

Factors Influencing College Selection by NCAA Division I, II, and III Lacrosse Players

by Jeffrey Pauline, Syracuse University

Abstract

The purpose of this investigation was to examine factors influencing college selection by NCAA Division I, II and III lacrosse players. The Influential Factors Survey for Student-Athletes-Revised was used to collect data from 792 male and female collegiate lacrosse players. Descriptive statistics showed the most influential factors were: career opportunities after graduation, academic reputation of the university, overall reputation of the university, availability of academic program or major, and reputation of academic major or program. Descriptive analysis further revealed the academics category to have the greatest overall influence in the college selection process. A MANOVA revealed significant differences in the college selection process by gender and NCAA Division ($p < .05$). Recommendations for collegiate lacrosse coaches and athletic department personnel as well as for future research are discussed.

Keywords: Coaching, recruiting, student-athletes

Participation in National Collegiate Athletic Association (NCAA) championship sports has grown substantially in the past 25 years with current participation levels in NCAA championship sports at an all-time high for both male and female student-athletes (NCAA, 2010a). The greatest growth has come from women's participation, which has ballooned from 64,390 in 1981-1982—the year the NCAA started governing women's collegiate sports—to 180,347 in 2008-2009 (NCAA, 2010a). However, there are still more male student-athletes (57.2%) than female student-athletes (42.8%) participating in championships sports (NCAA, 2010a).

Of the 20 most popular NCAA sports for men and women, lacrosse currently ranks eighth for men and tenth for women in the number of participants. Specifically, the number of men playing NCAA lacrosse has increased from 4,193 in 1981-1982 to 9,266 in 2008-2009 while the number of women playing has increased from 2,648 in 1981-1982 to 7,219 in 2008-2009 (NCAA, 2010a). Relevant NCAA lacrosse participation statistics for number of teams, number of athletes, average squad size, and athletic scholarship allotment appear in Table 1, organized by gender (male and female) and NCAA division (I, II, and III). The current NCAA participation statistics show lacrosse to be the fastest growing sport over the last eight years at the NCAA level (NCAA, 2010a; US Lacrosse, 2010).

The sport of lacrosse has also experienced tremendous growth at the scholastic and youth levels. It is estimated there are currently more than 227,000 high school players and almost 300,000 players at the youth level (US Lacrosse, 2010). The previously mentioned participation statistics signify the sport of lacrosse to be one of the fastest growing youth team sports for boys and girls in the United States (US Lacrosse, 2010). At the scholastic level, lacrosse has experienced the largest growth rate (208%) for girls and the second

Table 1. NCAA Lacrosse Participation Statistics

Division	Teams	Athletes	Average Squad Size	Scholarship Allotment
Men				
I	57	2598	45.6	12.7
II	35	1334	38.1	10.8
III	155	5334	34.4	0.0
Total	247	9266	37.5	
Women				
I	86	2341	27.2	12.0
II	48	1058	22.0	9.9
III	185	3820	20.6	0.0
Total	319	7219	22.6	

Note. Adapted from "NCAA Sports Sponsorship and Participants Rates Report," 2010, February, <http://www.ncaapublications.com>

largest growth rate (175%) for boys over the past 10 years.

The increasing participation of lacrosse has fueled the growth of lacrosse at all levels (youth, scholastic, and collegiate) for both boys and girls. The increasing participation in lacrosse also has direct implications for American collegiate athletic programs and NCAA schools trying to recruit lacrosse players. Above all, the competition for American coaches and universities to attract highly desirable student-athletes, with often limited resources (i.e., athletic scholarships) (NCAA, 2010b), has greatly increased. As famous coaches such as Pat Summit, John Wooden, Joe Paterno, and Dean Smith have observed, a team needs a high level of talent to be successful (Packer & Lazenby, 1999), though it is not the only factor. Building or sustaining an American collegiate lacrosse program requires a similar emphasis on recruiting skilled players, so it would be helpful for lacrosse coaches to understand what is important to potential student-athletes in choosing a college or university. American college coaches and athletic departments armed with this knowledge could significantly enhance their recruitment outcomes, since they could tailor their efforts to meet the needs and desires of prospective athletes. Such targeted approaches are likely to save substantial time, energy, and money.

To date, there is no published research evaluating the factors influencing the selection of a college by male and female lacrosse student-athletes. A few published studies have investigated the decision-making process by a specific sport (Bouldin, Stahura, & Greenwood, 2004; Kraft & Dickerson, 1996; Pauline, Pauline, & Stevens, 2004) but none have included both male and female athletes from all levels of the NCAA. To increase knowledge in this area, the author conducted a study focused on lacrosse athletes in NCAA Division I, II, and III programs at schools in the Northeast region of the United States. The major objectives of the investigation were (a) to examine the relative importance of specific factors and major categories (academic, athletic, social, coaching, and financial) that influenced these athletes' college selection decision, (b) to explore

any differences between male and female lacrosse players, and (c) to explore any differences among Division I, II, and III players. An additional objective involved adapting and utilizing a revised version of a survey instrument which had been originally designed and previously used with college baseball and softball players, for use with lacrosse student-athletes.

