-sociable
1	2	3	4	5	6	7	8	9
Aggressive								Non aggressive
1	2	3	4	5	6	7	8	9
Feminine								Masculine
1	2	3	4	5	6	7	8	9
Extroverted								Introverted
1	2	3	4	5	6	7	8	9

Conservative								Liberal
1	2	3	4	5	6	7	8	9
Self-confident								Not self-confident
1	2	3	4	5	6	7	8	9
Intelligent								Unintelligent
1	2	3	4	5	6	7	8	9
Conventional								Unconventional
1	2	3	4	5	6	7	8	9
Warm								Cold
1	2	3	4	5	6	7	8	9
Competent								Incompetent
1	2	3	4	5	6	7	8	9
Hard working								Not hard working
1	2	3	4	5	6	7	8	9

Please rate a stereotypical female student-athlete on the following traits:

Sociable								Non-sociable
1	2	3	4	5	6	7	8	9
Aggressive								Non aggressive
1	2	3	4	5	6	7	8	9
Feminine								Masculine
1	2	3	4	5	6	7	8	9
Extroverted								Introverted
1	2	3	4	5	6	7	8	9
Conservative								Liberal
1	2	3	4	5	6	7	8	9
Self-confident								Not self-confident
1	2	3	4	5	6	7	8	9
Intelligent								Unintelligent
1	2	3	4	5	6	7	8	9
Conventional								Unconventional
1	2	3	4	5	6	7	8	9
Warm								Cold
1	2	3	4	5	6	7	8	9
Competent								Incompetent
1	2	3	4	5	6	7	8	9
Hard working								Not hard working
1	2	3	4	5	6	7	8	9

Please rate a stereotypical male non-athlete student on the following traits:

Sociable								Non-sociable
1	2	3	4	5	6	7	8	9
Aggressive								Non aggressive
1	2	3	4	5	6	7	8	9

Feminine								Masculine
1	2	3	4	5	6	7	8	9
Extroverted								Introverted
1	2	3	4	5	6	7	8	9
Conservative								Liberal
1	2	3	4	5	6	7	8	9
Self-confident								Not self-confident
1	2	3	4	5	6	7	8	9
Intelligent								Unintelligent
1	2	3	4	5	6	7	8	9
Conventional								Unconventional
1	2	3	4	5	6	7	8	9
Warm								Cold
1	2	3	4	5	6	7	8	9
Competent								Incompetent
1	2	3	4	5	6	7	8	9
Hard working								Not hard working
1	2	3	4	5	6	7	8	9

Please rate a stereotypical female non-athlete student on the following traits:

Sociable								Non-sociable
1	2	3	4	5	6	7	8	9
Aggressive								Non aggressive
1	2	3	4	5	6	7	8	9
Feminine								Masculine
1	2	3	4	5	6	7	8	9
Extroverted								Introverted
1	2	3	4	5	6	7	8	9
Conservative								Liberal
1	2	3	4	5	6	7	8	9
Self-confident								Not self-confident
1	2	3	4	5	6	7	8	9
Intelligent								Unintelligent
1	2	3	4	5	6	7	8	9
Conventional								Unconventional
1	2	3	4	5	6	7	8	9
Warm								Cold
1	2	3	4	5	6	7	8	9
Competent								Incompetent
1	2	3	4	5	6	7	8	9
Hard working								Not hard working
1	2	3	4	5	6	7	8	9

(From Harris & Hall, 1978)

APPENDIX H: RECORD FORM

IDL
Identity Development Laboratory

Card-Sorting Answer Sheet

Included with this answer sheet are a set of 72 adjectives. Divide the adjectives into four groups of 18 cards that best describe the four categories described below. Please write the code for each adjective you choose for each occupation in one of the answer boxes, *using each card one time only.*

