



JOURNAL OF SPORT

Volume 7 Issue 1 2019

© Kent State University 2019. All rights reserved. Duplication of the material contained herein is strictly prohibited without the express written of the Editor of The Journal of Sport

Contents

Athletic Identity and Career Maturity of Women's Basketball Student-Athletes

Moisechik, Stokowski, Hinsey, Turk Page 4

Productivity in Baseball: How Babe Ruth Beats the Benchmark

Groothius, Rothhoff, Strazich Page 27

Attitudes of Midwestern NCAA DIII Intercollegiate Athletes Towards the Usage of Gender Specific Athletic Mascots

Rickabaugh Page 39

Online Sport Management Education: What Students' Qualitative Comments Tell Us About Their Perceptions of Learning

Schlereth, Otto Page 53

About The Journal of SPORT Page 71

**Athletic Identity and Career Maturity of Women's
Basketball Student-Athletes**

Merry Moiseichik

University of Arkansas

Sarah Stokowski

University of Arkansas

Simeon Hinsey

University of Arkansas

Megan R. Turk

University of Arkansas

Abstract

This study explored the relationship between the athletic identity and career maturity of women's basketball student-athletes. It specifically looked at the differences in athletic identity and career maturity based on the student-athlete's level of competition, race, year in school, socioeconomic status, and professional athletic career aspirations. A convenience sample of 209 women's basketball student-athletes from NCAA Divisions I, II, and III, as well as NAIA institutions participated in the study. Participants completed a demographic questionnaire along with the Career Maturity Inventory-Revised Attitude Scale and the Athletic Identity Measurement Scale. The findings suggest that within this sample of women's basketball student-athletes, stronger identification with the athletic role is associated with lower levels of career maturity. Results also indicated that NCAA Division I student-athletes had significantly higher levels of athletic identity and significantly lower levels of career maturity than Division II student-athletes. Likewise, women's basketball student-athletes that planned to pursue a professional basketball career ($n = 76$) displayed significantly higher levels of athletic identity and significantly lower levels of career maturity than those that did not ($n = 133$). As research suggests, less than 1% of women's basketball student-athletes will compete professionally (NCAA, 2017a). However, based on the findings of the current study, 36.4% ($n = 76$) of the women's basketball student-athletes sampled planned to pursue a professional basketball career upon graduating. The results of this study can assist individuals working with these student-athletes (e.g., coaches, counselors, professors) to intervene and ultimately assist women's basketball student-athletes with preparation for life after sports.

Introduction

Despite differences throughout National Collegiate Athletic Association (NCAA) Division I, II, and III institutions, as well as National Association for Intercollegiate Athletics (NAIA) schools, at some point most student-athletes will retire from sport. However, now that women's basketball has sustainable professional leagues (e.g., the Women's National Basketball Association [WNBA] and professional European leagues), women's basketball student-athletes have the opportunity to play professionally. The 2006 WNBA team rosters included 175 females from all over the world, 156 of which had played at NCAA and NAIA affiliated institutions (Isaacson, 2006). Research has shown that 47% of women's basketball student-athletes desire to pursue a career in

professional sport (NCAA, 2016). But in reality, only 4.9% of women's basketball student-athletes will play professionally, including European play (NCAA, 2017a). According to the NCAA (2017a), very few (.09%) women's basketball student-athletes will have the opportunity to play in the WNBA. There are two main concepts, however, that play an important role in determining how prepared student-athletes are for the transition to a career outside of sport: *career maturity* and *athletic identity*.

Career maturity is defined as the degree of confidence an individual has in the ability to make career-related decisions (Betz, Klein, & Taylor, 1996; Finch, 2009). Overall, career maturity involves understanding interests, capabilities, and values associated with preparing for future career possibilities (Brown & Hartley, 1998). To assist student-athletes in developing career maturity and prepare for sport retirement, many institutions have established career development programs (Ryan, Penwell, Baker & Irwin, 2015). For example, NCAA Division I Football Championship Subdivision (FCS) institutions have on average eight full-time employees that work in Athletics Student Life to assist student-athletes in maintaining eligibility and transitioning into a life after sport (NCAA, 2009; Stokowski, Blunt, Hardin, Goss & Turk, 2017). Services some institutions provide their student-athletes include career counseling, resume and cover letter assistance, career fairs, and interview preparation. To target specific problem issues in employment counseling, McAuliffe et al. (2006) developed the Career Planning Confidence Scale (CPCS), which measures six domains: readiness to make a career decision, self-assessment confidence, generating options, information-seeking confidence, deciding confidence, and confidence in implementing your decision (McAuliffe et al., 2006). Upon discovering student-athletes suffered from low CPCS scores (Ryan et al., 2015), the NCAA created a career development program designed to “develop leadership, communication, teamwork, motivation, and organizational skills” (Van Raalte, Cornelius, Brewer, Petitpas & Andrews, 2016, p. 1).

Athletic identity describes the degree to which an individual identifies with the athlete role (Brewer, Van Raalte & Linder, 1993; Lally & Kerr, 2005). The theory of athletic identity is critical in understanding student-athletes' susceptibility to adjustment difficulties and career development barriers (Adler & Adler, 1987). Student-athletes often plan and train to be professional athletes, and as such may resist examining other career paths or participating in career planning. Individuals who identify strongly with the athlete role may be less likely to explore other career, educational, and lifestyle options due to their intense commitment to athletics (Brown & Hartley, 1998; Houle & Kluck, 2015; Murdock, Strear, Jenkins-Guarnieri & Henderson, 2016).

Due to the perception that student-athletes participating in NCAA Division I revenue-generating sports (i.e., football, men's basketball) have an

increased opportunity to play professionally, the majority of research pertaining to athletic identity and career maturity has focused on this population (Hinkle, 1994; McKinney, 1991; Van Rheenen, 2011). Little is known about the career development and athletic identity of women's basketball student-athletes or student-athletes competing in programs outside the Division I level. Furthermore, most studies pertaining to career maturity and athletic identity are dated. Sport participation opportunities for women within the realm of higher education continue to increase – a staggering 45% since the turn of the century, according to the NCAA (2017a). However, even with more than 218,000 women participating in sport at NCAA member institutions, little is known about this population, especially regarding career maturity and athletic identity (NCAA, 2017b).

As research suggests, student-athletes who identify strongly with their athletic role tend to ignore exploring other career and educational ambitions unrelated to their sport (Lally & Kerr, 2005; Houle & Kluck, 2015; Tyrance et al., 2013). Since women have not had the same opportunities in professional sports as their male counterparts, even though the prospect of women becoming professional athletes has improved through sport participation and opportunity, it is unclear whether female athletes experience the same issues as men. Specifically, there is a gap in the literature that investigates the relationship of athletic identity and career maturity of women's basketball student-athletes. As basketball is arguably the most recognizable women's professional team sport in the United States, this study is delimited to that sport. Therefore, the purpose of this study was to examine the relationship between the athletic identity and career maturity of women's basketball student-athletes.

This study will attempt to test the following hypotheses:

1. There is a significant correlation between the athletic identity and career maturity of women's basketball student-athletes.
2. There is a significant difference in career maturity or athletic identity based on a women's basketball student-athlete's level of college competition.
3. There is a significant difference in career maturity or athletic identity based on a women's basketball student-athlete's year in school.
4. There is a significant difference in career maturity or athletic identity between women's basketball student-athletes who plan to pursue a professional basketball career and those who do not.

Review of Literature

Role conflict – student vs. athlete

Role conflict occurs when individuals find themselves pulled in different directions due to multiple identities (Crossman, 2013; Macionis & Gerber, 2010). When roles are associated with two different statuses or identities, it is considered a status strain (Abbott, 1981). There are a number of studies that explore role conflict faced by college student-athletes (Adler & Adler, 1987; Sack & Thiel, 1985; Settles, Sellers & Damas, 2002). According to Robinson (2013), heavy demands of the athletic role conflict with other important roles. Women in particular must deal with the role conflict and expectations associated with simultaneously being an athlete, a student-athlete, and feminine (Allison, 1991; Robinson, 2013). Lance (2004) found that females scored significantly higher on the role conflict index than males, suggesting that females experience more status strain due to the societal expectations associated with female femininity being incompatible with the behavioral expectations for an elite college student-athlete. Role conflict among female student-athletes may cause issues related to limited peer relationships and deficiency of career and social development opportunities. Such conflict also creates limited self-concept and a decrease in self-worth and maturity levels (Robinson, 2013).

Research indicates that role conflict, in general, poses problems of adjustment for all individuals, and those with high levels of role conflict also experience lower levels of career maturity and satisfaction (Kahn, Quinn, Snoek & Rosenthal, 1964; Murdock et al., 2016). Despite the importance and implications of role conflict, few studies have examined female student-athletes. There is a gap in the literature specifically regarding women's basketball student-athletes and this specific population's struggle with role conflict.

Athletic Identity and Career Maturity

Athletic identity is the level to which an individual identifies with the athlete role (Brewer et al., 1993). A student-athlete's identification with the sports role can begin as early as childhood and continue through adolescence into adulthood (Brown & Hartley, 1998). During this process, the athletic role is affected by experience, various social relationships, and involvement in sports activities (Cornelius, 1995). Interactions with family members, friends, coaches, teachers, and even the media are very influential in developing athletic identity (Heyman, 1987; Houle & Kluck, 2015; Lally & Kerr, 2005; Murdock et al., 2016).

In psychological literature, maturity is not defined by one's age, but rather a person's ability to react and respond to a given situation in the appropriate way (Jagadeesh, 2012; Ryfe, 1989; Wechsler, 1950). Maturity is not instinctive but is learned, and the way a person makes decisions or deals with crisis indicates an individual's level of maturity (Wechsler, 1950). There are a variety of maturity types: physical, social, emotional, and career. Career maturity is defined as "the

way in which an individual successfully completes certain career development tasks that are required according to his current developmental phase” (Super, 1957, p. 294). It is seen as the collection of behaviors necessary to identify, choose, plan, and execute career goals. Super (1990) explained that the readiness of an individual refers to both cognitive and attitudinal components. The attitudinal dimension refers to an individual’s attitudes and feelings about making and pursuing a particular career choice (Super, 1990). The cognitive dimension, meanwhile, signifies an individual’s awareness regarding career-related decisions and overall understanding of vocational preferences (Crites, 1976).

Although the focus of this study is on women’s basketball student-athletes, it is important to understand the career maturity of the general student body. The context of higher education is the ideal environment to assist students with career identity formation (Arnett, 2006). After all, the college years are a time of self-discovery where young adults have the opportunity to participate in career exploration through a variety of course offerings and major choices (Arnett, 2006; Beauchamp & Kiewra, 2004). Studies have shown that campus mentors (Arnett, 2006), parents (Alliman-Brissett, Turner, & Skovholt, 2004; Stringer & Kerpelman, 2010; Whiston & Keller, 2004), and personality also affect student career maturity (Rottinghaus et al., 2005; Profeli & Skorikov, 2010; Stoeber, Mutinelli, & Corr, 2016). However, student-athletes are a special group of students who have additional factors that play into career maturity.

In scoring career maturity levels of students, Murphy, Petipas and Brewer’s (1996) study found that non-athletes scored higher than student-athletes; females scored higher than males; female student-athletes scored higher than male student-athletes; and males in revenue sports (football and basketball) scored significantly lower than student-athletes from other sports. Sowa and Gressard’s (1983) research showed that student-athletes at a major university scored significantly lower than their non-athlete peers on measures of educational plans, career plans, and mature relationships with other students. Nevertheless, many student-athletes are still ill-prepared for transition to a life beyond sports after their college athletic careers are completed (Houle & Kluck, 2015; Terrance et al., 2013). Finch’s (2009) study of career maturity among the student-athlete population found identity to be a predictor of career decision-making and self-efficacy (Finch, 2009). Similarly, in regard to the student-athlete population, numerous studies have shown that gender significantly impacts career maturity (Comeaux, Speer, Taustine & Harrison, 2011; Murdock et al., 2016). Brown and Hartley (1998) point out that of the 114 student-athletes who responded to their survey, few indicated the desire to pursue professional sport, perhaps indicating that the effects of athletic identity on career maturity are moderated by one’s student role identity. Although only a few student-athletes indicated the desire to pursue a professional sports career, the student-athletes that desired to play

professionally showed lower levels of career maturity compared to student-athletes who expressed interest in careers beyond sport (Brown & Hartley, 1998).

Blann (1985) compared male and female NCAA Division I and III student-athletes and non-athletes. The study discovered that junior and senior student-athletes at the NCAA Division III level displayed higher levels of career maturity than NCAA Division I male student-athletes (Blann, 1985). Freshman and sophomore student-athletes at both Division I and III levels had lower career maturity scores than non-athletes. However, the scores between junior and senior student-athletes at both levels were equal to that of non-athletes (Blann, 1985). Additionally, Brown and Hartley (1998) found no significant difference between level of athletic identity or level of competition and career development.

The theory of athletic identity is critical in understanding the student-athlete's susceptibility to adjustment difficulties and career development barriers (Adler & Adler, 1987). Individuals who identify strongly with the athlete role may be less likely to explore other career, educational, and lifestyle options due to their intense commitment to athletics (Brown & Hartley, 1998). Role conflict, in general, poses problems of adjustment for all individuals, and those with high levels of role conflict also experience lower levels of career maturity and satisfaction (Kahn, Wolfe, Quinn, Snoek & Rosenthal, 1964). Murphy et al. (1996) suggests that many student-athletes either lack the time or interest to undertake career planning or view such preparation as a threat to their professional athletic career aspirations.

Most of the research examining the relationship between career maturity and athletic identity is limited to male student-athletes competing at a single NCAA Division I institution. The current study helps to highlight various aspects of athletic identity and career maturity within the specific segment of women's basketball college student-athletes. Research that spans among student-athletes participating in different levels of competition, particularly now that there are professional opportunities for women, are critical in order to better understand athletic identity and career maturity.

Methods

Participants and Procedures

The sample for this study consisted of female basketball student-athletes attending NCAA Division I, II, III, and NAIA institutions. Despite the differences in philosophies regarding the NCAA and the NAIA, Lancaster's (2012) study found that, similar to the NCAA, NAIA student-athletes also strive to become professionals in their respective sport. Student-athletes are extremely preoccupied by their schedules and tend to have time constraints (Stokowski et al., 2017); therefore, because one of the researchers was a collegiate basketball coach, a

convenience sample consisting of institutions located in the southeastern region of the United States (where the researcher has contacts) was utilized. Upon receiving approval from the Institutional Review Board (IRB), teams that agreed to participate in the study were mailed a survey packet in early fall before the season started that included an informed consent letter, the Career Maturity Inventory – Revised Attitude Scale, the Athletic Identity Measurement Scale (AIMS), and a demographic questionnaire. Coaches were asked to distribute and collect the surveys from women’s basketball student-athletes. Coaches returned the surveys to the researcher in a self-addressed envelope that was provided in the survey packet. In order to ensure anonymity, participants were asked not to divulge their names or the names of their institution on the survey. However, student-athletes were asked to provide their competition level on the demographic questionnaire.