Review of the Literature

Most influential factors. The overall body of published literature regarding factors influencing a student-athlete's college selection process is limited but continues to grow. Four factors appear to have the most influence in an athlete's choice of which college or university to attend: (a) athletics (e.g., opportunity to play) (Bouldin, et al., 2004; Pauline et al., 2004); (b) academics (Baumgartner, 1999; Bukowski, 1995; Mathes & Gurney, 1985; Pauline, Pauline, & Allen, 2008; Skaff, 1992;); (c) amount of financial aid (e.g., athletic scholarship) (Doyle & Gaeth, 1990; Ulferts, 1992); and (d) head coach (Slabik, 1995). A comprehensive review of the literature showed survey research to be the most commonly employed research methodology for authors investigating factors influencing college choice by student-athletes.

Sport specific teams. The majority of published investigations involving specific sport teams have mostly included male student-athletes (Bouldin et al., 2004; Klenosky, Templin, & Toutman, 2001; Konnet & Gieser, 1987; Kraft & Dickerson, 1996; Pauline et al., 2004). A limited number of studies involving female student-athletes in general (Conley, 1981; Cook, 1994; Nicodemus, 1990) and female student-athletes by specific sport teams have also been conducted (Baumgartner, 1999; Heilman, 1988; Kankey & Quartermann, 2007; Pauline et al., 2008; Reynaud, 1998; Speer, 1992; Widdison, 1982). None of the previously mentioned investigations compared male and female student-athletes from the same sport across the three NCAA divisions.

Male and female student-athletes. There are a few studies comparing male and female student-athletes across a variety of sports. An earlier investigation by Mathes and Gurney (1985), surveyed 231 athletes (155 men and 76 women) with either full or partial athletic scholarship from revenue and non-revenue producing sports. Mathes and Gurney found athletes from both revenue and non-revenue sports to rate academic characteristics and the coach as more important than the campus, athletics, and friends. The results also revealed no significant difference between male and female athletes. Doyle and Gaeth (1990) conducted the first descriptive study to focus on NCAA Division I male and female student-athletes from comparable sports (baseball and softball). The findings did not reveal significant gender differences, but scholarship, athletic team, team atmosphere, location, and academic major were important to this group of student-athletes. Howat (1999) employed a qualitative research design and interviewed 47 (31 males and 16 females) freshmen student-athletes at East Tennessee State University. Howat determined no trends could be identified between male and female student-athletes. However, 63% of the females indicated housing was influential in their decision making process. Walker (2002) used a descriptive research design to examine male and female scholarship athletes from Mississippi State University, a NCAA Division I institution. There were no statistical significant

relationships for gender, scholarship status, or sport affiliation. Both male and female athletes indicated the team and situational factors to be the most important factors when selecting a university. However, female athletes did rank academics higher in importance than male athletes. A more recent investigation by Davis (2006) utilized a descriptive survey research design to investigate 49 male and 39 female freshmen student-athletes from both revenue and non-revenue sports at Virginia Tech University. Davis found females to report education as the most important factor, while males endorsed coaches as the most important factor.

The latest study (Sander, 2008) included nearly 300 male and female student-athletes, representing 17 men's and women's teams (not including football) from seven universities in the Mid-American Conference, revealed some interesting findings. Surprisingly, Sander found "the majority of athletes said they had little exposure to the academic side of campus life, such as meeting with professors or sitting in on classes, during their campus visits" and "more than half of the athletes surveyed, in fact, said on their own official recruiting trips (those the colleges paid for), they had spent 12 or more hours with prospective teammates, attending games or going out for meals". It is important to note none of the previously mentioned investigations (Davis; Doyle & Gaeth; Howat; Mathes & Gurney; Sander; Walker) compared male and female student-athletes from the same sport across the three NCAA divisions. This is a void in the previous research that will be addressed by the current investigation.

Due to the continued increases in collegiate sports participation for men and women (NCAA, 2010a), coaches and athletic department personnel need more information about how potential student-athletes choose the college or university they want to attend, with a particular focus on specific sports and NCAA divisions.

Methods

Participants

The participants were 792 male and female NCAA lacrosse student-athletes who participated on teams located in the Northeast and Mid-Atlantic regions of the United States. Most of the NCAA lacrosse programs are located in the Northeast region of the United States so the Northeast was the area of focus. Of the 792 respondents, females accounted for 54.7%, while males accounted for 45.3%. In this sample, 36.9% attended NCAA Division I schools, 30.6 % attended Division II schools, and 32.6% attended Division III. The average age was 19.70 years ($SD = 1.16$). Nearly all of the participants (94.2%) classified themselves as Caucasian; 1.8% classified themselves as African American, 1.5% classified themselves as Hispanic, and 1.3% as Asian or other. The athletes had played lacrosse for an average of 8.34 years ($SD = 2.94$). Of the 792 respondents, freshmen accounted for 32.6%, sophomores 31.1%, juniors 20.4%, and seniors 15.9%.