Name: _____

ID: _____

Category I: Male Student-Athlete	

Category II: Female Student-Athlete	

Category III: Male Student	

Category IV: Female Student	

APPENDIX I: EXPLORATORY FACTOR ANALYSES

EFA for Male Student-Athletes using Items from Previous Studies

Bipolar anchors from past research	Athlete Status	Intelligence
Non-athletic:Athletic	-0.715	0.094
Unhealthy:Healthy	-0.562	-0.028
Introverted:Extroverted	-0.441	0.097
Unfriendly:Friendly	-0.017	-0.367
Not Sexy:Sexy	-0.277	0.066
Passive:Assertive	-0.457	0.174
Intellectually Slow:Intellectually Fast	0.185	-0.869
Boring:Interesting	-0.26	-0.306
Inhibited:Uninhibited	-0.151	-0.005
Conservative:Liberal	-0.097	-0.012
Not Competitive:Competitive	-0.609	0.043
Goal-Oriented:Chaotic	0.442	0.146
Organized:Disorganized	-0.024	0.507
Rule-Governed:Idiosyncratic	0.111	0.199
Cultural:Natural	0.079	0.189
Public:Private	0.485	-0.093
Instrumental:Expressive	-0.062	0.122
Controlling:Controlled	0.445	-0.134
Dominating:Subordinate	0.721	-0.141
Competitive:Cooperative	0.761	-0.055
Aggressive:Submissive	0.759	-0.13
Active:Passive	0.755	-0.011
Sociable:Non-Sociable	0.469	0.114
Aggressive:Non-Aggressive	0.652	-0.068
Feminine:Masculine	-0.726	0.076
Extroverted:Introverted	0.464	-0.005
Conservative:Liberal	-0.071	0.046

Self-Confident:Not Self-Confident	0.636	0.028
Intelligent:Unintelligent	-0.096	0.748
Conventional:Unconventional	0.103	0.126
Warm:Cold	-0.08	0.301
Competent:Incompetent	0.115	0.447
Hardworking:Not Hardworking	0.551	0.302

Note. Sample Size = 369. Factor Analyses using Principle Axis Factoring and Oblique rotations.

EFA for Female Student-Athletes using Items from Previous Studies

Bipolar anchors from past research	Masculine	Personality Traits	Private Life	Athlete Status
Nonathletic:Athletic	-0.408	-0.068	-0.264	0.797
Unhealthy:Healthy	-0.400	-0.285	-0.257	0.718
Introverted:Extroverted	-0.264	-0.088	-0.686	0.230
Unfriendly:Friendly	-0.200	-0.679	-0.307	0.133
Not Sexy:Sexy	-0.210	-0.347	-0.220	0.118
Passive:Assertive	-0.407	-0.001	-0.353	0.360
Intellectually Slow:Intellectually Fast	-0.125	-0.676	-0.088	0.151
Boring:Interesting	-0.400	-0.485	-0.418	0.216
Inhibited:Uninhibited	-0.085	-0.034	-0.144	0.054
Conservative:Liberal	-0.040	0.073	-0.130	0.073
Not Competitive:Competitive	-0.498	-0.087	-0.223	0.612
Goal-Oriented:Chaotic	0.587	0.364	0.379	-0.399
Organized:Disorganized	0.236	0.531	0.098	-0.178
Rule-Governed:Idiosyncratic	0.310	0.278	0.201	-0.163
Cultural:Natural	0.181	0.141	0.192	0.002
Public:Private	0.513	0.038	0.517	-0.176
Instrumental:Expressive	0.095	-0.055	-0.033	-0.018
Controlling:Controlled	0.475	-0.137	0.325	-0.157
Dominating:Subordinate	0.702	0.021	0.489	-0.221