The sample consisted of 15 NCAA Division I institutions (62 student-athletes), three NCAA Division II schools (40 student-athletes), 19 NCAA Division III schools (50 student-athletes), and 10 NAIA institutions (57 student-athletes). The total number of women’s basketball student-athletes who returned surveys was 212. However, three (1.4%) of those returned surveys were removed due to incomplete responses. Thus, the final sample size for this study was 209 women’s basketball student-athletes. A G*Power 3.1.9.2 post hoc power analysis was used to confirm that the sample size was sufficient to achieve appropriate power, 0.8 assuming moderate effect size. The sample was comprised of student-athletes across all academic years of participation, which included freshmen through those in their senior year (students granted redshirt year(s) or graduate students). The sample also was grouped based on professional athletic career aspirations. A complete breakdown of the sample’s demographics is seen in Table 1.

Table 1

Demographic Information of Participants

Factors	<i>n</i>	%
Competition Level		
NCAA Division I	62	29.7
NCAA Division II	40	19.1
NCAA Division III	50	23.9
NAIA	57	27.3
Year in school		
Freshman	60	28.7
Sophomore	41	19.6
Junior	50	23.9
Senior and above	58	27.8
Professional athletic career		
Will pursue	76	36.4
Will not pursue	133	63.6

Instruments

Demographic Questionnaire. The demographic questionnaire was used to gather information about the participants' competition level, year in school, and professional athletic career aspirations. In order to determine the student-athletes' professional athletic career aspirations, student-athletes were asked to respond to the question, "Do you plan to pursue a professional basketball career when you are finished with your collegiate athletic career?"

Athletic Identity Measurement Scale (AIMS). The AIMS (Brewer et al., 1993) was utilized in its original format to measure the strength of identification with the athlete role. The instrument assesses an individual's perception of sports, affective reactions to sports-related outcomes, and exclusivity of identification of the athletic role. Brewer et al. (1993) reported a test-retest reliability coefficient of

.89 over a two-week lapse period, and internal consistency is reported to be high with an alpha coefficient of .93. The instrument contained 10 items, and participants responded on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) to certain statements. The AIMS asked the participants to respond to each statement, with items that included: "I consider myself an athlete," "most of my friends are athletes," and "sport is the most important part of my life." The final score consists of the sum of the responses to the 10 items. Scores on the instrument range from 10 to 70. Higher scores on the instrument indicate higher levels of identification with the athlete role. Based on Nunnally's (1978) work, an alpha coefficient of .70 or greater establishes an acceptable level of internal consistency. Support for construct validity also was provided after student scores on the AIMS were highly correlated with scores on the importance of sports competence scale of Fox's (1990) Perceived Importance Profile (PIP), $r(225)=.83$, $p<.001$ (Brewer et al., 1993).

Career Maturity Inventory-Revised Attitude Scale (CMI-R). The CMI-R (Crites and Savickas, 1996) was used in its original format to measure the degree of confidence a person has regarding their ability to make career-related decisions (Crites, 1978a). The CMI-R is one of the most widely used instruments for measuring career maturity. It is a revision of the 1978 version that included removing the school age population questions to make it more applicable to postsecondary and adult populations (Crites & Savickas, 1996). It consists of 25 diverse statements with an overall score ranging from 0 to 25 that measure attitudes and competencies of career maturity. Each statement has a score of 1 or 0 depending on whether or not a respondent chooses *Agree* or *Disagree*. CMI-R statement examples included: "There is no point in deciding upon a job when the future is so uncertain" and "I really can't find any work that has much appeal to me." An individual's final score represents the individual's overall maturity of attitudes and competencies that are vital in realistic career development (Crites, 1978a). A higher score indicates more developed attitudes toward career decisions. The 1978 CMI had internal consistency coefficients for the Attitude Scale at .78 and Competence Test Coefficients ranged from .63 to .86 (Crites, 1978b). Crites and Savickas (1995) reported that because the items in the 1996 CMI-R were selected from the 1978 CMI, the CMI-R has the same reliability and validity as the items in the previous edition. Busacca and Taber (2002) and Dipeolu (2007) found that the CMI-R has demonstrated suitable reliability and validity measures.

Results

Descriptive Statistic

As shown in Table 2, the final sample size for this study was 209 women's basketball student-athletes attending NCAA Division I, II, III, and NAIA institutions. Student-athletes also were divided based on their response to the question, "Do you plan to pursue a professional basketball career when you are finished with your collegiate athletic career?" Table 2 also includes the means and standard deviations for the AIMS and CMI-R for the individual factors investigated in this study. Normalcy of the data was assumed (see Table 2).

Table 2

Means and Standard Deviations for the Factors on the Dependent Variables

Factors	<i>n</i>	<u>AIMS</u>		<u>CMI-R</u>	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Competition level					
NCAA Division I	62	53.68	9.80	16.53	3.14
NCAA Division II	40	48.02	7.06	18.25	2.54
NCAA Division III	50	50.82	10.09	17.50	2.80
NAIA	57	49.11	9.43	16.79	2.39
Year in school					
Freshman	60	52.03	8.80	16.67	3.02
Sophomore	41	49.90	10.70	17.07	2.56
Junior	50	50.28	9.20	17.48	2.61
Senior and above	58	50.12	9.62	17.47	2.90
Professional athletics career					
Will pursue	76	54.75	8.66	16.17	3.00
Will not pursue	133	48.33	9.18	17.73	2.54

In addition, a frequency distribution was performed in order to determine the percentage of student-athletes who planned to pursue a professional basketball career based on the different factors (see Table 3).

Table 3

Frequencies and Percentages of Student-athletes that Plan to Pursue a Professional Sports Career Based on Different Factors

Factors	n	Professional Career Pursuit	
		Will (%)	Will not (%)
Competition level			
NCAA Division I	62	47 (75.8)	15 (25.2)
NCAA Division II	40	3 (7.5)	37 (92.5)
NCAA Division III	50	13 (26.0)	37 (74.0)
NAIA	57	13 (22.8)	44 (77.2)
Year in school			
Freshman	60	19 (31.7)	41 (68.3)
Sophomore	41	19 (46.3)	22 (53.7)
Junior	50	19 (38.0)	31 (62.0)
Senior and above	58	19 (32.8)	39 (67.2)
Total	209	76 (36.4)	133 (63.6)

Inferential Statistics

In order to assess the relationship between athletic identity and career maturity of women's basketball student-athletes and to identify variables that may affect this relationship, hypotheses involving competition level, year in school, and professional athletic career aspirations were included.

Hypothesis 1: There is a significant correlation between the athletic identity and career maturity of women's basketball student-athletes. To test this hypothesis, a Pearson product-moment correlation coefficient was computed to assess the relationship between women's basketball student-athletes' scores on

the AIMS ($M = 50.67$, $SD = 9.49$) and CMI-R ($M = 17.16$, $SD = 2.81$). The results of the correlational analysis revealed a significant moderate negative correlation, $r(207) = -.32$, $p < .001$. In general, the result suggests that women's basketball student-athletes with higher levels of athletic identity displayed lower levels of career maturity. Therefore, Hypothesis 1 was accepted.

Hypothesis 2: There is a significant difference in athletic identity or career maturity based on a student-athlete's level of college competition. Therefore, a multivariate analysis of variance (MANOVA) was conducted to determine the effect of competition level on the two dependent variables of athletic identity and career maturity. Significant differences were found among the four competition levels on the dependent measures, Wilk's Lambda = .91, $F(6, 408) = 3.26$, $p = .004$, thus Hypothesis 2 was accepted.

Analyses of variances (ANOVAs) on the dependent variables were conducted as follow-up tests to the MANOVA to determine what the differences were. Using the Bonferroni method, each ANOVA was tested at the $p < .025$ ($.05/2$) level to account for Type I error. The ANOVA demonstrated significant effects on the AIMS scores, $F(3, 205) = 3.78$, $p = .011$, and also on the CMI-R scores, $F(3, 205) = 3.76$, $p = .012$. This indicated that significant differences existed based on competition level for both the AIMS and the CMI-R. Because there were four levels of competition to be compared, Tukey Post hoc analyses were conducted to find out which levels of competition were significantly different. The results revealed that significant differences exist between NCAA Division I and NCAA Division II women's basketball student-athletes on both the AIMS ($p = .016$) and the CMI-R ($p = .013$). As shown in Table 2, these results indicate that women's basketball student-athletes competing at the NCAA Division I level have significantly higher levels of athletic identity and significantly lower levels of career maturity than women's basketball student-athletes at the NCAA Division II level. There were no significant differences found when comparing student-athletes at NCAA Division III or NAIA institutions against student-athletes at other levels of competition.

Hypothesis 3: There are significant differences in athletic identity and career maturity based on a women's basketball student-athlete's year in school. A MANOVA was conducted to determine if the year in school affected athletic identity and career maturity. There were no statistically significant differences between the four classification levels, Wilk's Lambda = .98, $F(6, 408) = .69$, $p > .05$. Consequently, no follow-up procedures were required. Hypothesis 3 was rejected and indicates that no matter what year the student has completed, there is no difference in athletic identity and career maturity.

Hypothesis 4: There are statistically significant differences in athletic identity or career maturity between women's basketball student-athletes who plan to pursue a professional basketball career and those who do not. The results of the

MANOVA for whether intention to pursue a professional career would affect athletic identity or career maturity found significant differences among the two groups on dependent measures, Wilk's Lambda = .86, $F(2, 206) = 16.18$, $p < .001$. There was a difference in athletic identity and career maturity for those who wanted a professional career in basketball and those who did not. Thus, Hypothesis 4 was accepted.

ANOVAs were conducted as follow-up tests to determine whether athletic identity or career maturity were affected by plans to pursue a professional career. Using the Bonferroni method, each ANOVA was tested at the $p < .025$ ($.05/2$) level to account for Type I error (Cabin & Mitchell, 2000). The ANOVA demonstrated significant effects on the AIMS scores, $F(1, 207) = 24.63$, $p < .001$, and also on the CMI-R scores, $F(1, 207) = 15.96$, $p < .001$. As shown in Table 2, these results indicate that women's basketball student-athletes who plan to pursue a professional basketball career after graduating display significantly higher levels of athletic identity and significantly lower levels of career maturity than those who do not intend to pursue a professional basketball career.

Discussion

Overall, the results of this study suggest that women's basketball student-athletes with higher levels of athletic identity displayed lower levels of career maturity. This finding is consistent with literature (Lally & Kerr, 2005; Murphy et al., 1996; Houle & Kluck, 2015; Tyrance et al., 2013). As past research has demonstrated, student-athletes that identify strongly with their athletic role tend to have limited career ambitions (Lally & Kerr, 2005; Houle & Kluck, 2015; Tyrance et al., 2013). Furthermore, the theory of athletic identity can assist in explaining why women's basketball student-athletes experienced difficulties and career development barriers (Adler & Adler, 1987). In the current study, women's basketball student-athletes strongly identified with the athlete role; therefore, this population may be less likely to explore other career options due to a strong commitment to athletics (Brown & Hartley, 1998).

Significant differences were found between NCAA Division I and NCAA Division II women's basketball student-athletes on the measures of athletic identity and career maturity. Women's basketball student-athletes at NCAA Division I institutions had significantly higher levels of athletic identity ($M = 53.68$, $SD = 9.80$) than women's basketball student-athletes at NCAA Division II institutions ($M = 48.02$, $SD = 7.06$). Women's basketball student-athletes at NCAA Division II institutions had significantly higher levels of career maturity than women's basketball student-athletes at NCAA Division I institutions. The findings of the current study were somewhat consistent with Sack and Thiel's (1979) findings that NCAA Division I student-athletes experience greater role

conflict than those in Division II or III. The results of the current study also are somewhat consistent with Blann's (1985) study in that student-athletes at NCAA Division I institutions demonstrated lower levels of career maturity when compared to student-athletes in other divisions (Blann, 1985). However, results of the current study conflict with Brown and Hartley's (1998) findings in that no significant difference was found between competition level, athletic identity, and career development. The significant differences between NCAA Division I and NCAA Division II women's basketball student-athletes possibly could be attributed to the fact that various levels of athletic divisions have different philosophies and requirements of their student-athletes.

When comparing women's basketball student-athletes who plan to pursue a professional career to women's basketball student-athletes who do not, the results indicate that there are significant differences between the two groups. Of the women's basketball student-athletes ($N = 209$) that participated in the current study, 36.4% ($n = 76$) reported a desire to pursue a career in professional basketball. Therefore, a possible explanation for the differences between NCAA Division I and Division II women's basketball student-athletes may not be the differences in competition level but rather the underlying factor regarding plans to pursue a professional basketball career. It is important to note that in the present study, only 7.5% ($n = 3$) of NCAA Division II women's basketball student-athletes planned on pursuing a professional basketball career in comparison to 75.8% ($n = 47$) of NCAA Division I women's basketball student-athletes.

The results of the current study appeared to be consistent with Brown and Hartley's (1998) study in that student-athletes who indicated a desire to play professionally demonstrated lower levels of career maturity. Brown and Hartley's (1998) study also indicated that few student-athletes desired to pursue a professional sports career. Twenty years later however, the current study found that a majority of the sample indicated the desire to play professionally. Perhaps the increase in awareness of professional sport opportunities for women was a determining factor for participants to express that playing professional sports was a priority. Brown and Hartley (1998) found that student-athletes who indicated a desire to participate in professional sports demonstrated lower levels of career maturity compared to student-athletes who expressed interest in other careers. Similarly, results of the current study found that women's basketball student-athletes who desired to compete professionally demonstrated higher athletic identity and lower career maturity. However, Brown and Hartley (1998) only focused on investigating student-athletes in the sports of men's basketball and football. Perhaps such findings now pertain to women's basketball student-athletes as well.

It is expected that as one gets closer to graduation, interest in career development would increase. Interestingly, in this study there was no significant

relationship found between the constructs when comparing year in school. This is in contrast to Lally and Kerr (2005) who found significant differences between second year student-athletes and those in their third and fourth year. However, it is important to note that the Lally and Kerr (2005) study was qualitative and included both male and female respondents.