Instrumentation

To address the purposes of this study, participants completed a revised version of the Influential Factors Survey for Student Athletes (IFSSA) (Pauline et al., 2004) the Influential Factors Survey for Student Athletes — Revised (IFSSAR). The IFSSA was originally developed by Pauline et al. to evaluate factors influencing the college choice of collegiate baseball student-

athletes. Based on the results of two previous investigations which utilized the IFSSA (Pauline et al., 2004, Pauline et al., 2007), seventeen questions were added to the original IFSSA to better address all categories of the survey and three questions were modified to better relate to lacrosse student-athletes. The IFSSAR consisted of 53 items with the responses on a 5-point Likert-type scale ranging from 1 (*not important*) to 5 (*extremely important*). Items on the survey were separated into five categories: athletic, academic, social atmosphere, coaching staff, and financial aid. Participants also completed general demographic questions (i.e., age, gender, race, class standing, and number of years playing lacrosse) and one question related to the ability of the instrument to assess their college decision making process.

Procedures

The research team made initial contact, via email, with all head lacrosse coaches at NCAA Division I, II, and III institutions throughout the Northeast at the beginning of their competitive seasons. The email provided coaches with a detailed explanation of the study and requested their team's participation. Once coaches indicated interest, they received an email confirmation thanking them for their willingness to participate, and then a survey packet by mail. The packet included a cover letter signed by the researchers, surveys for all of the student-athletes on the team, a self-addressed stamped envelope for the return of the completed surveys, and a letter to the coach explaining how to administer the survey. The instructions were for the coaches to explain the purpose of the study, inform the team their participation was voluntary and confidential, and administer the survey to the entire team at the same time. Head coaches were also instructed not to have any members of the coaching staff present, including themselves, during survey completion to limit the influence they might have on the participants' responses. Each team was identified by a code number, which only the researchers knew, to ensure anonymity of the participants. Neither university nor individual names were included on the survey, only the code number, so no one could link the responses with a particular lacrosse team, coach, or individual student-athlete. The data collection took approximately ten weeks to complete.

Statistical Design and Analysis

This investigation was a descriptive cross-sectional non-probability survey designed to provide information about the factors influencing lacrosse student-athletes' selection of a college in the Northeast. Means and frequencies were calculated for each survey question and for each of the five major categories of the survey. A multivariate analysis of variance (MANOVA) compared male and female NCAA Division I, II, and III lacrosse student-athletes on the five categories (athletic, academic, social atmosphere, coaching staff, and financial aid) of the survey. The MANOVA model assumptions were checked and found to be within acceptable limits. The independent variables (gender and NCAA division level) were categorical in nature and the dependent variables (athletic, academic, social atmosphere, coaching staff, and financial aid) were continuous variables. The data appears to follow a normal distribution with no extreme outliers and no missing values. The variance between groups was equal and was

Table 2. Means and Standard Deviations for Each Factor on the Influential Factors Survey for Student-Athletes Revised (IFSSA-R) [N = 792]

Factors (in rank order)	Category	M	SD
Career Opportunities	AC	3.99	1.02
Academic Reputation of College/University	AC	3.99	0.91
Overall Reputation of College/University	SA	3.96	.877
School Offers Your Specific Major of Interest	AC	3.84	1.01
Reputation of Academic Program/major	AC	3.81	1.00
Social Environment at University	SA	3.78	0.89
Social Atmosphere of the Team	SA	3.76	0.96
Campus	SA	3.74	0.83
Head Coach's Personality/Style	CS	3.69	1.03
Academic Facilities (i.e., library, computer labs, classrooms)	AC	3.63	0.99
Campus Visit	SA	3.59	0.99
Parents	SA	3.51	1.26
Reputation of Coaching Staff	CS	3.47	1.07
Opportunity to win Conference/National Title	AT	3.43	1.19
Overall Cost to Attend the University	FA	3.41	1.34
Opportunity to Play Early in Career	AT	3.40	1.14
Athletic Department Facilities/Resources	AT	3.35	0.95
Size of the University	SA	3.26	0.87
<i>Means and Standard Deviations for Each Factor on the IFSSA-R</i>			
Factors (in rank order)	Category	M	SD
Coaching Staff's Time Spent Recruiting You	CS	3.24	1.18
Amount of Playing Time	AT	3.20	1.10
Tradition of Team	AT	3.19	1.08
NCAA Division (I, II, III) Affiliation	AT	3.15	1.21
Team's Win/Loss Record	AT	3.09	1.07
Proximity/Distance of University from Home	SA	3.09	1.26
Tradition of Athletic Department	AT	3.08	1.03
Sport Specific Facilities/Resources	AT	3.08	1.09
Graduation Rate of Student-Athletes	AC	3.07	1.33
Regional Location of University	SA	2.99	1.06
Promises Made by Coaches During Recruiting	CS	2.96	1.26
Housing	SA	2.96	1.12
Opportunities for Financial Aid	FA	2.91	1.43
Support Services for Student-Athletes	AC	2.87	1.14
Faculty at the University	AC	2.84	1.18
Total Amount of Financial Aid Offered	FA	2.83	1.44
Assistant Coach(es)	AT	2.82	1.13
Amount of Academic Scholarship Offered	FA	2.77	1.49
Conference Affiliation of Team	AT	2.67	1.08
Extracurricular Activities (i.e., sororities/fraternities, intramurals, clubs)	SA	2.65	1.16
<i>Means and Standard Deviations for Each Factor on the IFSSA-R</i>			
Factors (in rank order)	Category	M	SD
Team's Schedule	AT	2.58	1.10
Fan Support of Team	AT	2.57	1.08
Team Travel Locations	AT	2.56	1.04
High School Coach	CS	2.55	1.36
Athletic Department or Team Website	AT	2.40	1.04
Amount of Athletic Scholarship	FA	2.40	1.36
Affiliation of the University (i.e., religious, private, public)	SA	2.35	1.14
Head Coach's years at Institution	CS	2.30	1.03
Team Sponsorships	AT	2.17	1.17
Have Friends at the University	SA	2.16	1.25
Know Athletes at the University	SA	2.13	1.18
Ethnic and/or Gender Ratio of the University	SA	2.10	1.14
Media Coverage	AT	2.00	0.99
Know Athletes on the Team	SA	1.49	1.09
Number of Alumni in Professional Sports	AT	1.49	0.85
Key: AC = Academic FA = Financial Aid AT = Athletic SA = Social Atmosphere CS = Coaching Staff			