Competitive:Cooperative	0.704	0.104	0.272	-0.426
Aggressive:Submissive	0.643	-0.036	0.306	-0.163
Active:Passive	0.795	0.207	0.442	-0.434
Sociable:Non-Sociable	0.470	0.426	0.693	-0.246
Aggressive:Non-Aggressive	0.638	0.005	0.356	-0.244
Feminine:Masculine	0.051	0.467	0.187	-0.095
Extroverted:Introverted	0.447	0.184	0.832	-0.144
Conservative:Liberal	0.146	0.267	0.041	0.105
Self-Confident: Not Self-Confident	0.626	0.261	0.584	-0.398
Intelligent:Unintelligent	0.382	0.765	0.282	-0.197
Conventional:Unconventional	0.159	0.267	0.340	0.008
Warm:Cold	0.132	0.635	0.321	-0.026
Competent:Incompetent	0.438	0.492	0.391	-0.186
Hardworking:Not Hardworking	0.650	0.394	0.380	-0.351
Healthy:Sick	0.582	0.272	0.297	-0.468
Leaders:Followers	0.747	0.362	0.441	-0.296
Strong-Willed:Weak-Willed	0.766	0.315	0.397	-0.378
Brave:Cowardly	0.657	0.364	0.315	-0.224
Strong:Weak	0.763	0.268	0.306	-0.331
Masculine:Feminine	0.220	-0.218	0.012	0.029
Unattractive:Attractive	-0.157	-0.289	-0.228	0.201

Note. Sample Size = 369. Factor Analyses using Principle Axis Factoring and Oblique rotations.

APPENDIX J: PROPORTION OF PARTICIPANTS ASSIGNING TRAIT STEREOTYPE ADJECTIVES TO MALE AND FEMALE STUDENT-ATHELTES AND NON-ATHLETE STUDENTS

	Student-Athletes		Non-Athlete Students			
Trait	Male	Female	Male	Female	χ^2	C
Active	0.32	0.61	0.04	0.03	332.17	0.121
Aggressive	0.72	0.11	0.16	0.01	457.76	0.076
Artistic	0.01	0.10	0.11	0.78	568.66	0.045
Attentive	0.07	0.38	0.21	0.35	90.240	**0.249**
Boastful	0.57	0.26	0.14	0.03	242.18	0.097
Boisterous	0.44	0.32	0.20	0.04	128.92	**0.206**
Bragging	0.70	0.19	0.09	0.03	411.48	0.016
Bright	0.03	0.33	0.31	0.33	98.130	**0.383**
Broad-minded	0.11	0.21	0.47	0.22	102.77	**0.300**
Cautious	0.05	0.34	0.13	0.48	165.47	0.096
Clumsy	0.04	0.07	0.32	0.57	263.58	0.009
Conceited	0.46	0.34	0.11	0.08	148.71	0.005
Crude	0.45	0.12	0.38	0.05	167.14	0.103
Disciplined	0.26	0.58	0.10	0.07	237.65	**0.219**
Dominating	0.77	0.10	0.11	0.01	545.72	0.009
Educated	0.02	0.19	0.46	0.32	154.44	**0.367**
Egotistical	0.60	0.18	0.19	0.03	262.34	0.085
Energetic	0.23	0.63	0.27	0.09	309.84	**0.238**
Fault-finding	0.17	0.28	0.23	0.32	17.530	0.038
Gentle	0.01	0.11	0.07	0.81	626.61	0.042
Hot-headed	0.73	0.11	0.13	0.03	470.25	0.046
Hot-tempered	0.68	0.14	0.16	0.02	376.42	0.055
Humble	0.06	0.43	0.26	0.30	109.34	**0.317**
Immature	0.41	0.05	0.52	0.02	277.65	0.153
Impressionable	0.18	0.40	0.19	0.23	47.530	0.146