Recommendations

As research suggests, less than 1% of women's basketball student-athletes will compete professionally (NCAA, 2017a). However, based on the findings of the current study, 36.4% ($n = 76$) of the women's basketball student-athletes attending NCAA Division I, II, III and NAIA institutions plan to pursue a professional basketball career after graduating. The results show that these student-athletes display significantly higher levels of athletic identity and significantly lower levels of career maturity than those women's basketball student-athletes who do not plan to pursue a professional basketball career. Whereas in the past there was little opportunity for women to continue in sports after college, now it appears that between the WNBA and playing overseas, women aspire to continue participating. This is no longer just an issue for high profile sports (i.e., men's basketball and football), but rather an issue for any athlete that may have the possibility of competing at the professional position. Experiences, social relationships, and sport involvement directly impact athletic identity (Cornelius, 1995). Social relationships, specifically those of family, friends, coaches, and teachers, play an influential role in developing athletic identity (Heyman, 1987; Houle & Kluck, 2015; Lally & Kerr, 2005; Murdock et al., 2016). Thus, the family, friends, and athletic department staff members (e.g., coaches, counselors, professors) working with women's basketball student-athletes need to intervene and assist them in gaining a sense of self that expands beyond sport. Murphy et al. (1996) explained that due to time constraints, many student-athletes fail to undertake career planning. Therefore, perhaps women's basketball student-athletes should be given time to focus on career development exploration.

Research has demonstrated that college students should utilize their time on campus to participate in career exploration through taking a variety of courses and investigating different majors (Arnett, 2006; Beauchamp & Kiewra, 2004). Thus, first-year women's basketball student-athletes should be inspired to take courses of interest and be assessed to find out their major interests. Women's basketball student-athletes also should be assigned campus mentors, because they have been found to increase career maturity (Alliman-Brissett, Turner, & Skovholt, 2004; Stringer & Kerpelman, 2010; Whiston & Keller, 2004).

Murdock et al. (2016) reported that attending one or more career intervention program(s) failed to impact career maturity of student-athletes. Thus, current programs in place to assist women's basketball student-athletes should be assessed for effectiveness and modified for success. Programming also should be exclusive to every team, as gender significantly impacts career maturity (Comeaux et al., 2011; Murdock et al., 2016).

Limitations

Although this present study can potentially educate other researchers and practitioners about athletic identity and career maturity of women's basketball student-athletes, limitations do exist. The sample was derived from a convenience sample located in the southeast region of the United States and to schools where the author had a connection with coaches. Also, the sample did not delineate what types of institutions were selected. All the divisions were represented, but variables (i.e., private or public, religious or non-religious, Ivy League, location) were not considered. Thus, this sample may not be generalizable to all women's basketball student-athletes. Regarding the difference in women's basketball student-athletes who planned to pursue a professional career and those who did not, as well as regarding athletic identity and career maturity, there was a significant difference between women's basketball student-athletes at the Division I and Division II levels. However, such a finding may be due to the low number of responses ($n = 40$) at the Division II level. While a significant effort was made to recruit more institutions, only three ($n = 40$) Division II institutions agreed to participate. Thus, significant differences regarding Division II institutions could be attributed to the limited representation of this particular division.

Future Research

Further examination of the relationship between athletic identity and career maturity is needed in order to continue understanding the development of women's basketball student-athletes. While the current findings suggest that athletic identity and career maturity among women's basketball student-athletes are related, further research must investigate other variables that could impact this relationship. For example, when comparing NCAA Division III and NAIA institutions against other competition levels in the current study, no significant relationships existed. Perhaps this finding is reflective of how and why student-athletes select schools. Thus, future research should examine why women's basketball student-athletes choose to compete at their respective institutions. Research also is needed to look at motivations for women's basketball student-athletes to compete at NAIA institutions, as little currently is known about

student-athletes that compete within this particular association. Further research also must include a more representative sample of the women's basketball student-athlete population (instead of only student-athletes from the southeast region of the country). Future studies also should investigate other female sports where there are opportunities to compete professionally (e.g., track and field, tennis, golf). Continuing this line of research will improve the overall understanding of the importance of college athletics in fulfilling the overall purpose of higher education. Lastly, upon learning the low levels of career maturity among student-athletes, the NCAA initiated career development programming (Van Raalte et al., 2016). Researchers should assess such career development initiatives to ensure program effectiveness if they are to be used as tools to increase career maturity.

References

- Abbott, A. (1981). Status strain. *American Journal of Sociology*, 86(4), 819-835.
- Adler, P., & Adler, P. (1987). Role conflict and identity salience: College athletics and the academic role. *The Social Science Journal*, 24, 443-455.
- Alliman-Brisset, A. E., Turner, S. L., & Skovholt, T. M. (2004). Parent support and African American adolescents' career self-efficacy. *Professional School Counseling*, 7, 124-132.
- Allison, M. T. (1991). Role conflict and the female athlete: Preoccupations with little grounding. *Journal of applied sport psychology*, 3, 49-60.
- Arnett, J. J. (2006). Emerging adulthood: Understanding the new way of coming of age. In J. J. Arnett & J. L. Tanner (Eds.), *Emerging adulthood in America: Coming of age in the 21st century* (pp. 3-19). Washington, DC: American Psychological Association.
- Betz, N., Klein, K., & Taylor, K. (1996). Evaluation of a short form of the career decision-making self-efficacy scale. *Journal of Career Assessment*, 4, 47-57.
- Blann, F. W. (1985). Collegiate athletic competition and students' educational and career plans. *Journal of College Student Personnel*, 26, 115-118.
- Brewer, B. W., Van Raalte, J. L., & Linder, D. E. (1993). Athletic identity: Hercules' muscles or Achilles heel? *International Journal of Sport Psychology*, 24(2), 237-254.
- Brown, C., & Hartley, D. L. (1998). Athletic identity and career maturity of male college student athletes. *International Journal of Sport Psychology*, 29, 17-26.

- Busacca, L. A., & Taber, B. J. (2002). The Career Maturity Inventory-Revised: A preliminary psychometric investigation. *Journal of Career Assessment, 10*, 441-455.
- Cabin, R. J., & Mitchell, R. J. (2000). To Bonferroni or not to Bonferroni: When and how are the questions. *Bulletin of the Ecological Society of America, 81*(3), 246-248.
- Comeaux, E., Speer, L., Taustine, M., & Harrison, C. K. (2011). Purposeful engagement of first- year division I athletes. *Journal of First-Year Experience & Students in Transition, 23*(1), 35-52.
- Cornelius, A. (1995). The relationship between athletic identity, peer and faculty socialization, and college student development. *Journal of College Student Development, 36*, 560-573.
- Crites, J. (1976). A comprehensive model of career development in early adulthood. *Journal of Vocational Behavior, 9*, 105-118.
- Crites, J. O. (1978a). *Career Maturity Inventory: Administration and use manual*. Monterey, CA: CTB/McGraw-Hill.
- Crites, J. O. (1978b). *Career Maturity Inventory: Theory and research handbook*. Monterey, CA: College Testing Board/McGraw-Hill.
- Crites, J., & Savickas, M. (1995). Revision of the career maturity inventory. *Journal of Career Assessment, 4*, 131-138.
- Crossman, A. (2013, September). *Role conflict*. Retrieved from http://sociology.about.com/od/R_Index/g/Role-Conflict.htm
- Dipeolu, A. O. (2007). Career instruments and high school students with learning disabilities: Support for the utility of three vocational measures. *Journal of Career Development, 34*, 59-78.
- Finch, B. L. (2009). Investigating college athletes' role identity and self-efficacy for career decision making. *International Journal of Sport Management, 10*, 427-435.
- Fox, K. R. (1990). *The physical self-perception manual*. DeKalb, IL: Office of Health Promotion, Northern Illinois University.
- Heyman, S. R. (1987). Counseling and psychotherapy with athletes: Special considerations. In J. R. May & M. J. Asken, *Sport psychology: The psychological health of the athlete* (pp. 135-156). New York: PMA.
- Hinkle, J. S. (1994). Integrating sport psychology and sport counseling: Developmental programming, education, and research. *Journal of Sport Behavior, 17*(1), 52-59.
- Houle, J.L., & Kluck, A. (2015). An examination of the relationship between athletic identity and career maturity in student athletes. *Journal of Clinical Sport Psychology, 9*, 24-40. doi.org/10.1123/jcsp.2014-0027

- Isaacson, M. (2006, May 27). Promotions in motion: WNBA athletes do more than play: They also sell the league. *Chicago Times*. Retrieved from <http://www.highbeam.com/doc/1G1-145874553.html>
- Jagadeesh, P. (2012, May 29). *Maturity – Proficiency to observe absorbing oneself*. Retrieved from <http://www.articlesbase.com/psychology-articles/maturity-proficiency-to-observe-absorbing-oneself-5785052.html>
- Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. (1964). *Organizational stress: Studies in role conflict and ambiguity*. New York, NY: Wiley.
- Lally, P. S., & Kerr, G. A. (2005). The career planning, athletic identity, and student role identity of collegiate student athletes. *Research Quarterly for Exercise and Sport*, 76(3), 275-285.
- Lancaster, K. (2012, April, 12). NAIA success stories: Making it to the pros. *College Sports Scholarships*. Retrieved from <http://www.collegesportsscholarships.com/2012/04/12/naia-athletes-in-the-pros.htm>
- Lance, L. M. (2004). Gender differences in perceived role conflict among university student-athletes. *College Student*, 38(2), 179-190.
- Macionis, J., & Gerber, L. (2010). *Sociology 7th Canadian Ed*. Toronto, Ontario: Pearson Canada Inc.
- McAuliffe, G., Jurgens, J. C., Pickering, W., Calliottee, J., Macera, A., & Zerwas, S. (2006). Targeting low career confidence using the career planning confidence scale. *Journal of Employment Counseling*, 34(3), 117-129. doi: 10.1002/j.2161-1920.2006.tb00011.x.
- McKinney, J. S. (1991). *Analysis of career maturity of collegiate student-athletes and college students involved in extracurricular activities*. (Order No. 9126084, University of South Carolina).
- Murdock, J. L., Strear, M. M., Jenkins-Guarnieri, M. A., & Henderson, A. C. (2016). Collegiate athletes and career identity. *Sport, Education and Society*, 21(3), 396-410.
- Murphy, G. M., Petipas, A. J., & Brewer, B. W. (1996). Identity foreclosure, athletic identity, and career maturity in collegiate athletes. *The Sport Psychologist*, 10, 239-246.
- National Collegiate Athletic Association. (2017a). *Probability of Competing in Sports beyond High School*. Retrieved from <http://www.ncaa.org/about/resources/research/estimated-probability-competing-professional-athletics>
- National Collegiate Athletic Association. (2017b). *Sport sponsorship, participation and demographics*. Retrieved from <http://web1.ncaa.org/rgdSearch/exec/saSearch>

- National Collegiate Athletic Association. (2016). *Results from the 2015 goals study of student athlete experience*. Retrieved from http://www.ncaa.org/sites/default/files/GOALS_convention_slidebank_jan_2016_public.pdf
- National Collegiate Athletic Association. (2015). *Estimated Probability of Competing in College Athletics*. Retrieved from http://www.ncaa.org/sites/default/files/2015%20Probability%20Chart%20Web%20PDF_draft5.pdf
- National Collegiate Athletic Association. (2009). *Student-athlete academic support services at Division I institutions (Preliminary Results)*. Indianapolis, IN: NCAA Research.
- Nunnally, J. (1978). *Psychometric Theory*. New York, NY: McGraw-Hill.
- Robinson, M. (2013). Athletic Identity – A good place to start. *Personal Player Development Magazine, 1*(7). Retrieved from <http://ppdmag.com/athletic-identity-a-good-place-to-start/>
- Rottinghaus, P. J., Day, S. X., & Borgen, F. H. (2005). The Career Futures Inventory: A measure of career-related adaptability and optimism. *Journal of Career Assessment, 13*, 3–24.
- Ryan, P.D., Penwell, K., Baker, R.H., & Irwin, R.L. (2015). A career readiness program for student athletes: Final Report. NCAA Retrieved from <http://www.ncaa.org/sites/default/files/4.%20Career%20Readiness%20>
- Ryfe, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57*, 1069-1081.
- Sack, A. L., & Thiel, R. (1985). College basketball and role conflict: A national survey. *Sociology of Sport Journal, 2*, 195-205.
- Settles, I. H., Sellers, R. M., & Damas, D. (2002). One role or two? The function of psychological separation in role conflict. *Journal of Applied Psychology, 87*(3), 574-582.
- Sowa, C. J., & Gressard, C. F. (1983). Athletic participation; its relationship to student development. *Journal of College Student Personnel, 24*, 236-239.
- Stoeber, J., Mutinelli, S., & Corr, P.J. (2016). Perfectionism in students and positive career planning attitudes. *Personality and Individual Differences, 97*, 256-259.
- Stokowski, S., Blunt-Vinti, H., Hardin, R., Goss, B.D., & Turk, M. (2017). The Experiences of NCAA Division I Football College Athletes with Learning Disabilities, [Special Issue], *Journal of Issues in Intercollegiate Athletics, 95-118*.
- Stringer, K. J., & Kerpelman, J. L. (2010). Career identity development in college students: Decision-making, parental support, and work experience. *Identity: An International Journal of Research and Theory, 10*, 181–200.

- Super, D. E. (1957). *The psychology of careers*. New York, NY: Harper & Row.
- Super, D. E. (1990). A life-span, life-space approach to career development. In D. Taylor, K. M., & Betz, N. E. (1983). Applications of self-efficacy theory to the understanding and treatment of career indecision. *Journal of Vocational Behavior*, 22, 63-81.
- Tyrance, S.C., Harris, H.L., & Post, P. (2013). Predicting positive career planning attitudes among NCAA Division I college student athletes. *Journal of Clinical Sport Psychology*, 7, 22-40.
- Van Raalte, J. L., Cornelius, A. E., Brewer, B. W., Petitpas, A. J., & Andrews, S. R. (2016, January). *Student-athlete career development*. Paper presented at the annual convention of the National Collegiate Athletic Association, San Antonio, TX. Retrieved from https://www.ncaa.org/sites/default/files/Van%20Raalte_SA%20Career%20Development.pdf
- Van Rhee, D. (2011). Exploitation in the American academy: College athletes and self-perceptions of value. *The International Journal of Sport and Society*, 2, 11-26.
- Wechsler, D. (1950). Intellectual development and psychological maturity. *Child Development*, 21(1), 45-50.
- Whiston, S. C., & Keller, B. K. (2004). The influences of the family of origin on career development: A review and analysis. *The Counseling Psychologist*, 32, 493-568.