indicated by an insignificant value of Levene's test. Follow-up univariate tests and Scheffe's post hoc tests were calculated when appropriate. The level of significance was set at $p < .025$ for all research question testing. The level of significance was set at $p < .05$ for post hoc testing.

Results

The first major objective was to examine the relative importance of specific factors in the college selection process by lacrosse student-athletes at NCAA Division I, II, and III institutions. From a descriptive analysis, the ten most influential factors in rank order were: career opportunities after graduation, academic reputation of the university, overall reputation of the university, availability of academic program or major, reputation of academic major or program, social environment at the university, social atmosphere of the team, campus, head coach's personality or style, and academic facilities (i.e., library, computer labs, classrooms). The five least influential factors in descending order were: knowing athletes at the university, ethnic/gender ratio at the university, media coverage of the team, knowing someone on the lacrosse team, and number of alumni in professional lacrosse. Table 2 displays a summary of the means and standard deviations for each survey question.

Overall mean and standard deviation scores were also calculated for each of the five major categories (athletic, academic, social atmosphere, coaching staff, and financial aid) of the survey. From a descriptive analysis, the academic category had the highest mean, followed by coaching staff, social atmosphere, financial aid, and athletic (see Table 3). This finding indicates academic factors were most important to male and female lacrosse players across all three NCAA divisions.

Table 3. Means and Standard Deviations for the Five Categories of the IFSSA-R

Category	M	SD
Academic	3.52	0.70
Coaching Staff	3.01	0.78
Social Atmosphere	2.99	0.53
Financial Aid	2.86	0.66
Athletic	2.79	0.65

The second purpose of the investigation was to examine any differences in the college selection process among male and female lacrosse players. The results of the MANOVA showed significant differences in three of the major areas of the survey [Wilk's $\Lambda = .870$, $F(5, 782) = 23.46$, $p < .001$]. A test of between-subjects effects was significant for athletic [$F(1, 786) = 19.52$, $p < .001$], coaching staff [$F(1, 786) = 3.46$, $p < .05$], and financial aid [$F(1, 786) = 37.87$, $p < .001$]. Athletic factors and coaching staff were viewed as more influential in the college decision process for male lacrosse players than female players. However, female lacrosse players considered financial aid to be significantly more important than male lacrosse players. See Table 4 for means and standard deviations for each IFSSA-R category by gender and NCAA division level.

Table 4. Means and Standard Deviations for each Category of the IFSSA by Gender and NCAA Division Level

Category	Division	Male		Female	
		M	SD	M	SD
Academic	I	3.31	.68	3.39	.69
	II	3.55	.65	3.69	.75
	III	3.66	.77	3.56	.63
	Total	3.51	.71	3.53	.70
Coaching Staff	I	3.15	.83	2.88	.82
	II	3.22	.67	3.08	.69
	III	2.88	.79	2.88	.75
	Total	3.09	.78	2.93	.77
Social Atmosphere	I	3.02	.56	2.95	.47
	II	2.99	.49	3.08	.62
	III	2.86	.51	3.05	.50
	Total	2.96	.53	3.02	.54
Financial Aid	I	2.62	.57	2.87	.59
	II	3.63	.72	3.90	.71
	III	1.71	.75	2.43	.77
	Total	2.67	.66	3.02	.68

Means and Standard Deviations for each Category of the IFSSA by Gender and NCAA Division Level

Category	Division	Male		Female	
		M	SD	M	SD
Athletic	I	3.04	.69	2.53	.63
	II	2.90	.54	2.84	.66
	III	2.76	.68	2.72	.60
	Total	2.91	.65	2.68	.64

The third purpose of the investigation was to examine any differences in the college selection process among lacrosse players at the various NCAA Division institutions (I, II, and III). The results of the MANOVA showed significant differences in three of the five major areas of the survey [Wilk's $\Lambda = .643$, $F(10, 1564) = 38.72$, $p < .001$]. A test of between-subjects effects was significant for academic [$F(2, 786) = 6.95$, $p < .01$], coaching staff [$F(2, 786) = 7.68$, $p < .001$], and financial aid [$F(2, 786) = 21.51$, $p < .001$].