Inattentive	0.43	0.14	0.35	0.08	122.22	0.077
Inquisitive	0.04	0.24	0.40	0.32	105.50	**0.354**
Intellectual	0.02	0.16	0.54	0.29	216.79	**0.387**
Intelligent	0.04	0.20	0.49	0.27	151.88	**0.381**
Literary	0.01	0.13	0.31	0.55	239.03	**0.196**
Lively	0.13	0.62	0.11	0.15	263.36	**0.258**
Lonesome	0.04	0.17	0.50	0.30	171.09	**0.341**
Loud-mouthed	0.63	0.15	0.16	0.07	285.47	0.110
Mathematical	0.02	0.05	0.86	0.07	745.33	**0.457**
Meek	0.07	0.25	0.25	0.43	91.610	0.143
Modest	0.03	0.42	0.19	0.37	141.28	**0.317**
Normal	0.05	0.13	0.57	0.26	230.45	**0.316**
Obnoxious	0.56	0.16	0.27	0.05	181.43	0.093
Ordinary	0.02	0.13	0.58	0.27	258.26	**0.374**
Outgoing	0.24	0.44	0.19	0.13	79.880	**0.214**
Overconfident	0.68	0.17	0.14	0.01	389.15	0.150
Philosophical	0.03	0.09	0.61	0.27	305.48	**0.281**
Popular	0.66	0.28	0.03	0.04	237.65	0.138
Quick	0.46	0.47	0.05	0.02	269.84	0.126
Quiet	0.02	0.19	0.23	0.56	227.46	**0.185**
Realist	0.05	0.24	0.49	0.22	148.52	**0.425**
Respectful	0.05	0.39	0.20	0.36	107.04	**0.262**
Scientific	0.01	0.03	0.84	0.11	700.17	**0.314**
Self-centered	0.56	0.27	0.10	0.07	220.24	0.065
Self-conceited	0.50	0.28	0.11	0.11	150.82	0.131
Self-concerned	0.24	0.37	0.20	0.18	32.490	0.112
Self-confident	0.33	0.51	0.13	0.03	199.58	**0.282**
Sensible	0.03	0.27	0.24	0.47	143.70	**0.244**
Sensitive	0.01	0.16	0.06	0.77	547.69	0.015

Shot-tempered	0.56	0.16	0.21	0.07	206.38	0.023
Showy	0.65	0.26	0.07	0.02	355.70	0.020
Shy	0.01	0.10	0.26	0.64	349.75	0.158
Smart	0.04	0.22	0.45	0.30	131.46	**0.376**
Smug	0.43	0.24	0.29	0.04	220.58	**0.236**
Sociable	0.19	0.42	0.20	0.20	53.430	**0.190**
Soft-hearted	0.01	0.19	0.05	0.76	531.15	0.029
Soft-spoken	0.01	0.18	0.17	0.70	420.13	0.112
Studious	0.04	0.18	0.31	0.47	150.86	**0.190**
Talented	0.43	0.50	0.05	0.02	274.83	0.096
Thoughtful	0.03	0.19	0.17	0.61	273.89	0.088
Timid	0.03	0.19	0.19	0.59	253.73	0.107
Tough	0.63	0.23	0.11	0.01	324.97	0.126
Vain	0.42	0.26	0.21	0.11	75.540	0.029
Vigorous	0.42	0.37	0.18	0.04	136.14	**0.239**
Weak	0.01	0.15	0.14	0.71	424.98	0.115
Well-mannered	0.05	0.33	0.20	0.42	112.25	**0.196**
Wise	0.05	0.14	0.54	0.27	195.87	**0.299**

Note. Sample Size = 369. Chi-square (χ^2) values above 11.5 and contingency coefficient (C) above .185 are statistically significant (p <.05 after Bonferroni correction). Significant C values are also presented in bold.

APPENDIX K: SEX DIFFERENCES IN TRAIT ASSIGNMENT

	Student-Athletes		Non-Athlete Students		
Trait	Male	Female	Male	Female	χ^2
Clumsy					
M	0.07	0.08	0.33	0.52	5.255
F	0.03	0.06	0.31	0.60	
Impressionable					
M	0.20	0.34	0.23	0.23	5.513
F	0.16	0.44	0.16	0.24	
Modest					
M	0.03	0.48	0.23	0.26	**12.416**
F	0.03	0.37	0.16	0.44	
Crude					
M	0.39	0.10	0.40	0.11	**13.557**
F	0.49	0.13	0.36	0.02	
Obnoxious					
M	0.44	0.18	0.30	0.08	10.171
F	0.57	0.15	0.25	0.03	
Literary					
M	0.01	0.15	0.29	0.56	1.292
F	0.01	0.12	0.33	0.54	
Soft-hearted					
M	0.01	0.25	0.04	0.70	5.857
F	0.01	0.15	0.05	0.79	
Normal					
M	0.06	0.15	0.59	0.20	6.084
F	0.04	0.11	0.55	0.30	
Hot-tempered					
M	0.62	0.18	0.16	0.04	7.745
F	0.71	0.12	0.16	0.01	
Scientific					
M	0.01	0.04	0.80	0.15	4.074
F	0.01	0.03	0.87	0.09	
Popular					
M	0.71	0.22	0.04	0.03	4.893
F	0.63	0.32	0.02	0.03	
Disciplined					
M	0.31	0.54	0.10	0.05	3.864
F	0.23	0.59	0.10	0.08	
Self-confident					
M	0.39	0.41	0.16	0.04	9.788
F	0.30	0.57	0.10	0.03	