Productivity in Baseball: How Babe Ruth Beats the Benchmark

The Journal of SPORT, 2019, 27-37 © Kent State University

Productivity in Baseball: How Babe Ruth Beats the Benchmark

Peter A. Groothuis

Appalachian State University

Kurt W. Rotthoff

Seton Hall University

Mark C. Strazicich

Appalachian State University

Abstract

Many statistics are used to measure the productivity of hitters in Major League Baseball, such as the number of home runs and the number of runs batted in a season. However, comparing the talent of individual players across time is difficult as rules and technologies change. In this paper, we propose applying a practice commonly utilized in the finance literature to compare the performance of individual stocks and other assets, namely, we “benchmark” the productivity of each player’s performance to players in the same time period. Applying our benchmarking strategy to annual Major League Baseball data from 1871-2010, we find that Babe Ruth is the greatest hitter of all time.

Introduction

Productivity for the national economy is typically measured as total output (real GDP) divided by the total hours of labor employed for a given period of time. This number provides a measure of productivity for the average worker and time series on this measure are available for many years. Using this measure, we can compare the productivity of the average worker in 2010, for example, with that of the average worker in 1929. Of course, we expect that the productivity of the average worker in 2010 will be higher than in 1929 due to innovations in technology and greater physical and human capital per worker. Similarly, at the micro level, if we compare the productivity of individual workers across time and include workers from 1929 and 2010, we expect that the most productive would come from 2010 for the same reasons described above.

Given that productivity changes, is there a more accurate way to measure and compare the talent of individual players across time? In this paper, we propose applying a practice commonly utilized in the finance literature when comparing the performance of individual stocks and other assets, namely, we “benchmark” the productivity of each player’s performance relative to their cohort in the same time period. We argue that by doing so we can control for changing rules and technologies that may impact the productivity of players in general. After applying our benchmarking approach to several measures of hitting performance using Major League Baseball (MLB) data from 1871-2010, we find that Babe Ruth is the greatest hitter of all time.

In Section two, we discuss some of the relevant literature and provide additional background discussion. In Section three, we describe the data that we utilize to identify the benchmark. In Section four, we evaluate talent both by comparing players to an absolute standard and to a changing benchmark. We conclude in Section five.

Background

The sports business is a convenient source of data to examine talent over time. Kahn (2000) suggests that the sports business provides a labor market laboratory given the large amount of specific productivity data available. Kahn states (pg. 75) “There is no research setting other than sports where we know the name, face, and life history of every production worker and supervisor in the industry. Total compensation packages and performance statistics for each individual are widely available, and we have a complete data set of worker-employer matches over the career of each production worker and supervisor in the industry.”

In line with the theme stated by Kahn (2000), many researchers have used sports as a labor market laboratory to examine talent. For example, Schmidt (2001) uses time series analysis to explain changes in the competitive balance in baseball. Specifically, he looks to see if talent dilutes when the number of teams in a league increases. In soccer, Kuethe and Motamed (2009) find that superstars earn a wage premium in the U.S. Major League Soccer when using all-star status as an explanatory variable. In basketball, Groothuis, Hill, and Perri (2009) use National Basketball Association data to explain the dilemma of identifying superstars in the draft. They find that there is much uncertainty in selecting talent and suggest that selecting a number one draft pick is similar to purchasing a lottery ticket. In baseball, Krautmann (2009) uses MLB data to test if home market size and the revenues generated influence managerial decisions in hiring the most talented players. He finds that in terms of hiring the most talented players, large-market teams have a marginal revenue that is 50% higher than small-market teams.

Following the suggestion of Kahn (2000), we use MLB as our labor market laboratory to identify the best hitting performance by players as compared to their peers. We argue that measuring player performance relative to one’s peers is important to control for technological change. As innovations occur, the productive outcomes of players can change. In many sports it is the equipment that leads to changes in the game, such as innovations in tennis rackets or golf clubs (i.e., wood to metal and technological advancements in the size or location of the “sweet spot”). In other sports change might arise from the development of a new defensive technique (Lawrence Taylor’s movements and arm bars), a new way to swing the bat (Babe Ruth’s free swinging era), throw a pitch, shoot a basket, or hold a putter. Often when players develop successful innovations they are mimicked and the game changes.

As the game changes, comparing talent across different time periods becomes increasingly difficult. Many researchers have attempted to address these concerns. For instance, Berry et al (1999) use overlapping talent between decades and Bayesian updating techniques to control for the change in talent over time. This

technique, however, does not account for “structural breaks.”¹ In a recent paper, Groothuis, Rothoff, and Strazicich (2017) find evidence of structural breaks in several measures of MLB hitting performance. In particular, they find that the annual mean slugging percentage and standard deviation of home runs have deterministic (stationary) trends with structural breaks in 1920 and 1921, respectively. As a result of this finding, the authors suggest that the arrival of Babe Ruth’s “free swinging” style lead others that could to mimick his innovation. They find an additional structural break in 1992, which is closely associated with the early years of the modern steriod era.²

The deliberation on superstars and their relative performance is oft debated and hard to measure, particularly when the comparison happens over different periods of time. When structural breaks occur in the game it makes accurate comparisons nearly impossible over time. A more accurate way to measure talent across time should also yield more accurate identification of truly great stars. Given a seemingly endless set of debates and lists of superstars we propose a measurement technique to compare stars relative to their same generational cohort. We suggest adopting a simple benchmarking or z-statistic technique that Albert (2006) used on pitching data to address the question: How good are players when benchmarked to those in the same time period? Although this technique does not give us the ability to compare Babe Ruth to Barry Bonds in absolute terms, it does provide the answer to the following question: When compared to their peers which player has a better performance? This type of benchmark technique is common in finance, where performance of an asset is not simply measured by the absolute return, but the return relative to some benchmark. In such cases, the benchmark is established as a market portfolio or Security Market Line (Roll 1978) where the portfolio manager’s goal is to ‘beat the market’. Similar benchmarking is used in many other ways. For example, salaries are benchmarked to relative pay. Given that technology changes over time, research output, teaching performance, and other performance measures can be similarly benchmarked. We argue in this paper that applying a relative measure to sporting events provides a more accurate comparison of individual players who may have played in very different eras. Given that talent is highly valued, providing a more accurate measure of relative talent today, in conjunction with comparisons across time, may provide valuable information.

¹ By structural break, we imply a significant, but infrequent, permanent change in the level and/or trend of a time series.

² Gould (2003) suggests that the current generation of superstars is equivalent with past generations, while the average player is improving over time. As a result, he predicts that the standard deviation of performance measures should decrease over time. However, Groothuis, Rothoff, and Strazicich (2017) find that the standard deviation of home runs per hundred at bats has increased over time. We note that this outcome could occur if hitting performance is improving at a faster rate than pitching performance.

Talent, however, can be difficult to measure. In the sports industry, this difficulty increases over time as technologies, skills, strength, and training methods change. The problem is also complicated by the fact that when the opportunity to reveal talent is limited, true talent does not have the opportunity to reveal itself (Terviö 2009). Given that talent changes over time, using a z-statistic technique can provide a more accurate measure of a player's performance at a given point in time. A benchmark also provides a convenient method to identify superstars and may provide new insights to identify innovative players who changed the game.

Compared to previous works, Shell (1999) comes closest to our benchmark technique by utilizing peer effects. He additionally uses other controls besides peer effects, such as which ball park was the hitter's home park, which position did the hitter play, and the career length of the hitter to control for declining talent. He suggests that this technique provides a direct comparison between eras and players. However, Shell (1999) examines performance at the career level rather than the season level that we consider here.

Data

MLB has a long history beginning in the 1800s that continues to this day. As in all sports leagues, superstars are commonly identified in the record books using an absolute standard. Instead, we propose adopting a benchmarking strategy to identify superstars by examining the deviation in performance from the mean of their peers. To perform our calculations, we utilize annual time series on slugging percentage (SLUG), home runs per hundred at bats (HR), batting average (BAVE), and runs batted in per hundred at bats (RBI) from Sean Lahman's Baseball Database on all players from 1871-2010 with at least 100 at-bats.³ We calculate the mean and standard deviation of each performance measure for each season. This data set provides annual time series from 1871-2010 with 140 seasonal observations for each series. With 35,728 single season observations we find that the average player hit 7 homeruns per season (with a maximum of 73), had 42.5 runs batted in (RBI), and a slugging percentage of .379.

Benchmarking

In Tables 1-4, we report the means of batting average, slugging percentage, home runs per hundred at bats, and runs batted in per hundred at bats, respectively. In each table we report the top ten talented players as measured in absolute terms by the overall standard deviations above the overall mean of all years ("SD above the absolute mean") and the benchmark measure as the yearly standard deviation above

³ Sean Lahman's Baseball Database: <http://baseball1.com/2011/01/baseball-database-updated-2010/>. Slugging percentage is calculated as total bases divided by the number of at-bats.

the yearly mean (“SD above the season mean”). The first measure treats the entire population as peers and does not account for changes in the game. The second technique compares talent directly to peers during the time of play.

In Table 1, we report the ten players with the best batting average. We find that when using the absolute measure the ten best players all occur in the early years of baseball with eight of the ten in the late 1800s, one in 1901, and the last, Roger Hornsby, in 1924. However, when using the benchmarking measure we find that the ten best players come from all eras in baseball. Manny Ramirez is the most recent, hitting 3.75 standard deviations above the season mean. Other notables on this list are Ted Williams in 1941, George Brett in 1980, and Tony Gwynn in 1994.

Table 1: Batting Average: Absolute Standard vs. Benchmark

	Player	Year	SD above absolute mean	Rank	Player	Year	SD above season mean
1	Levi Meyerle	1871	5.66	1	Bob Hazle	1957	3.86
2	Hugh Duffy	1894	4.36	2	Manny Ramirez	2008	3.75
3	Tip O'Neill	1887	4.26	3	Ted Williams	1941	3.69
4	Ross Barnes	1872	4.19	4	George Brett	1980	3.68
5	Cal McVey	1871	4.16	5	Tip O'Neill	1887	3.65
6	Ross Barnes	1876	4.09	6	Tony Gwynn	1994	3.59
7	Nap Lajoie	1901	4.04	7	Oscar Gamble	1979	3.57
8	Ross Barnes	1873	4.02	8	Tris Speaker	1916	3.54
9	Willie Keeler	1897	3.98	9	David Dellucci	1999	3.54
10	Roger Hornsby	1924	3.97	10	Jack Glasscock	1884	3.51

We next report results of the slugging percentage for both measures of talent in Table 2. Using the absolute standard (SD above the absolute mean), Babe Ruth makes the top ten list four times and Barry Bonds three times. The other three making the top ten are Lou Gehrig, Roger Hornsby, and Mark McGwire. Using the z-statistic (SD above the season mean) we find that Babe Ruth makes the list five times including the top two rankings in 1920 and 1921. Interestingly, these years coincide to the time period where Groothuis, Rothoff, and Strazicich (2017) find a structural break in the mean slugging percentage series of all players. Using the

same benchmarking standard, Barry Bonds makes the top ten list in 2001, 2002 and 2004, which follows the second notable structural break (in 1992) identified by Groothuis, Rotthoff, and Strazicich. Other players that make the list in the benchmarking standard are Lou Gehrig in the eighth position and Ted Williams in the ninth.

Table 2: Slugging Percentage: Absolute Standard vs. Benchmark

Rank	Player	Year	SD above the absolute mean	Rank	Player	Year	SD above the season mean
1	Barry Bonds	2001	5.65	1	Babe Ruth	1920	5.77
2	Babe Ruth	1920	5.49	2	Babe Ruth	1921	5.21
3	Babe Ruth	1921	5.45	3	Barry Bonds	2001	5.03
4	Barry Bonds	2004	5.06	4	Barry Bonds	2004	4.91
5	Barry Bonds	2002	4.90	5	Barry Bonds	2002	4.79
6	Babe Ruth	1927	4.59	6	Babe Ruth	1927	4.57
7	Lou Gehrig	1927	4.51	7	Babe Ruth	1926	4.50
8	Babe Ruth	1923	4.50	8	Lou Gehrig	1927	4.49
9	Rogers Hornsby	1925	4.40	9	Ted Williams	1941	4.36
10	Mark McGwire	1998	4.36	10	Babe Ruth	1924	4.35

We next turn our attention to home runs. The results are reported in Table 3. Using the absolute standard, Barry Bonds and Mark McGwire dominate the list of the top thirteen players. Bonds is in the first position hitting home runs 7.37 standard deviations above the mean and making the list three times followed by McGwire making the list six times in the second through seventh position. Note that the majority of these stars come from the latter years of baseball. In comparison, Babe Ruth only makes the list in the tenth position in 1920 hitting 5.45 standard deviations above the absolute mean. Using the absolute standard Babe Ruth is not the best home run hitter in baseball. In contrast, when applying the benchmarking standard by utilizing home runs per at-bats for each individual player and ranking the standard deviations above the mean for each year, Babe Ruth is the top ranked home run hitter in 1920 (Yankees), 1921 (Yankees), 1919 (Boston), and 1927 (Yankees). In particular, Babe Ruth was 10.58, 8.07, 7.26, and 7.04,

respectively, standard deviations above the mean during these years. When compared to his peers Babe Ruth was clearly the best home run hitter in history. The fifth highest ranked player is Ned Williamson (1884 Chicago), followed by Ruth (1926), Ruth (1924), Buck Freeman (1899 Washington Senators), Ruth (1928), and Gavvy Cravath (1915 Phillies). From the modern era the highest ranked players are Barry Bonds (2001 San Francisco), in thirteenth place, at 5.85 standard deviations above the mean, and Mark McGwire (1998 and 1997 St Louis) in nineteenth and twentieth place at 5.4 standard deviations above the mean.

Table 3: Home Runs: Absolute Standard vs. Benchmark

Rank	Player	Year	SD above absolute mean	Rank	Player	Year	SD above season mean
1	Barry Bonds	2001	7.37	1	Babe Ruth	1920	10.58
2	Mark McGwire	1997	6.53	2	Babe Ruth	1921	8.07
3	Mark McGwire	1998	6.51	3	Babe Ruth	1919	7.26
4	Mark McGwire	2000	6.40	4	Babe Ruth	1927	7.04
5	Mark McGwire	1999	5.81	5	Ned Williamson	1884	7.01
6	Mark McGwire	1995	5.71	6	Babe Ruth	1926	6.83
7	Mark McGwire	1996	5.71	7	Babe Ruth	1924	6.50
8	Hill Glenallen	2000	5.62	8	Buck Freeman	1899	6.41
9	Barry Bonds	2004	5.58	9	Babe Ruth	1928	6.11
10	Babe Ruth	1920	5.45	10	Gavvy Cravath	1915	6.08
11	Barry Bonds	2003	5.30	13	Barry Bonds	2001	5.85
12	Frank Thomas	2005	5.24	19	Mark McGwire	1998	5.42
13	Barry Bonds	2002	5.23	20	Mark McGwire	1997	5.41

In particular, Babe Ruth, in his 1920 playing season with the New York Yankees was 10.58 standard deviations above the mean. This is simply amazing and displays his level of performance relative to the competition that he faced. To

Productivity in Baseball: How Babe Ruth Beats the Benchmark

put this in perspective, if Babe Ruth was 10.58 standard deviations above the mean in 2001, when Barry Bonds set the single season home run record, and had the same 476 at-bats that Barry Bonds did, he would have hit 120 home runs. At the time of this writing, Barry Bonds still holds the single season record with 73 home runs.