Scheffe's post hoc multiple comparisons tests revealed specific statistically significant differences ($p < .05$) among the three NCAA divisions. Student-athletes from Division II and III indicated academics to be relatively more important than Division I athletes. Division II lacrosse players viewed coaching staff as more influential than those from Division III. Lastly, financial aid was considered more significant to Division II players than players from Division I or III and Division I athletes viewed financial aid as more important than Division III athletes. See Table 4 for means and standard deviations for each IFSSA-R category by gender and NCAA division level.

Discussion

The first major objective was to examine the relative importance of specific factors that influenced the college choice for lacrosse

student-athletes from all three NCAA Divisions. The top-ranked factor in this study, career opportunities, is from the academic area. Furthermore, four of the five highest ranked factors are related to academics. These findings are not surprising when compared to the outcomes of other studies.

There are a number of previous investigations with comparable findings to the current study (Baumgartner, 1999; Johnson, 1985; Kankey & Quarterman, 2007; Mathes & Gurney, 1985; Pauline, et al., 2008; Skaff, 1992). Most recently, Pauline et al. (2008) found university offers specific major of interest to be the highest rated factor for NCAA softball players. Similarly, Kankey and Quarterman along with Skaff found the availability of academic major as the most important factor for female softball student-athletes and a variety of male student-athletes respectively. When looking at the broader category of academics, Baumgartner (1999), Johnson (1985), Mathes and Gurney (1985), and Pauline et al. (2008) found academics ranked first in importance to student-athletes, which again match the findings in the present investigation. The similarities of these findings are interesting because the importance of academic factors seems to span across gender, as well as many different sports including both revenue and non-revenue sports programs.

Despite the parallel findings with previous research regarding college selection, this study found some surprising differences. In the current study, lacrosse student-athletes ranked the athletic category last in importance regarding college selection. Other previous investigations (Bouldin et al., 2004; Doyle & Gaeth, 1990; Kent, 1987; Pauline et al., 2004; Stotlar, 1976) have found athletic factors (rather than academic factors) to be most important in athletes' college selection. For example, Bouldin et al. and Stotlar both found the opportunity to play early in the student-athletes' career to be the most influential factor, for baseball and football respectively. Pauline et al. found a winning program was most important for baseball student-athletes. Furthermore, studying several different collegiate sports, Doyle and Gaeth found athletic scholarship and athletic team to be the most significant determinants, while Kent found the recruiting visit and relationship with coach to be the top priorities of Division I football players.

The lack of consistent findings between the present and previous investigations may be due to the sport of the student-athletes. The previous investigations (Bouldin et al., 2004; Doyle & Gaeth, 1990; Kent, 1987; Pauline et al., 2004; Stotlar, 1976) with different findings from the current study were conducted with student-athletes who participated in sports having thriving high-profile professional leagues (e.g., National Football League, National Basketball Association, or Major League Baseball). When athletes have promising professional opportunities to continue their athletic career, this can significantly influence their perspectives on the relative importance of athletic and possibly coaching factors compared to academic factors. In contrast, the student-athletes in the current study were male and female lacrosse players, a sport with limited professional opportunities to extend athletic careers for males [National Lacrosse League (NLL) and Major League Lacrosse (MLL)] and no opportunities for females (US Lacrosse, 2010). The majority of male lacrosse players in the NLL (top salary of \$25,000) and MLL (average salary of \$13,000, while rookies average about \$6,500) do not earn enough money

to make a living by only playing lacrosse (Becker, 2004). Due to the limited opportunities and small salaries, it is likely the student-athletes in the current investigation felt they must place top priority on their academic education, being a student first and an athlete second even if they would prefer an athletic career.

Another possible justification for the differences might be related to the availability of football, basketball, and baseball at the grassroots (youth) level across the nation. Developmental youth programs for football (i.e., Pop Warner football), basketball (i.e., Amateur Athletic Union), and baseball (i.e., Little League baseball) can be found in every state in the United States. Furthermore, these youth programs also have a long history, with Pop Warner football being established in 1929 (Pop Warner, 2010) and Little League Baseball established in 1939 (Little League Baseball, 2010). Even with lacrosse's tremendous growth over the past ten years, it does not have youth programs in every state (US Lacrosse, 2010) and the national governing body of lacrosse (US Lacrosse) was recently established in 1998 (US Lacrosse, 2010). Hence, lacrosse does not have a long history at the grassroots level as other organizations such as Pop Warner or Little League Baseball or as widespread participation. These facts may also have had a significant influence on the athletes' perspective of the relative importance of athletic and possibly coaching factors compared to academic factors. While lacrosse is not played in every state, it is played in most regions in the United States including the Northeast, Southeast, Midwest, Northwest, and West (National Federation of State High School Associations, 2010).