Trait	Student-Athletes		Non-Athlete Students		χ^2
	Male	Female	Male	Female	
Self-conceited					
M	0.38	0.33	0.12	0.17	**15.639**
F	0.57	0.25	0.11	0.07	
Gentle					
M	0.01	0.16	0.08	0.75	6.351
F	0.01	0.08	0.06	0.85	
Bragging					
M	0.71	0.16	0.11	0.02	3.106
F	0.69	0.21	0.07	0.03	
Quiet					
M	0.04	0.26	0.17	0.53	**12.503**
F	0.01	.015	0.26	0.58	
Well-mannered					
M	0.06	0.36	0.18	0.40	2.118
F	0.05	0.31	0.21	0.43	
Humble					
M	0.11	0.47	0.22	0.20	**20.657**
F	0.02	0.41	0.21	0.36	
Active					
M	0.38	0.52	0.05	0.05	11.031
F	0.29	0.66	0.04	0.01	
Loud-mouthed					
M	0.64	0.18	0.09	0.09	9.219
F	0.61	0.13	0.20	0.06	
Intellectual					
M	0.03	0.13	0.51	0.32	4.956
F	0.01	0.18	0.56	0.25	
Hot-headed					
M	0.72	0.11	0.11	0.06	7.545
F	0.74	0.12	0.13	0.01	
Artistic					
M	0.01	0.08	0.09	0.82	2.491
F	0.01	0.11	0.12	0.76	
Studious					
M	0.04	0.15	0.27	0.54	4.716
F	0.03	0.20	0.34	0.43	
Sociable					
M	0.22	0.33	0.24	0.21	7.597
F	0.17	0.47	0.17	0.19	

Trait	Student-Athletes		Non-Athlete Students		χ^2
	Male	Female	Male	Female	
Attentive					
M	0.06	0.34	0.22	0.38	1.402
F	0.06	0.40	0.21	0.33	
Tough					
M	0.66	0.20	0.12	0.02	3.885
F	0.61	0.28	0.10	0.01	
Inattentive					
M	0.37	0.17	0.36	0.10	4.217
F	0.47	0.13	0.34	0.06	
Mathematical					
M	0.01	0.06	0.83	0.10	6.539
F	0.02	0.04	0.89	0.05	
Vain					
M	0.31	0.31	0.21	0.17	**15.256**
F	0.49	0.23	0.20	0.08	
Realist					
M	0.06	0.22	0.55	0.17	4.968
F	0.04	0.25	0.46	0.25	
Short-tempered					
M	0.57	0.17	0.15	0.11	**12.119**
F	0.56	0.14	0.26	0.04	
Vigorous					
M	0.40	0.37	0.20	0.03	1.698
F	0.43	0.37	0.16	0.04	
Over-confident					
M	0.71	0.13	0.15	0.01	2.073
F	0.66	0.19	0.14	0.01	
Self-centered					
M	0.59	0.21	0.10	0.10	5.837
F	0.54	0.31	0.10	0.05	
Soft-spoken					
M	0.01	0.27	0.11	0.61	**13.675**
F	0.01	0.13	0.11	0.75	
Inquisitive					
M	0.03	0.32	0.29	0.36	**14.632**
F	0.04	0.20	0.46	0.30	
Cautious					
M	0.05	0.33	0.11	0.50	0.759
F	0.06	0.34	0.14	0.46	