Next, we measure the RBIs per at-bat of players throughout time to measure how each player performs relative to the mean of the year played, again with at least 100 at-bats. In Table 4, we report the results of the superstars as measured by standard deviations above the mean. We find that Reb Russell, playing for the Pittsburgh Pirates, has the highest ranking of RBIs both using the absolute and benchmark standards.⁴ He was 5.04 above the absolute mean and 4.93 standard deviations above the season mean. Other notable players on the absolute standard list are Babe Ruth in 1921 in the sixth position, Manny Ramirez in 1999 in the seventh position and Mark McGwire in 2000 in the ninth position. Using the benchmark standard Babe Ruth has five of the top ten rankings of RBIs. Babe Ruth ranks third, fourth, fifth, sixth and tenth. No player from the modern era makes the top ten. We do find that Manny Ramirez is ranked thirteenth and twentieth as the highest ranked modern era player.

Table 4: RBIs: Absolute Standard vs. Benchmark

Rank	Player	Year	SD above the absolute mean	Rank	Player	Year	SD above the season mean
1	Reb Russell	1922	5.04	1	Reb Russell	1922	4.93
2	Hack Wilson	1930	4.71	2	Cap Anson	1886	4.74
3	Sam Thompson	1894	4.62	3	Babe Ruth	1920	4.65
4	Charlie Ferguson	1887	4.61	4	Babe Ruth	1919	4.21
5	Rynie Wolters	1871	4.54	5	Babe Ruth	1921	4.21
6	Babe Ruth	1921	4.49	6	Babe Ruth	1926	4.20
7	Manny Ramirez	1999	4.47	7	Charlie Ferguson	1887	4.17
8	Jimmie Foxx	1938	4.33	8	Gavvy Cravath	1913	4.05
9	Mark McGwire	2000	4.32	9	Joe Wood	1921	4.04
10	Joe Wood	1921	4.32	10	Babe Ruth	1932	4.03

⁴ Reb Russell was a pitcher from 1912-1917 with the Chicago White Sox. He did not become a big hitter until after developing arm troubles and finding his hitting in the minor leagues.

Conclusion

As innovations occur and productivity changes, individual performance becomes increasingly difficult to compare across time. When this occurs, relative measures have more value. In this paper, we utilize a common practice in the finance literature and suggest that adopting a benchmark measurement of relative performance provides a more accurate method to compare individual player performance across time and identify superstars. Applying our benchmarking technique to annual MLB data from 1871-2010, we find that Babe Ruth was the best power hitter compared to his peers. In particular, Babe Ruth was more than ten standard deviations above the mean in 1920, which is simply amazing. Even among current players the best are more than five standard deviations above the mean.

References

- Albert, James (2006). "Pitching Statistics, Talent and Luck, and the Best Strikeout Seasons of All-Time," *Journal of Quantitative Analysis in Sports* 2:1, 1-30.
- Berry, Scott, C., Rees, Shane, and Patrick D. Larkey (1999). "Bridging Different Eras in Sports," *Journal of the American Statistical Association* 94:447, 661-667.
- Gould, S. (2003). *Triumph and Tragedy in Mudville: A Lifelong Passion for Baseball*. New York: W. W. Norton.
- Groothuis, Peter A., James Richard Hill, and Timothy Perri (2009). "The dilemma of choosing talent: Michael Jordan's are hard to find," *Applied Economics* 41 (25), 3193-3198.
- Groothuis, Peter A., Kurt W. Rothoff, and Mark Strazicich (2017) "Structural Breaks in the Game: The Case of Major League Baseball" *Journal of Sports Economics* Volume 18, Issue 6, pp. 622-637.
- Kahn, Lawrence (2000). "The Sports Business as a Labor Market Laboratory," *Journal of Economic Perspectives* 14:3, 75-94.
- Krautmann, Anthony (2009). "Market size and the demand for talent in major league baseball," *Applied Economics* 41:25, 3267-3273.
- Kuehte, Todd H. and Mesbah Motamd (2010) "Returns to Stardom: Evidence from U.S. Major League Soccer," *Journal of Sports Economics* 11:3, 475-495.
- Roll, R. (1978). "Ambiguity when Performance is Measured by the Securities Market Line," *Journal of Finance* 33(4), 1051-69.
- Schell, M. (1999). *Baseball's All-Time Best Hitters*, Princeton, NJ: Princeton University Press.
- Schmidt, Martin B. (2001). "Competitive Balance in Baseball," *Applied Economics Letters* 8:1, 21-26.

Productivity in Baseball: How Babe Ruth Beats the Benchmark

Terviö, Marko (2009). "Superstars and Mediocrities: Market Failure in the Discovery of Talent," *Review of Economic Studies* 72(2), 829-850.

Student-Athlete Attitudes about Gender Specific Athletic Mascots

The Journal of SPORT, 2019, 39-51 © Kent State University

**Attitude of Midwestern NCAA DIII Intercollegiate Athletes Towards the
Usage of Gender Specific Athletic Mascots**

Tim Rickabaugh

Defiance College

Abstract

Although it has been over 45 years since the passage of U.S. Title IX legislation, many gender equity issues are still being addressed within both the general and sport cultures. Initially (during the 1970's) many female intercollegiate athletic programs utilized Gender Specific Athletic Mascots (GSAM's) to focus attention onto the uniqueness of their emerging programs. Since that time there has been a mass exodus of U.S. colleges and universities away from the usage of GSAM's, usually in response to internal and/or external pressure, or simply to avoid any degree of controversy related to their institutional presentation of female student groups or organizations. However, the author of this study has not uncovered any evidence of a comprehensive effort to determine the attitudes of intercollegiate athletes regarding the usage of GSAM's. This study served as an initial effort to uncover athlete attitudes related to Title IX, promoting gender equity through sport, and the usage of GSAM's. Data was collected from 284 student-athletes attending four Midwestern, small (total enrollment < 1,500) NCAA DIII colleges or universities. Analysis of the data uncovered many interesting perspectives on these issues and supported the need for a more comprehensive effort to explore the attitudes of female intercollegiate athletes before making decisions regarding how they are to be represented to the general public.

Introduction

Since the 1972 passage of Title IX legislation, gender equity within intercollegiate athletics has remained a primary issue of importance (and some debate) among administrators, coaches, athletes, their parents, and even spectators. During the late 1970's and early 1980's, thousands of female intercollegiate athletic programs were added within U.S. colleges and universities in order to comply with federal law and, in the spirit of the law, provide gender equity regarding athletic opportunities for college women. From their origin, many of these athletic programs chose to adopt Gender Specific Athletic Mascots (GSAM's) such as *Lady Techsters*, *Wild Kittens*, *Duchesses*, or *Lady Vol's* (Fuller & Manning, 1987, p. 65).

During the 1970's, adopting a GASM may have been seen as enhancing the recognition of female teams through an association with their own unique gender identities. Many mascots utilized in the early 1980's seem to have taken gender differentiation to extremes. Some examples of possible over-differentiation are (Franks, 1982, pp. 35 – 154) the Albany College of Pharmacy *Pink Panthers* (versus *Panthers*), Angelo State University *Rambelles* (versus *Rams*), Dickenson State *Blue Chicks* (versus *Blue Hawks*), Pittsburg State *Gussies* (versus *Gorillas*), Tarlton State *TexAnns* (versus *Texans*), and the Washington and

Jefferson *First Ladies* (versus *Presidents*). Now that we are forty-five years post-Title IX, the usage of GSAM's is likely an issue worth re-addressing.

Ironically, the issue of inappropriate college athletic mascots initially arose within intercollegiate sport at the very onset of Title IX legislation. In 1972, Stanford University (*Indians*) and Miami University (*Redskins*) conducted self-examinations of their usage of Native-American mascots in (Fuller & Manning, 1987, p. 64). Subsequently, Stanford dropped their *Indians* mascot in favor of the *Cardinal* while Miami deferred the decision to drop their more offensive *Redskins* mascot until fifteen years later when they adopted the current *Red Hawks* mascot. The issue of culturally insensitive athletic mascots, most specifically those associated with Native Americans, still remains an issue of contention. Significant media coverage was focused upon legal and NCAA scrutiny of the University of North Dakota's usage of *The Fighting Sioux* and the University of Illinois's dancing mascot, *Chief Illiniwek* (Rickabaugh & Rickabaugh, 2015, pp. 3-6). Barely over a decade after establishing their initial women's athletic programs in 1976, Colorado State University dropped its *Lady Rams* moniker (in 1987) (Eitzen & Zinn, 1990, p. 35) choosing to simply use the *Rams* mascot for all teams. The female students overwhelmingly supported this change despite the *Ram* mascot having an inherent male identity. To those student athletes, the unity of all CSU athletes was more important than the gender identification with an athletic mascot. Despite this overwhelming support for unity between male and female intercollegiate athletic programs, as of 2015 (Figure 1.), 13.9% of NCAA DI women's basketball programs still utilize GSAM's.

Over the past 25 years, there has been a noticeable trend of discontinuing the use of intercollegiate GSAM's. At the end of the 1980's, Eitzen & Zinn (1990, p. 33) reported that 451 of 1,185 U.S. colleges and universities still utilized GASM's representing 38% of all institutions. Upon conducting a 2015 search of all NCAA DI women's basketball athletic websites, the author of this study determined that 48 of 245 (13.9%) institutions still utilize GASM's (see Figure 1.). The majority of these institutions (n = 37, 77%) were located in the southern United States.

The institutional athletics website search provided evidence of a trend in the discontinued usage of GASM's. Since 2000, 26 (35%) of the 74 institutions still using GASM's have since discontinued their usage as of 2015 (see Figure 2.). During this time period college and university administrators have struggled in their reaction to internal and external pressure over their usage of GSAM's. In 2003, (Harper, D4) the University of Massachusetts was embattled in a controversy over a decision to change the athletic mascot from the Minuteman to a gray wolf (to be named later). After investing significant time, money, and energy into the change process, the institution reversed course and choose to maintain the use of the Minutemen as the mascot for men's teams while the

women’s teams remained identified as the Minutewomen. In the long run, the majority of student athletes favored a unified identity focused upon the patriots that fought to gain American independence. As recently as 2010 Lyon College (Batesville, AR) consolidated to a universal mascot (Scots) in favor of using Scots for male teams and Pipers for female teams (College Athletics and the Law, p. 2). This change was approved by a committee of student-athletes at the college.

There seems to be a consistent theme within all of these decisions, one of student athlete unity among all athletic programs. Regarding the mainstream media, this 25-year overall trend in the reduced usage of GASM’s has largely gone unnoticed due to the high level of media attention to culturally-insensitive athletic mascots and the attitudes of Native American populations versus those of students athletes, administrators, alumni, and fans. Indicating the high priority given to addressing culturally insensitive athletic mascots (as compared to GSAM’s), the *Toronto Globe and Mail* (2015 May 6) reported that Adidas was willing to donate design resources to institutions wishing to re-identify themselves via new athletic mascots not connected with Native American populations.

Figure 1. NCAA DI Colleges & Universities Using GASM’s in 2015.
N = 48 (of 245; 13.9%) of total DI members (from athletics webpages).

Geographic Region	College / University	Women's BB Mascot
<p>Northeast n = 5 (of 78 NE) [6.4% of region]</p>	<p>Howard University University of Massachusetts University of Maryland-Eastern Shore Morgan State University Penn State University</p>	<p>Lady Bison Minutewomen Lady Hawks Lady Bears Lady Lions</p>
<p>South n = 37 (of 137 S) [27.0% of region]</p>	<p>Alabama A&M University Alcorn State University University of Arkansas-Little Rock Austin Peay State University Baylor University Campbell University Centenary College (LA) University of Central Arkansas University of Tennessee-Chattanooga Clemson University Florida A&M University University of Georgia Grambling State University Hampton University Jackson State University Lamar University Liberty University Lipscomb University Louisiana Tech University Louisiana State University McNeese State University Mississippi Valley State University North Carolina A&T University</p>	<p>Lady Bulldogs Lady Braves Lady Lions Lady Gavs Lady Bears Lady Camels Ladies Sugar Bears Lady Mocs Lady Tigers Lady Rattlers Lady Bulldogs Lady Tigers Lady Pirates Lady Tigers Lady Cardinals Lady Flames Lady Bisons Lady Techsters Lady Tigers Cowgirls Devilettes Lady Aggies</p>

Student-Athlete Attitudes about Gender Specific Athletic Mascots

	Northwestern State University Old Dominion University Prairie View A&M University Savannah State University South Carolina State University Southeast Louisiana University University of Southern Mississippi Southern University Stephen F. Austin University Texas Christian University University of Tennessee Texas Southern University Texas Tech University Western Kentucky University	Lady Demons Lady Monarchs Lady Panthers Lady Tigers Lady Bulldogs Lady Lions Lady Eagles Lady Jaguars Lady Jacks Lady Frogs Lady Vols Lady Tigers Lady Raiders Lady Toppers
Midwest n = 1 (of 65 MW) [1.5% of region]	Missouri State University	Lady Bears
West n = 5 (of 65 MW) [7.7% of region]	University of Montana Oklahoma State University University of Southern California University of Nevada-Las Vegas University of Wyoming	Lady Griz Cowgirls Women of Troy Lady Rebels Cowgirls

Not surprisingly, few studies have addressed the GASM issue to explore the actual attitudes of US intercollegiate athletes towards their usage. There have been numerous studies addressing gender equity issues such as the offering, funding, media coverage, and overall impact of female intercollegiate athletic programs. Regarding the portrayal of female intercollegiate athletes, it seems that our intercollegiate athletic culture is in the process of correcting an issue without first consulting those who are most directly affected. This study proposed to conduct an initial survey of current NCAA DIII intercollegiate athletes to determine their attitudes concerning the usage of GASM's.

Gender Equity Issues in US Intercollegiate Athletics

In addition to the use of GSAM's for female intercollegiate athletic teams, there are also several other important factors related to gender equity in U.S. sport. Some of the most influential of these factors includes the type of traditional and social media coverage of female programs, the types of photographs and imagery used to represent female athletes, the funding and support of female programs, and the representation of female in coaching (of both male and female teams) and other athletic leadership positions.