The second major objective was to examine any differences in the college selection process among male and female lacrosse players. Male lacrosse players were found to place more importance on athletic factors and coaching staff, while female athletes indicated financial aid to be more influential than male athletes. It is important to note when comparing male and female student athletes from the same sport the existing published literature is limited in its ability to provide a broad and comprehensive understanding of factors influencing college choice. The reason for the differences between males and females is mostly likely attributed to professional playing opportunities. As previously stated, there are opportunities for male collegiate lacrosse players to continue their playing career at the professional level in the National Lacrosse League and Major League Lacrosse. Currently, there are no professional playing opportunities for female lacrosse players. Therefore, with males having the opportunity to continue their playing career they are sensitive to the areas (i.e., athletic factors and coaching) most likely to improve their athletic skills and thus improve their opportunity to play at the professional level.

The third major objective was to examine the differences in lacrosse players' college selection factors across the three NCAA Divisions. The results revealed the NCAA Divisions significantly differed on three categories. It is important to note only two published studies, Pauline et al. (2004) and Pauline et al. (2008), compared student-athletes from the same sport (i.e., baseball and softball respectively) across all three NCAA Divisions.

Both Division II and III lacrosse players identified academic factors to be more influential in the university selection process than Division I players. This result is not surprising based on findings from previous investigations and the philosophy stated by

the NCAA for Division I institutions (NCAA, 2010b). Furthermore, the importance of academics is consistent with the NCAA Division II and III philosophy (NCAA, 2010b).

With respect to coaching staff, the results revealed another difference between the NCAA Division levels. Division II student-athletes viewed coaching as more important than Division III student-athletes. NCAA Division II athletes are more likely to attend college with the goal of enhancing their athletic performance and skills than Division III athletes due to the higher level of skills. The process of improving athletic performance and skills is the focus of most collegiate coaches. Furthermore, Division II athletes spend up to 20 hours per week with their respective coaches striving to become better at their sport. Since these athletes expect to have a high level of interaction with their coach, the match of personalities between athlete and coach is important for the foundation of a good working relationship. Therefore, the coach becomes a significant factor in the college selection process for many student-athletes attending Division II institutions.

Financial aid was more important to Division II lacrosse players than to either Division I or Division III lacrosse players. At the NCAA Division I level, lacrosse is often referred to as an "equivalency sport" which usually means the coaches can share their allocation between a large numbers of players. Sports like football and basketball are "head count sports" which means all of the players are on full scholarships (no partial scholarships). The differences between Division II and III can be explained by the fact Division III student-athletes cannot receive athletic-based financial aid of any kind (NCAA, 2010b). Most student-athletes choosing to attend a Division III university are aware the NCAA does not allow Division III institutions to provide athletic based scholarships; therefore it is not an important factor in their decision making process. It is also possible some student-athletes choosing a Division II university could only attend college with some type of athletic-based financial aid, which might rule out attending a Division III institution (NCAA, 2010b). A plausible explanation for the differences between Division I and II is most student-athletes want to play at the top-tier Division I level, so many student-athletes might be willing to accept a greater financial burden (i.e., less or no scholarship) to be able to compete at the highest collegiate level. The scholarship allotment for lacrosse at the NCAA Division I and II levels is not much different. NCAA Division I schools are allowed 12.7 scholarships for men and 12 for women while Division II schools are allowed 10.8 and 9.9 for men and women respectively (NCAA, 2010b). However, many Division I men's lacrosse programs have over 40 players, while women's programs average about 27 players (NCAA, 2010a) consequently most of the players at the DI level are not receiving full scholarships. Division II lacrosse programs tend to have significantly fewer players on a team than Division I programs due to less financial resources to support the team (i.e., travel, equipment, etc.). However, having few players on a team may allow some Division II programs to offer a larger percentage of athletic scholarship to some members of the team than Division I programs.

A secondary objective of the current investigation involved utilizing a revised version of the Influential Factors Survey for Student-Athletes (Pauline et al., 2004). The original version of the survey had been designed and used previously with collegiate male

baseball players and collegiate softball players. Ninety-six percent of the participants indicated the instrument provided an excellent or very good assessment of the factors influencing their college choice process. This outcome provides beginning evidence the instrument can be utilized effectively with both male and female student-athletes from all three NCAA Divisions.

Recommendations for NCAA Lacrosse Coaches and Athletic Department Personnel

The findings from the current investigation can be useful for coaches involved in the recruitment of potential NCAA Division I, II, or III lacrosse players. Coaching staffs should focus on promoting the academic strengths and resources at their university. Specifically emphasizing their university's academic strengths and career opportunities available to graduates from their institutions will greatly enhance the recruiting efforts of collegiate lacrosse coaches.