Trait	Student-Athletes		Non-Athlete Students		χ^2
	Male	Female	Male	Female	
Egotistical					
M	0.60	0.18	0.18	0.04	0.133
F	0.60	0.18	0.19	0.03	
Ordinary					
M	0.04	0.18	0.55	0.23	8.905
F	0.01	0.10	0.60	0.29	
Lively					
M	0.13	0.58	0.10	0.19	3.421
F	0.13	0.64	0.11	0.12	
Shy					
M	0.01	0.15	0.24	0.60	6.620
F	0.01	0.06	0.26	0.67	
Broad-minded					
M	0.10	0.18	0.48	0.24	1.848
F	0.11	0.23	0.46	0.20	
Immature					
M	0.37	0.08	0.51	0.04	9.740
F	0.44	0.04	0.51	0.01	
Bright					
M	0.03	0.31	0.38	0.28	5.276
F	0.03	0.34	0.27	0.36	
Meek					
M	0.08	0.40	0.18	0.34	**28.963**
F	0.07	0.16	0.29	0.48	
Dominating					
M	0.71	0.15	0.13	0.01	8.304
F	0.81	0.07	0.11	0.01	
Boastful					
M	0.58	0.20	0.16	0.06	8.029
F	0.56	0.30	0.12	0.02	
Sensitive					
M	0.01	0.24	0.06	0.69	**11.780**
F	0.01	0.11	0.06	0.82	
Outgoing					
M	0.25	0.33	0.24	0.18	**15.448**
F	0.24	0.51	0.15	0.10	
Conceited					
M	0.32	0.38	0.15	0.15	**25.829**
F	0.55	0.32	0.08	0.05	

	Student-Athletes		Non-Athlete Students		
Trait	Male	Female	Male	Female	χ^2
Showy					
M	0.73	0.20	0.04	0.03	9.017
F	0.60	0.30	0.09	0.01	
Smug					
M	0.46	0.26	0.22	0.06	5.053
F	0.40	0.24	0.33	0.03	
Fault-finding					
M	0.12	0.27	0.25	0.36	5.973
F	0.21	0.29	0.21	0.29	
Wise					
M	0.07	0.11	0.57	0.25	3.535
F	0.05	0.16	0.51	0.28	
Smart					
M	0.03	0.15	0.45	0.37	10.093
F	0.03	0.27	0.45	0.25	
Timid					
M	0.02	0.28	0.20	0.50	**11.761**
F	0.03	0.14	0.18	0.65	
Quick					
M	0.50	0.40	0.06	0.04	9.766
F	0.43	0.51	0.05	0.01	
Aggressive					
M	0.67	0.11	0.20	0.02	6.212
F	0.75	0.11	0.13	0.01	
Talented					
M	0.55	0.37	0.06	0.02	**15.129**
F	0.36	0.58	0.04	0.02	
Lonesome					
M	0.04	0.23	0.49	0.24	8.876
F	0.03	0.13	0.50	0.34	
Boisterous					
M	0.46	0.30	0.18	0.06	1.538
F	0.43	0.33	0.20	0.04	
Energetic					
M	0.26	0.54	0.12	0.08	8.472
F	0.20	0.69	0.06	0.05	
Weak					
M	0.01	0.22	0.12	0.65	9.467
F	0.01	0.11	0.14	0.74	

	Student-Athletes		Non-Athlete Students		
Trait	Male	Female	Male	Female	χ^2
Philosophical					
M	0.02	0.11	0.55	0.32	6.241
F	0.04	0.07	0.65	0.24	
Thoughtful					
M	0.03	0.25	0.22	0.50	**12.847**
F	0.03	0.15	0.14	0.68	
Intelligent					
M	0.06	0.16	0.47	0.31	5.461
F	0.03	0.23	0.50	0.24	
Respectful					
M	0.07	0.43	0.23	0.27	7.293
F	0.03	0.27	0.22	0.48	
Sensible					
M	0.03	0.27	0.22	0.48	0.193
F	0.03	0.27	0.24	0.46	
Educated					
M	0.02	0.16	0.46	0.36	2.765
F	0.03	0.21	0.47	0.29	
Self-concerned					
M	0.20	0.36	0.23	0.21	3.129
F	0.26	0.38	0.19	0.17	

Note. Sample Size: M = 143; F = 226. Chi-square (χ^2) values above 11.5 are statistically significant ($p < .05$ after Bonferroni correction). Significant values are presented in bold.