Regarding the media coverage of female athletics, and imagery used to represent female athletes, there are still a variety of equity issues to be addressed. Sanderson and Gramlich (2016, p. 115) reported that female athletes accounted for only 38% of sport photographs in school newspapers and that female athletes

were typically shown expressing emotion (during play) as opposed to photographs of male athletes simply competing within the context of the sport. Huffman, Tuggle, & Rosengard (2004, p.477) reported that the college newspapers they examined devoted an average of 72.7% of their coverage for male programs while college video and television programming devoted an average of 81.5% to male programs. Additionally, Senne (2016, P. 4) reported that the most common representations of female athletes within mainstream media are focused upon individual beauty, body shape, hairstyle, or other personal appearance characteristics. Hardin, Whiteside, & Ash (2014, p. 43) surveyed NCAA DI sports information directors (SID's) and found that the profession displayed "mixed support for women's sport and Title IX" and was not generally supportive of increasing gender equity among SID's.

Figure 2. NCAA DI Members Dropping GASM's Since 2000
N = 26 of 74 (35%; from athletics webpages).

Date Changed	College / University	Previous Mascot	Current Mascot	Geographic Region
<u>Since 2012</u>	Alabama State University	Lady Hornets	Hornets	South
	Delaware State University	Lady Hornets	Hornets	Northeast
	East Carolina University	Lady Pirates	Pirates	South
	East Tennessee State University	Lady Buccaneers	Buccaneers	South
	Eastern Kentucky University	Lady Colonels	Colonels	South
	Furman University	Lady Palladins	Palladins	South
	Georgia Southern University	Lady Eagles	Eagles	South
	Kennesaw State University	Lady Owls	Owls	South
	Manhattan College	Lady Jaspers	Jaspers	Northeast
	Mississippi State University	Lady Bulldogs	Bulldogs	South
	Saint Peters University	Peahens	Peacocks	Northeast
	University of North Florida	Lady Ospreys	Ospreys	South
	University of South Alabama	Lady Jaguars	Jaguars	South
	University of Tennessee-Chattanooga	Lady Mocs	Moccasins	South
University of Texas-El Paso	Lady Miners	Miners	South	
<u>2005-2011</u>	California State U. Northridge	Lady Matadors	Matadors	West
	Middle Tennessee State University	Lady Raiders	Raiders	South
	Syracuse University	Orangewomen	Orange	Northeast
	University of Arkansas	Lady Razorbacks	Razorbacks	South
	University of Louisiana-Layfayette	Lady Cajuns	Ragin' Cajuns	South
	University of Nevada-Las Vegas	Lady Rebels	Rebels	West
Western Illinois University	Westerwinds	Leathernecks	Midwest	
<u>Prior to 2005</u>	Oral Roberts University	Lady Titans	Golden Eagles	West
	New Mexico State University	Roadrunners ¹	Aggies	West
	Stony Brook University	Lady Patriots	Sea Wolves	Northeast
	University of Kentucky	Lady Kats	Wildcats	South

Student-Athlete Attitudes about Gender Specific Athletic Mascots

NOTES:	1 = Separate mascot from men's teams	NE = 5 (19%)
	2 = The following have noted "NOT LADY" in media guides:	S = 16 (62%) MW = 1 (4%)
	Duquesne University (Dukes)	W = 4 (16%)
	Eastern Kentucky University (Colonels)	
	Murray State University (Racers)	

Regarding the portrayal of youth athletes in *Sports Illustrated for Kids*, Armentrout, Kamphoff, & Thomae (2014, p. 47) reported that girls were more likely to be presented in non-athletic settings while boys were represented within sport competition. Additionally, the top three sports girls were represented in were basketball, non-sport roles, and soccer as compared to baseball, basketball, and football for boys. The outfitting of female players during intercollegiate competition can also influence factors related to gender inequality. Steinfeldt et al. (2013, p. 791) reported that the usage of revealing uniforms, typically used in women's volleyball, resulted in female athletes reporting decreased levels of body esteem as well as stating that the uniforms served as a distraction and actually impacted (negatively) on-court performance.

In the area of program funding and support, Frazier & Caines (2015, p. 127) reported that overall athletic spending on men's programs at NCAA DI institutions exceeds that for women's programs by a 20% margin. Additionally, it was uncovered that NCAA institutions with DI football programs spent approximately 2.5 times as much to fund men's programs as compared to women's programs. Interestingly, the authors also reported that program spending at NCAA DII institutions without football had become gender-balanced by 2003 and has remained so through the publication of their findings in 2015. In U.S. high school athletics, there is also a degree of gender inequity regarding booster organizations. Anderson (2016, p. 68) reported that, of the 414 Wisconsin public high schools, only 46% required equity among booster organizations and that the majority did not require the individual organizations to provide any information regarding their sport-related fundraising activities.

Finally, the overall representation of female leaders in coaching and athletic administration positions has remained disproportionately low since the passage of Title IX in 1972. The gender-related attitudes of male leaders in sport can make a difference in the treatment, support, and presentation of female athletic teams. Fuller & Manning (1987, p. 63) stated that "The devaluation of women is a universal component of patriarchy" and that this (patriarchal) effect is

“. . . structurally grounded in the entire system of unequal funding and sex segregation in modern sport.” McClung & Blinde (2002, p. 121) more recently supported the continued existence of patriarchal control in sport by stating that “The lack of representation of female coaches and athletic directors in collegiate sport serve to reinforce (and maintain) gender inequality.” Senne (2016, p. 6) reported that (as of 2015) only 33% of Women’s National Basketball Association (WNBA) general manager positions were held by women, and that men comprise over 80% of the International Olympic Governing Board and U.S. National Olympic sport governing bodies.

It seems to be an established fact that despite improvements over the 25 years since the passage of Title IX, gender equity still remains an unresolved issue of concern within U.S. intercollegiate athletics. If significant levels of gender inequity currently exists in the coverage, presentation, funding, support, and leadership opportunities associated with women’s athletics, then moving away from using a gender specific athletic mascot will not make the issues disappear. However, it is time to give NCAA athletes, male and female alike, a chance to express their attitudes regarding the usage of GSAM’s. Addressing this specific gender equity issue may also direct their overall attention to broader issues of gender (and other types of) inequity that still need to be addressed and improved.

Method

In order to determine the attitudes of NCAA athletes related to gender equity and the usage of GSAM’s, the author developed, piloted, and then administered a brief survey to male and female NCAA DIII athletes (N = 284) at four small (total enrollment < 1,500) Midwestern colleges (or universities) and analyzed the results. The survey was comprised of demographic items (gender, class rank, institution type, and sport type) and attitudinal items related to their overall understanding of Title IX legislation, their overall opinion of its impact on sport, their high school and college’s adherence to gender equity guidelines, their high school and college’s use (or disuse) of GSAM’s, and their perceived mascot preference of female athletes.

Once the survey was approved by the college’s Institutional Review Board, it was initially piloted utilizing 82 male and female athletes within a small, Midwestern NCAA DIII institution. Once piloted, minor adjustments were made to wording prior to completing the more comprehensive survey. At that point the finalized 11-item survey was placed into an internet-based distribution platform and selected athletic directors were contacted, provided with a statement of purpose for the study, given assurance of confidentiality of athlete responses, and provided with a link to which they could direct their student athletes.

Results

Survey respondents (N = 284) were 53.2% females (N = 151) and 46.8% males (N = 133) with 76% participating in team-based sports, 16% in individual-based sports, and 8% in both types (multi-sport athletes). The class ranking of the population was rather well dispersed with 28% being freshman, 29% sophomores, 19% juniors, and 24% seniors. Specific survey questions and a qualitative summary of survey responses is presented in Figure 3.

Survey item data was also compared between genders on selected items utilizing a two-tailed, independent t-test with a critical probability level set at $\leq .05$. The t-test results uncovered significant gender differences for three items (9, 10, & 11). For item nine (reaction to: “U.S. colleges or universities should not utilize GASM’s.”) male respondents were more likely to agree with the statement than their female counterparts. On item ten (reaction to: “Most female athletes prefer the usage of GASM’s.”) male respondents were less likely to agree with the statement than their female counterparts. Finally, for item eleven (Reaction to: “It is important to determine if female athletes prefer the usage of GSAM’s.”) female respondents were more likely to agree with the statement than their male counterparts.

Discussion

Although over 45 years has passed since Title IX legislation was enacted, our survey sample still appeared to understand its historical significance (96% expressing at least some understanding), overall positive cultural impact (74% expressing a positive overall impact), and considers gender equity to still be a relevant issue (97% considering the issue at least somewhat important). Quite predictably, this population felt a strong affinity towards school-based U.S. athletics with 66% considering athletic participation to be an inherent individual right within our society.

In the area of implementation of Title IX regulations within interscholastic and intercollegiate sport, the respondents indicated that there is still need for improvement despite nearly a half-century passing since regulations were enacted. There was near consensus that gender equity in sport remains a significant cultural issue (97% of respondents). Despite the athletes caring deeply about the issue, they appeared to feel that public schools still have strides to make in terms of gender equity. When asked; “How well did your high school promote gender equity through sport?” 82% felt that this was either a low-level outcome or not at all a priority. On a positive note, 97% of the athletes felt that gender equity through sport was at least a low-level priority at their college or university.

This may indicate that the increased visibility of intercollegiate sport, and the oversight of the NCAA, has helped to support progressive improvements in gender equity while many public high schools have allowed this issue to be left behind.

Figure 3. MW NCAA DIII Athlete Survey Responses (N = 284)
 (p < .05) = Significant difference between genders in item responses.

Question	Response %				
Rate your overall level of understanding of Title IX legislation passed in 1972.	None 4%	Some 37%	General 47%	Detailed 12%	
Rate the current overall impact of Title IX on U.S. sport.	Very Negative 1%	Somewhat Negative 3%	Little Impact 22%	Somewhat Positive 56%	Very Positive 18%
Rate the overall importance of gender equity in U.S. sport.	Not Important 3%	Some Importance 33%	Very Important 64%		
How well has your college/university promoted gender equity through sport?	No Effort 3%	Low Priority 59%	High Priority 38%		
How well did your high school promote gender equity through sport?	No Effort 18%	Low Priority 65%	High Priority 17%		
Is the opportunity to participate in school-based sport an inherent individual right?	Strongly Agree 22%	Somewhat Agree 44%	Unsure 21%	Somewhat Disagree 5%	Strongly Agree 8%
Does your college/university utilize GASM's for female athletic programs?	Yes/For All 8%	Yes/For Some 17%	No 75%		
Did your high school utilize GASM's for female athletic programs?	Yes/For All 36%	Yes/For Some 24%	No 40%		
Reaction to: "U.S. colleges (or universities) should not utilize GASM's." (p < .05; M > F)	Strongly Agree 6%	Somewhat Agree 16%	Unsure 44%	Somewhat Disagree 19%	Strongly Agree 15%
Reaction to: "Most female athletes prefer the usage of GSAM's." (p < .05; M > F)	Strongly Agree 1%	Somewhat Agree 13%	Unsure 46%	Somewhat Disagree 24%	Strongly Agree 16%
Reaction to: "It is important to determine if female athletes prefer the usage of GSAM's." (p < .05; M < F)	Strongly Agree 15%	Somewhat Agree 27%	Unsure 43%	Somewhat Disagree 9%	Strongly Agree 6%

For the issue of Gender Specific Athletic Mascots (GASM's), attitudes appear to vary greatly within the population we surveyed. Their responses reflected the recent trend of dropping intercollegiate GASM's with 76% reporting that their college or university used identical mascots for both male and female athletic programs. However, they also reported that 60% of their high schools still utilize GASM's for at least some of the female athletic teams. Regarding their individual opinions on the usage of GASM's, there was no general consensus regarding either support of, or opposition to, their usage. While 22% of respondents felt that GASM's should not be utilized for college athletic programs, 33% were opposed to discontinuing their usage. Interestingly, male respondents were more likely ($p < .05$) to oppose GASM usage than female respondents. Regarding the perceived (or actual) preference of female athletes, 40% of respondents felt that they (female athletes) were opposed to the usage of GASM's. Once again, male respondents were more likely to express perceived opposition to GASM's ($p < .05$) than actual preference expressed by the female athletes surveyed.

Most important to be considered is; "Should the opinions of female athletes be accurately determined prior to an across the board exodus from the usage of GASM's for female intercollegiate athletic programs?" Because we are institutions of higher learning, supposedly making sound decisions based upon research, one would think that asking the actual participants being directly impacted would be the first step towards either continuing or dropping the usage of GASM's. From my research into this issue, this does not seem to be the usual scenario. Most likely, it appears that high-level administrators, which are disproportionately white males, make and implement these changes in response to internal and external pressures, or simply to avoid any degree of controversy regarding their depiction of female student groups within their overall institutional image. Ironically, the same disproportionately white male administrators that initially supported and implemented GASM's, some as comical and/or degrading as *Sugar Bears*, *Wild Kittens*, and *Pea Hens*, are now dropping gender specific mascots before initially asking female athletes so that an informed decision can be made. Our survey seemed to confirm this trend with male respondents being less concerned ($p < .05$) than their female counterparts in reacting to the statement; "It is important to determine if female intercollegiate athletes prefer (or oppose) the usage of gender specific athletic mascots."

Conclusion

Despite the fact that most current intercollegiate athletes were born more than 20 years after Title IX legislation was enacted, they (male and female alike)

still recognize the importance of gender equity and feel that U.S. sport culture should promote gender equity. While intercollegiate programs seem to have made this outcome and institutional priority, public high schools may be lagging behind in their emphasis of gender equity through sport.

Regarding the usage of gender specific athletic mascots (GSAM's) for female athletic programs, this trend is still rather common within our public high schools while U.S. colleges and universities are generally dropping them in favor of the identical presentation of all athletic programs. While this movement away from the usage of intercollegiate GSAM's may seem to be a noble step towards promoting gender equity, it does not usually appear to be an informed process regarding the preferences of the female athletes that are directly affected by changes in how they are represented to the public.

Gender equity within school-based athletics is a cultural issue that should continue to be emphasized and improved. However, predicting what a target population wants is much less sensitive (and effective) as compared to making a genuine effort to ask them about their actual preferences. It can be concluded that U.S. high schools, colleges, and universities should conduct focus groups and surveys among their female athlete populations to gain insight into their opinions and preferences regarding how they would like to be depicted. Additionally, a comprehensive survey on GSAM usage within NCAA DI programs would be of great benefit considering that they have the highest degree of visibility within, and impact on, our cultural attitudes regarding gender equity and the images associated with female athletes.

References

- Anderson, D.M. (2016). U.S. High School Girls Sports and Booster Clubs. *Choregia*, 12 (2), 61-76.
- Armentrout, S.M., C. Kamphoff, & J. Thomae, (2014). Photographic Images in Sports Illustrated for Kids: An Analysis of Sport Coverage and Gender Representation. *Women in Sport & Physical Activity Journal*, 22 (1), 37-47.
- College Consolidates Mascots for Male, Female Teams. (2010). *College Athletics & the Law*, 7 (4), 1.
- Eitzen, D.S., & M.B. Zinn, (1990). The Sexist Naming of Collegiate Athletic Teams and Resistance to Change. *Journal of Sport & Social Issues*, 17 (1), 34-41.