Involving lacrosse recruits in meaningful academic-related activities during the recruiting process and campus visits would appear to be very valuable across all NCAA divisions. First and foremost, the coaching staff should identify the desired major or academic area of interest of their athletes. Then they should arrange for the students to meet with faculty from this area during the recruiting visit, sit in on classes, tour the academic facilities, gather information about the academic requirements for the major, and career opportunities upon graduation. NCAA lacrosse coaches aware of the importance of meeting the academic needs of potential student-athletes will greatly enhance the likelihood of attracting highly desirable student-athletes to their respective programs.

Based on our findings in this study, the authors also offer some specific recommendations for coaches of male and female lacrosse programs. Coaches of male collegiate lacrosse program schools ought to emphasize the athletic resources available to their players. They also need to recognize coaching styles and personalities have a great impact on college choice of male lacrosse players. It is important for male lacrosse recruits to feel comfortable with the coaching staff so every attempt should be made to recruit players who fit with and accept the coaching staff's personality and style. Coaches of female collegiate lacrosse programs should focus on the academic strengths of their school while also maximizing the financial support available to the potential player. In regards to both male and female programs, an awareness of the diverse factors influencing a student-athlete's college selection is helpful, and asking appropriate questions can guide coaches in presenting their program's resources and their school's opportunities to match a recruit's expressed interests. The authors of this study have also provided some recommendations for NCAA lacrosse coaches of Division, I, II, and III lacrosse players. Division II and III coaches should emphasize the academic strengths of their institution. In addition to academic strengths, Division II coaches should also attempt to maximize financial aid support.

Limitations and Recommendations for Future Research

This investigation had some limitations. First, the participants were drawn from players attending institutions in the Northeast, so the results may not be generalizable to other collegiate lacrosse athletes in other geographic areas. A second limitation was the

utilization of non-probability and convenience sampling. Without the utilization of some type of probability sample the generalizability of the results is further limited. A final limitation was the inclusion of underclassmen (freshmen) and upperclassmen (sophomores, juniors, and seniors) in the sample. The upperclassmen were more than a year removed from the college selection process, so their recall of the factors influencing their college choice may have been influenced by time and their experiences at the university. Based on these limitations, caution should be taken in generalizing the results of the current study to lacrosse student-athletes in other regions of the country and to other student-athletes competing in different sports.

Nevertheless, this investigation provides some useful findings, and we offer a few recommendations to further investigate the factors influencing the college selection process of collegiate student-athletes. The first recommendation is to replicate the study utilizing probability sampling techniques. Stratified random sampling would be helpful in obtaining adequate representation from all NCAA divisions, regional areas, racial groups, and levels of play, which would enhance the generalizability of the results. Second, we suggest employing a qualitative approach: an inductive method may uncover influential factors related to the college selection process not addressed by the current survey. Third, we recommend future investigations to evaluate the influence of admission counselors and the admission process on the college selection process. Lastly, we suggest a more detailed examination of student engagement opportunities (i.e., learning communities) on American college campuses and their influence on the college selection process.

Conclusions

This investigation has increased the understanding of factors influencing the college choice of lacrosse student-athletes from NCAA Division I, II, and III in the Northeast. Based on the results of this study, the authors believe academic factors have the greatest influence on collegiate lacrosse players when they are deciding what university to attend. It is also vital for coaches to understand not every male and female recruit will be exactly the same and the coach should attempt to meet the particular needs and interests of individual athletes. For those individuals (i.e., head coaches, assistant coaches, and administrators) involved with the recruitment of NCAA lacrosse student-athletes being aware of such factors will help them to be more successful in the recruitment process.