APPENDIX L: CORRELATIONS BETWEEN SCALE SCORES BASED ON RATINGS OF STEREOTYPE CATEGORIES

	MSA	FSA	MNAS	FNAS	M	F	A	NA
MSA	--	0.904	-0.802	-0.902	0.702	0.723	0.942	0.845
FSA		--	-0.691	-0.813	0.582	0.620	0.910	0.781
MNAS			--	0.910	-0.580	-0.503	-0.763	-0.649
FNAS				--	-0.659	-0.598	-0.874	-0.733
M					--	-0.484	0.619	0.628
F						--	0.683	0.866
A							--	0.797

Note. Sample Size = 125. All p values are significant at the $p < 0.001$ level. MSA = male student-athlete; FSA = female student-athlete; MNAS = male non-athlete student; FNAS = female non-athlete student; M = masculine; F = feminine; A = athletic; NA = nonathletic.

APPENDIX M: EFA OF STEREOTYPICALITY RATINGS

Trait	Athletic Status	Non-Athletic Status
Popular	0.938	-0.517
Self-Confident	0.925	-0.469
Overconfident	0.916	-0.604
Active	0.914	-0.497
Showy	0.911	-0.569
Dominating	0.909	-0.506
Tough	0.904	-0.496
Loud-Mouthed	0.902	-0.559
Aggressive	0.900	-0.512
Hot-Headed	0.896	-0.592
Lively	0.890	-0.415
Hot-Tempered	0.889	-0.555
Outgoing	0.888	-0.449
Weak	-0.888	0.589
Bragging	0.880	-0.549
Talented	0.869	-0.386
Shy	-0.866	0.557
Energetic	0.863	-0.422
Egotistical	0.863	-0.622
Quick	0.860	-0.420
Boastful	0.842	-0.527
Quiet	-0.842	0.605
Self-conceited	0.840	-0.559
Self-Centered	0.830	-0.527
Clumsy	-0.829	0.626
Boisterous	0.826	-0.554
Timid	-0.823	0.701

Soft-Spoken	-0.804	0.596
Conceited	0.801	-0.585
Sociable	0.798	-0.306
Lonesome	-0.790	0.531
Scientific	-0.783	0.758
Obnoxious	0.773	-0.574
Vigorous	0.735	-0.305
Gentle	-0.725	0.653
Short-Tempered	0.724	-0.401
Artistic	-0.708	0.668
Meek	-0.701	0.546
Smug	0.696	-0.542
Ordinary	-0.694	0.559
Self-Concerned	0.658	-0.367
Disciplined	0.622	-0.144
Impressionable	0.361	-0.063
Wise	-0.573	0.874
Intellectual	-0.521	0.828
Bright	-0.374	0.807
Smart	-0.350	0.795
Thoughtful	-0.539	0.791
Mathematical	-0.750	0.790
Literary	-0.586	0.777
Modest	-0.658	0.761
Intelligent	-0.386	0.755
Humble	-0.671	0.752
Philosophical	-0.693	0.742
Studious	-0.506	0.729
Sensitive	-0.702	0.721
Sensible	-0.501	0.715

Educated	-0.236	0.707
Well-Mannered	-0.291	0.707
Soft-Hearted	-0.601	0.671
Respectful	-0.186	0.658
Cautious	-0.522	0.625
Broad-Minded	-0.392	0.601
Realist	-0.239	0.571
Inquisitive	-0.251	0.557
Crude	0.570	-0.494
Immature	0.619	-0.595
Vain	0.675	-0.534
Inattentive	0.347	-0.306
Normal	-0.397	0.428
Attentive	0.022	0.440
Fault-Finding	0.345	0.048

Note. Sample Size = 125. Factor Analyses using Principle Axis Factoring and Oblique rotations.