- Frazier, J.W., & W.R. Caines, (2015). Gender Equality in Private College Athletics: Is Title IX Having an Impact? *International Journal of Education Research*, 10 (1), 125-134
- Franks, R. (1982). *What's in a Nickname: Exploring the Jungle of College Athletic Mascots*. Amarillo, TX: Ray Franks Publishing Ranch
- Fuller, J.R., & E.A. Manning, (1987). Violence and Sexism in College Mascots and Symbols: A Typology. *Free Inquiry in Creative Sociology*, 15 (1), 61-67.
- Hardin, M., E. Whiteside, & E. Ash, (2014). Ambivalence on the Front Lines? Attitudes toward Title IX and Women's Sports among Division I Sports Information Directors. *International Review for the Sociology of Sport*, 49 (1), 42-65.
- Harper, J. (2003, May 9). Marketing, PC Endanger UMass Mascot. *Washington Times*, p. D4.
- Huffman, S., C.A. Tuggle, & D. S. Rosengard, (2004). How Campus Media Cover Sports: Equity Issue, One Generation Later. *Mass Communication & Society*, 7 (4), 475-489.
- McClung, L.R., & E. M. Blinde, (2002). Sensitivity to Gender Issues: Accounts of Women Intercollegiate Athletes. *International Sports*, 6 (1), 117-134.
- Rickabaugh, T.E., & E.W. Rickabaugh, (2015). Culturally Insensitive Athletic Mascots: Do Future Leaders in Sport Care? *The Journal of SPORT*, 4 (2), 1-11.
- Sanderson, J., & K. Gramlich, (2016). "You Go Girl": Twitter and Conversations about Sport Culture and Gender. *Sociology of Sport Journal*, 33, 113-123.
- Schools Offered Help Dropping Native Logos: Adidas says it Will Donate Design Resources to Institutions Looking to Change Indigenous Mascots, Names. (2015, November 6) *Toronto Globe and Mail*, p. S4.
- Senne, J. (2016). Examination of Gender Equity and Female Sport Participation in Sport. *Sport Journal*, 1, 1-10.
- Steinfeldt, J.A., R.A. Zakrajsek, K.J. Bodey, K.G. Middendorf, & S.B. Martin, (2013). Role of Uniforms in the Body image of Female College Volleyball Players. *Counseling Psychologist*, 41 (5), 791-819.

**Online Sport Management Education: What Students' Qualitative
Comments Tell Us About Their Perceptions of Learning**

Nicholas G. Schlereth

Coastal Carolina University

Kadence A. Otto

Western Carolina University

Abstract

What do students perceive they are learning in the online setting? Using students open-ended comments on the Student Assessment of Instruction (SAI) instrument, researchers employed a case study approach to explore students' perceptions of instruction in the online and face-to-face settings in an undergraduate sport management course at a regional comprehensive university in the North Carolina state system. Qualitative results indicated that online students highlighted that the types of assignments were interesting and the structure of the course was helpful toward understanding expectations. Face-to-face students highlighted learning, having enjoyed learning, and the knowledge and enthusiasm of the professor. Thematic results revealed that online students distinguished the administrative aspects of instruction; whereas, students in the face-to-face setting expressed themes centered on the conceptual or theoretical aspects of instruction. The themes identified in this case study offer guidance to educators who are interested in refining their online courses so as to stimulate students conceptual and theoretical learning.

Keywords: online education; course evaluations; students' perceptions of learning; learning environment

Introduction

With higher education transitioning into the 21st century, it comes as no surprise that the acceptance of online education is trending upward. Online education has increased at a rate of 3.9 percent, up two-tenths of 1 percent from 2014 (Allen, Seaman, Poulin, & Straut, 2016). According to the National Center for Education Statistics, 55.4% of undergraduate students are either enrolled exclusively or are taking at least one online course during an academic year.

According to the North American Society for Sport Management (NASSM), sport management is one of the fastest growing academic majors on a college campus, with over 500 sport management programs across the United States, an increase of over 25 percent from 2008 (NASSM, 2017). As an academic discipline, sport management has experienced exponential growth in a short period of time when compared to other majors, making it ripe for research and its findings applicable to other fields within the academy (Ferris & Perrewe, 2014; Willett, Brown, & Goldfine, 2017).

While research pertaining to online education has flourished, it has failed to fully address the field of sport management. A primary concern regarding online education includes the student's comprehension of course materials. Kolowich (2012) found that utilizing a variety of assignments in the online learning environment may assist in achieving the pedagogical goals that are sought after in the face-to-face setting. Sport management curriculum is unique in that professionals need theoretical *and* practical skills to flourish, especially as it relates to leadership and ethics (DeSensi, Kelley, Blanton, & Beitel, 1990). Very few studies in the sport management literature have addressed students' perceptions of online instruction and have instead focused on outcomes and best practices (Butts, 2009; Chen & Ryder, 2006; Keiper & Kreider, 2014). Similar studies, however, have been conducted in the management field utilizing surveys to assess instructor performance (Fitó-Bertran, Hernández-Lara, & Serradell-López, 2014; Hernández, Gorjup, & Cascón, 2010).

The purpose of this study was to explore students' perceptions of instruction in the online and face-to-face learning environments in a sport management course to gain a better understanding as to what students perceive they are learning in the online setting. Determining this may assist faculty in better shaping their online course(s) in ways that convey to students the importance of the conceptual and theoretical aspects of learning.

Student Perceptions of Online Education

Students desire responsive and engaging faculty in online classes, noting that when coupled with enriching content their enjoyment was at its highest (Herbert, 2006). Eom, Wen, and Ashill (2006) provided support for Herbert's finding that students enjoy an engaging instructor in an online course. They found that course structure, learning style, self-motivation, and instructor knowledge were significantly correlated with user satisfaction and that instructor feedback, learning style, and user satisfaction were significantly correlated with learning outcomes. Faculty-to-student as well as student-to-student interaction in the online format were found to be significant predictors of overall student satisfaction (Eom et al. 2006). Interaction was a critical indicator of student success and enjoyment in an online course.

Young (2006) found that interaction with students is critical and that students desire engaging content. It appears that students' perceptions are grounded in their experience with the course content because the online environment is often asynchronous, placing the emphasis on the student to drive their educational experience. Young's (2006) findings revealed that in the online setting students want their instructor to show care for her/his students and

communicate effectively. Engaging course content using meaningful examples was found to be an effective method in keeping students engaged in the course (Young, 2006). Due to the nature of an online course it is, perhaps more difficult for an instructor to bring humor or discussion into her/his lectures and content; however, instructors should seek to find ways to do these things since engaging course material appears to be a foundational aspect of a well-received online course (Butler & Pinto-Zipp, 2005).

Students taking online courses appear to desire an engaging environment where they interact with content, classmates, and the instructor. Attle and Baker (2007) pointed out that sport management students can be competitive, especially in the classroom, and recommended that an enhanced understanding of how to educate this subset of a university's student population is important. Today's technology allows young adults to engage with the world through social media outlets making it almost mandatory for college professors to be engaging themselves. The use of social media in an online course is unique in that it enables students to engage in discussions about real world issues related to course content outside of the online classroom setting (Lebel et al., 2015). Social media provides a unique tool for faculty to engage their students both within and outside the classroom. A faculty member can create a hashtag for their course, encouraging students to tweet using the hashtag for the course to create a digital archive of stories that interested the students, bringing them for discussion in during class meetings.

Attempts should be made to develop social settings in online courses and opportunities should be given to students to engage with each other through assignments or discussion boards throughout the semester (Arbaugh & Benbunan-Finch, 2006). Edwards and Finger (2007) discussed the possibility of implementing hyper-pedagogy techniques (i.e., virtual reality and the use of gaming) into a sport management classroom. Students engage with technology and expect faculty to engage with technology through course management websites, email, and other forms of digital communications (Lebel, Danylchuk, & Millar, 2015; Proserpio & Gioia, 2007).

Faculty Perceptions of Online Education

Faculty perceptions of online education appear to be conflicted. On the one hand, faculty enjoy the flexibility that teaching an online course affords, while on the other, they wonder whether students are learning the course content. Faculty expressed the concern as to whether face-to-face pedagogical goals can be achieved through online education (Kolowich, 2012).

Faculty who have a personal interest in technology and enjoy the intellectual challenge of teaching online also expressed positive sentiment toward online education (Cook, Ley, Crawford, & Warner, 2009). Since students are attuned to technology even in the classroom setting, faculty must adapt their pedagogical methods to tap into the learning desires of the student. O'Boyle (2014) discussed the opportunity for faculty to use social media in the classroom to engage students through a familiar communication medium. Lebel et al. (2015) suggested using social media and other digital pedagogies to connect with students in the face-to-face setting but expressed concern that utilizing said techniques in an online course may be difficult due to the absence of eye-to-eye contact.

While online education poses difficulties in terms of authentic interaction, faculty have discussed means to mediate the social barriers faced between faculty and students (Wingo, Ivankova, & Moss, 2017). The use of discussion boards in online courses is a common method for engaging students socially with the instructor and other students, but scholars have discussed other means of providing social interaction in an online environment. Arbaugh and Benbunan-Finch (2006) found that the use of web-based meeting software could enable connections between students and be used as a way of improving student comprehension of material. Social connection is foundational in the traditional classroom and efforts should be made to establish the same interactions in the online setting (Putnam, 2000).

Method Procedure

A qualitative analysis was conducted to explore students' perceptions of instruction in the online and face-to-face settings using students' responses to the open-ended statement section of the Student Assessment of Instruction (SAI) instrument. The SAI is commonly utilized at universities and colleges and is a valid and reliable instrument to assess student perceptions of learning and faculty instruction. Administrators and faculty committees actively use the SAI to inform faculty reappointment, tenure, and promotion decisions (Marsh, 1984, 1987; Overall & Marsh, 1980).

The SAI includes two open-ended statements: 1) describe the best aspects of this course; and, 2) describe changes that could be made to improve the course. Researchers, independent of each other, collected, sorted, coded, and categorized the written comments. Then, the researchers shared their analyses to identify differences. Categorized comments were verified and data were presented in bar chart form. The final step involved conducting thematic analyses of the students'

open-ended comments; extracting related concepts and determine the dominate themes in the two learning environments.

Britto et al. (2014) attempted to establish benchmarks for the online educational experience from three universities, we employ a similar technique but, in an attempt, to understand the SAI from two instructors teaching the same course and using the same materials and guidelines. We did not seek to understand individual teaching differences; rather, our aim was to better understand how students perceive instruction as communicated through their completion of the open-ended section of the SAI in the two learning environments. One instructor taught two face-to-face sections of the course while another instructor taught an online section of the course. The same course textbook was used by both instructors and the course content was similar. The online instructor utilized the face-to-face instructors' course and Blackboard materials.

The decision to only use the qualitative comments from the SAI was to maintain consistency between the face-to-face and online course sections. The questions utilized by the institution on the SAI for the quantitative assessment were different for the online and face-to-face courses. The qualitative questions were the same, providing validity to the study in examining the two sections. In an idealistic setting, we would have used the quantitative questions can compared them using a t-test but the content validity of the assessment drastically varied between the two courses. The decision to use the qualitative question was done to provide an area of examination, leading to possible areas of future exploration explained in the limitations section of this paper.

Participants

Participant numbers varied depending on each student's decision to respond to the open-ended statements section of the SAI. The online response rate for the best aspects of the course was 63% (17 out of 27); the face-to-face response rate was 68% (42 out of 62). The online response rate for changes that could be made to improve the course was 18.5% (5 out of 27); the face-to-face response rate was 48% (30 out of 62).

Students were enrolled in one of three sections of an undergraduate Sport Ethics course at a regional comprehensive university in North Carolina (approximate enrollment of 10,000). One section of this course was offered online in the fall of 2015 and two sections of this course were offered face-to-face in spring of 2015. The sport management course offering is a required course for sport management majors and is also satisfies a general education requirement in the "Humanities" category. Murphy and Stewart (2015) adopted a similar

methodology for use of participants but in a science-based course in the exploration of online vs. face-to-face education in undergraduate students.

Data Analysis

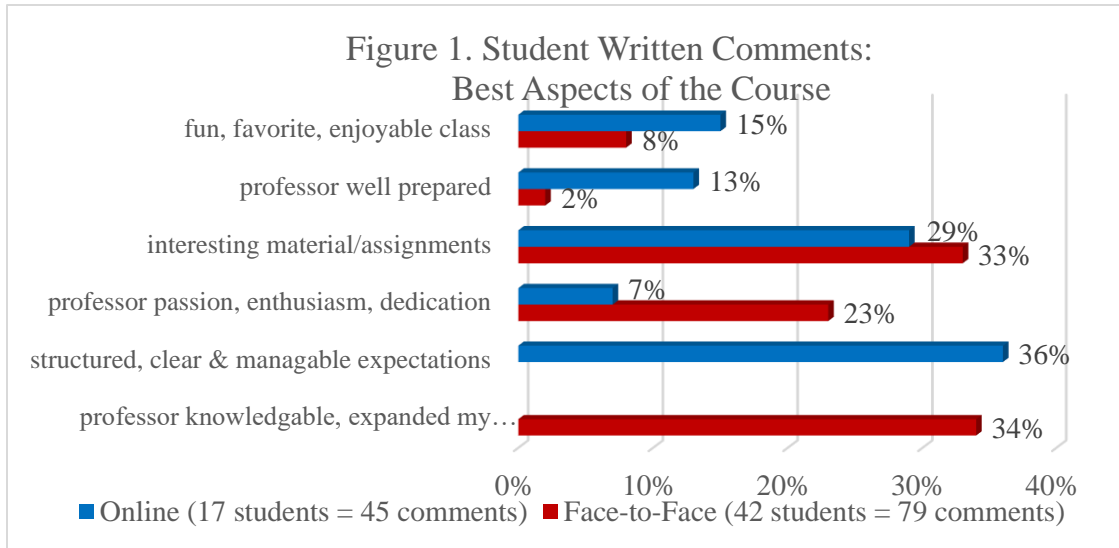
A qualitative analysis was conducted on students' written comments to the open-ended statements to examine students' perceptions of instruction in the two environments and to determine whether a particular perceived learning trend was present among the class as a whole in the different learning settings. Qualitative research is an attempt to analyze a phenomenon through the use of words and natural language processing, instead of measurement through quantitative scales. Student comments pertaining to the two open-ended statements were sorted, coded, and categorized..