References

- Baumgartner, A. (1999). *Factors that influence division II recruited female intercollegiate soccer student-athletes in selecting their university of choice*. Unpublished master's thesis, Slippery Rock University, Slippery Rock, PA.
- Becker, M. (2004, April 22). Professional lacrosse is hardly glamorous. *The Daily Orange*. Retrieved from <http://www.dailyorange.com>
- Bouldin, C., Stahura, K. A., & Greenwood, M. (2004). Selection criteria for Division I baseball players: An analysis of the recruiting process. *Applied Research in Coaching and Athletics Annual*, 19, 137-166.
- Bukowski, B. J. (1995). Influences on student college choice for minority and non-minority athletes at a Division III institution (Doctoral dissertation, University of Wisconsin, Madison, WI). *Dissertation Abstracts International*, 56(7), 126.
- Conley, E. O. (1981). Analysis of women's intercollegiate athletics as a factor in the college selection process: With specific attention given to small private colleges. (Doctoral dissertation, State University of New York at Buffalo, Buffalo, NY). *Dissertation Abstracts International*, 42, 98.
- Cook, T. (1994). *Factors influencing freshman student-athletes use in deciding between a NJCAA college and a NAIA college*. Unpublished master's thesis, University of Kansas, Lawrence, KS.
- Davis, J. R. (2006). *Freshmen student-athletes: An examination of the decision-making process and satisfaction* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3207962)
- Doyle, C. A., & Gaeth, G. J. (1990). Assessing the institutional choice process of student-athletes. *Research Quarterly for Exercise and Sport*, 61(1) 85-92.
- Heilman, I. L. (1988). *Factors influencing college selection by female basketball players participating in the Pennsylvania State Athletic Conference*. Unpublished master's thesis, Slippery Rock University, Slippery Rock, PA.
- Howat, E. G. (1999). *Factors influencing student-athlete choice of institution* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 9925392)
- Johnson, B. H. (1985). *Recruiting the division III student-athlete: Factors influencing student-athletes choice of college*. Unpublished master's thesis, St. Cloud State University, St. Cloud, MN.
- Kent, M. G. (1987). *Recruiting the major college football player: Factors influencing the North Carolina State University prospective student-athlete*. Unpublished master's thesis, North Carolina State University, Raleigh, NC.
- Kankey, K., & Quarterman, J. (2007). Factors influencing the university choice of NCAA division I softball players, *The SMART Journal*, 3(2), 35-49.
- Klenosky, D. B., Templin, T. J., & Troutman, J. A. (2001). Recruiting student-athletes: A means-end investigation of school-choice decision making. *Journal of Sport Management*, 15, 95-106.
- Konnert, W., & Giese, R. (1987). College choice factors of male athletes at private NCAA Division III institutions. *College and University*, 63(1), 33-44.
- Kraft, R., & Dickerson, K. (1996). Influencing the football prospect's choice of college: Football related factors outweigh academic and facility considerations. *Coach & Athletic Director*, 65(9), 72-74.
- Little League Baseball. (2010). *History of little league*. Retrieved from <http://www.littleleague.org>
- Mathes, S., & Gurney G. (1985). Factors in student athletes' choices of colleges. *Journal of College Student Personnel*, 26, 327-333.
- National Collegiate Athletic Association. (2010a, February). *NCAA sports sponsorship and participation rates report*. Retrieved from <http://www.ncaapublications.com>
- National Collegiate Athletic Association. (2010b). *NCAA rules and bylaws*. Retrieved from <http://www.ncaa.org>
- National Federation of State High School Associations. (2010). *Participation statistics*. Retrieved from <http://www.nfhs.org>
- Nicodemus, K. A. (1990). Predicting the college choice of the female student-athlete: An application of the linear additive expectancy-value model (Fishbein Model) (Doctoral dissertation, Florida State University, Tallahassee, FL). *Dissertation Abstracts International*, 59, 445.
- Packer, B., & Lazenby, R. (1999). *Why we win: Great American coaches offer their strategies for success in sports and life*. Chicago, IL: Masters Press.
- Pauline, J. S., Pauline, G. A., & Allen, C. (2008). Factors influencing college selection by NCAA division I, II, and III softball student-athletes. *Journal for the Study of Sports and Athletes in Education*, 2(3), 363-378.
- Pauline, J. S., Pauline, G. A., & Stevens, A. J. (2004). Influential factors in the college selection process of baseball student-athletes. *Journal of Contemporary Athletics*, 1, 153-166.
- Pop Warner. (2010). *About Pop Warner: History of the organization*. Retrieved from <http://www.popwarner.com>

- Reynaud, C. (1998). Factors influencing prospective female volleyball student-athletes' selection of an NCAA Division I university: Towards a more informed recruitment process (Doctoral dissertation, Florida State University, Tallahassee, FL). *Dissertation Abstracts International*, 59, 445.
- Sander, L. (2008, December 19). For college athletes, recruiting is a fair (but flawed game). *The Chronicle of Higher Education*. Retrieved from <http://chronicle.com>
- Skaff, V. S. (1992). *Factors influencing college selection of male student athletes participating in three intercollegiate sports at Slippery Rock University*. Unpublished master's thesis. Slippery Rock University, Slippery Rock, PA.
- Slabik, S. L. (1995). Influences on college student-athletes at National Collegiate Athletic Association Division III institutions (Doctoral dissertation, Temple University, Philadelphia, PA). *Dissertation Abstracts International*, 54, 1265
- Speer, G. B. (1992). Factors or criteria used by female basketball player selecting a college. (Doctoral dissertation, University of North Texas, Denton, TX). *Dissertation Abstracts International*, 53, 133.
- Stotlar, D. K. (1976). *Factors influencing western section Pennsylvania state college athletic conference football players in their selection of a college*. Unpublished master's thesis, Slippery Rock State College, Slippery Rock, PA.
- Ulferts, L. (1992). Factors influencing recruitment of collegiate basketball players in institutions of higher education in the upper Midwest (Doctoral dissertation, University of North Dakota, Grand Forks, ND). *Dissertation Abstracts International*, 54, 770.
- US Lacrosse. (2010). *About the sport — get the facts about lacrosse*. Retrieved from <http://www.uslacrosse.org>
- Walker, M. B. (2002). *Factors influencing the college choice of prospective student athletes* (Master's thesis). Available from ProQuest Dissertations and Theses database. (UMI No. 1408310)
- Widdison, J. M. (1982). *Factors influencing recruiting female intercollegiate volleyball players in their selection of a university*. Unpublished master's thesis, University of Utah, Salt Lake City, UT. ■