Next, thematic analyses were conducted using Leximancer. Leximancer is a qualitative analysis software tool that conducts conceptual and relational analyses of written words and visual text providing a means of "quantifying and displaying" the conceptual structure (Bals, Campbell, & Pitt, 2012; Smith, McFadden, & McFadden, 2016, p. 3). The Leximancer mapping subsystem works in two stages: 1) conceptual extraction or the determination of dominant themes; and, 2) relational extraction which involves mapping relationships of themes against each other (A. E. Smith & Humphreys, 2006). The analysis is built around concepts and themes, quantitatively associated by Leximancer's algorithm, producing the output of connectivity. Connectivity describes the connections between concepts that are strong and weak, described as "highways and backroads" (Smith et al., 2016, p. 17). Seed words "represent the starting point for the definition of such concepts, with each concept definition containing one or more seeds" which are learned automatically from the text (Smith et al., 2016, p. 9). This software served as an important instrument by which to gain insight into the themes that were present in students' written comments on the open-ended section of the SAI.

Results

The qualitative analysis of students' written comments to the first open-ended statement, describe the best aspects of the course, revealed differences pertaining to the face-to-face and online learning environments (see Figure 1). Student response rates varied since the written comments section of the SAI is open-ended and optional. The online response rate for the best aspects of the course was 63% (17 out of 27); the face-to-face response rate was 68% (42 out of 62). Response rates differ from the *n* values given in Figures 1 and 2 since

reported SAI responses are per student, not per student response. This being the case, some student responses included different types of comments which required that they be placed into different thematic categories.



Results pertaining to statement 2, describe the changes that could be made to improve the course, are given in Figure 2. The online response rate for changes that could be made to improve the course was 18.5% (5 out of 27); the face-to-face response rate was 48% (30 out of 62).

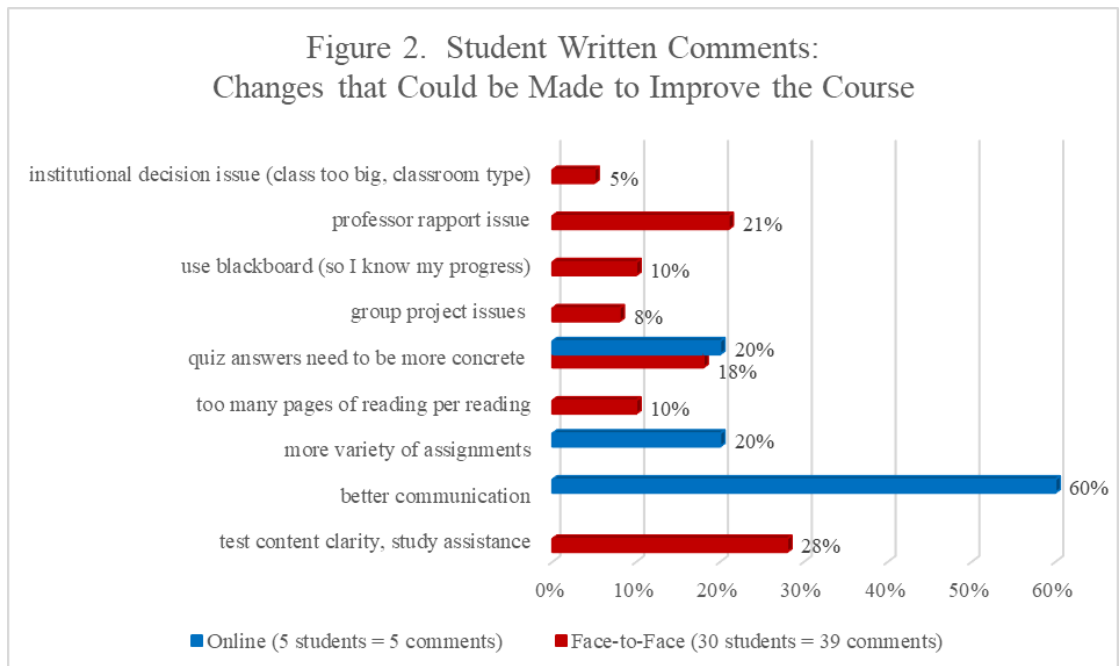
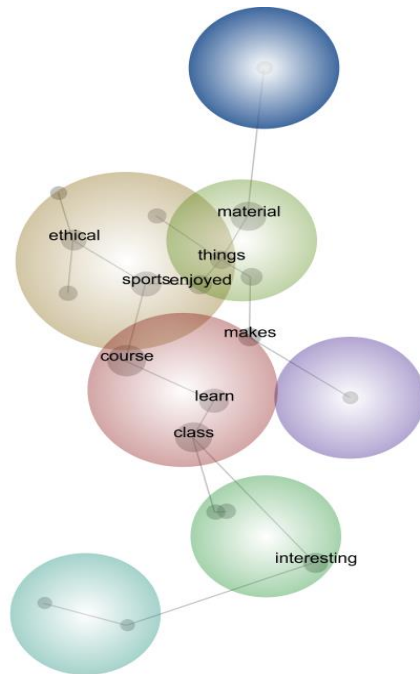


Figure 4. Results of Thematic Analysis for Face-to-Face Course



The dominate theme in the face-to-face setting was “you learn in the class” (100% connectivity and relevance) which was relationally linked to “enjoyed learning about issues in sports” (79%). The above was linked to “material related to sports” (56%) which was linked to “professor was knowledgeable” (7%) and “enthusiastic” (6%) and presented the material in an “interesting” way (33%).

Discussion

The highest percentage of students’ written comments regarding the best aspects of the online course were that the course was “structured, clear, and that the expectations were manageable” (36%); whereas, there were no student comments in this regard in the face-to-face section, supporting Young’s (2006) finding. Additionally, 13% of student comments in the online course noted the “professor was well prepared” versus just 2% in the face-to-face section.

On the flip side, the highest percentage of students’ written comments regarding the best aspects of the face-to-face course were that the “professor is

knowledgeable, and he/she expanded my mind/learning” (34%) (versus zero student comments in the online section) reiterating Kolowich’s (2012) concern as to whether face-to-face pedagogical goals are achieved in the online setting. Additionally, 23% of the students in the face-to-face course wrote that the “professor was passionate, enthusiastic, and dedicated” (versus 7% of student comments in the online course).

Turning to students’ open-ended comments regarding changes that could be made to improve the course. Of the five comments in the online section, three centered on the issue of “better communication”. There were no student comments in the face-to-face course pertaining to “better communication”. It may be the case that because students in an online environment have the freedom to submit a question or comment to their professor at any time of day or night they have a higher expectation of an immediate faculty response.

Changes that could be made in the face-to-face setting ranged from issues that are exclusive to the face-to-face environment (i.e., class size, classroom type), to “work load” (i.e., too many pages of reading/reading, study assistance, and clarity of test content), to “professor rapport”. These areas comprised 64% of students’ comments in the face-to-face setting, while there were no comments made in these areas in the online setting. These findings may be linked to the concreteness and clarity of instructions that can be brought to bear in an online setting since the instructor must write out every directive. In the face-to-face setting, many of these things may be discussed in class and should a student not be in attendance they are likely to miss any number of instructions and/or explanations of materials.

Lastly, the thematic analyses afforded researchers the opportunity to examine students’ written comments to determine dominant themes and the relationships of the themes one-to-another. The dominate theme in the online course setting was interpreted as “interesting assignments” (100% connectivity and relevance) which was relationally linked to the “course” and “online professor” (91%). “Course” was linked, to a lesser degree (59%), to “best class” as well as “enjoyed” (50%) by way of “interesting”. In sum, thematic results for the online setting suggested that students: 1) found the assignments to be interesting; 2) liked the online setting and the professor; 3) found the weekly structure to be helpful toward understanding what is expected of them; and, 4) enjoyed being in the class.

The dominate theme in the face-to-face setting was interpreted as “you learn in the class” (100% connectivity and relevance) which was relationally linked to “enjoyed learning about issues in sports” (79%). The above was linked to “material related to sports” (56%) which was linked to “professor was knowledgeable” (7%) and “enthusiastic” (6%) and presented the material in an

“interesting” (33%) way. In sum, thematic results for the face-to-face setting suggested that students: 1) learned about issues in sport; 2) enjoyed learning about issues in sport; 3) felt that the material related to sports and was presented in an interesting way; and, 4) found the professor to be knowledgeable and enthusiastic.

Outcomes for Undergraduate Students

Undergraduate students of today appear to be transactional learners, a growing concern that they are a part of the changing educational system that places an emphasis on learning content to master a standardized test (Heddy, Sinatra, Seli, Taasobshirazi, & Mukhopadhyay, 2017). Discussions amongst colleagues have reinforced the notion that students lack the social skills or desire to engage in social settings that do not involve their phones or other electronics. Students appear to not seek a career in sales because of a fear of denial and social anxiety, which is leading to troubling signs for the future of the sport industry (Bush, Bush, Oakley, & Cicala, 2014). Online courses typically provide an environment grounded in transactional education, leading to a comfort zone for students.

As previously noted, it is imperative for faculty to design their online courses with social components to force their students to engage with their peers and society through course content. We believe that online courses lead to the development of entry and mid-level management because of the transactional nature of the roles. After completing this study, we feel face-to-face courses have the ability to produce mid to high-level managers because of the ability to introduce transformational elements into the course, replicating social interactions that are necessary for success in the industry as a professional. The decision to place a course online should not be done lightly, because not every course works well in an online format. A finance course may work well in an online environment, but an event management course should be taught in a face-to-face course to integrate social components leading to success in the industry. The increasing presence of experiential learning in higher education should also be considered when designing and teaching an online course.

Limitations and Future Research

This case study is the ‘tip of the iceberg’ as it pertains to examining students’ perceptions of learning in an online sport management course. While a future study comparing the same course and the same instructor would be encouraged, it should be noted that the instructor who taught the face-to-face sections in this study recently received SAI student evaluation data pertaining to

his/her online graduate course. One might hypothesize that “same instructor”, regardless of learning environment, would be of important; however, this was not the case. In fact, the open-ended comments from the students in the online graduate course (this, taught by the instructor who taught the face-to-face undergraduate course) more closely mirrored the open-ended comments of the students in online undergraduate course taught by the other instructor. It would be advantageous for a future research to explore different students’ perceptions other institutions. Future researchers need to ensure they maintain validity in their study with different faculty and the online vs. face-to-face courses. The SAI typically varies from face-to-face to online courses, steps need to be done to ensure validity of the study.

We acknowledge one of the limitations of the study was a lack an exploration of only the qualitative questions from the SAI, neglecting the quantitative questions. In order to maintain a standard of validity, we decided to pursue the qualitative questions as a starting point for the study, leading to potential future studies if quantitative SAI questions match. The SAI is not a standardized assessment across all institutions, created by the Faculty Senate at an institution and ratified for use by the Faculty to be used in the assessment of their instruction. While it may have been a perceived limitation of this study, we believe the results of this study make an impact on the literature and can foster future work examining the perceived perception of online sport management education.

Consider that 74% of student comments in the online graduate course pertaining to “the best aspects of the course” (this, taught by the instructor who taught the face-to-face undergraduate sections) were in the areas of “interesting material/assignments” and “structured, clear & manageable expectations”. The other instructor, who taught the online undergraduate course, received 65% of comments in these two areas; whereas, the instructor who taught the face-to-face and the online graduate course mentioned above received 33% of comments in the area of “interesting material/assignments” and received no comments in the area of “structured, clear & manageable expectations” in his/her face-to-face sections.

On the flip side, 57% of student comments in the online graduate course pertaining to “changes that could be made to improve the course” (again, this taught by the instructor who taught the face-to-face undergraduate course) were in the areas of “better communication” and “more variety of assignments”. The other instructor, who taught the online undergraduate course, received 80% of comments in these two areas; whereas, the instructor who taught the face-to-face and the online graduate course mentioned above did not receive any comments in either of these two areas in his/her face-to-face sections. This was a very interesting discovery.

Practical Implications for Educators

This case study uncovered differences in the way online v. face-to-face students perceive learning. The themes identified in the online setting suggest that students distinguished the technical, mechanical, or what we might call ‘administrative’ aspects of instruction; whereas, students in the face-to-face setting expressed themes centered on the conceptual or theoretical aspects of instruction. Figuring out *why* students report such distinct learning themes in the two learning environments would be helpful toward understanding whether certain aspects of instruction need to be addressed to ensure online courses achieve the same pedagogical goals that are experienced by students in the face-to-face setting.

Faculty teaching online courses can record their lectures via lecture capture software, utilize web-conferencing to engage in discussions with students, and assign experiential learning opportunities for their students to engage in to learn beyond the classroom. Since both faculty and students enjoy the flexibility that online courses afford, steps should be taken to ensure that online courses are transformational and not transactional for students.

References

- Allen, I. E., Seaman, J., Poulin, R., & Straut, T. T. (2016). *Online report card: Tracking online education in the United States* (p. 58). Online Learning Consortium.
- Arbaugh, J. B., & Benbunan-Finch, R. (2006). An investigation of epistemological and social dimensions of teaching in online learning environments. *Academy of Management Learning & Education*, 5(4), 435–447.
- Attle, S., & Baker, B. (2007). Cooperative learning in a competitive environment: Classroom applications. *International Journal of Teaching and Learning in Higher Education*, 19(1), 77–83.
- Bals, A., Campbell, C., & Pitt, L. (2012). Viewer reactions to online political spoof videos and advertisements. In A. Close (Ed.), *Online consumer behavior: Theory and research in social media, advertising, and e-tail* (pp. 185–208). New York: Routledge.
- Britto, M., Ford, C., & Wise, J.-M. (2014). Three institutions, three approaches, one goal: Addressing quality assurance in online learning. *Journal of Asynchronous Learning Networks*, 17(4), 11–24.

- Bush, A. J., Bush, V. D., Oakley, J., & Cicala, J. (2014). Formulating undergraduate student expectations for better career development in sales: A socialization perspective. *Journal of Marketing Education, 36*(2), 120–131.
- Butler, T. J., & Pinto-Zipp, G. (2005). Students' learning styles and their preferences for online instructional methods. *Journal of Educational Technology Systems, 34*(2), 199–221.
- Butts, F. B. (2009). Evaluation of Hybrid Online Instruction in Sport Management. *Online Journal of Distance Learning Administration, 12*(2).
- Chen, S., & Ryder, C. E. (2006). An Evaluation of the Online Sport Education Program: The Perceived Service Quality Offered by a Sport-Specific Graduate Institution. *Research Quarterly for Exercise and Sport, 77*(1), A101–A101.
- Cook, R. G., Ley, K., Crawford, C., & Warner, A. (2009). Motivators and Inhibitors for University Faculty in Distance and e-learning. *British Journal of Educational Technology, 40*(1), 149–163.
- DeSensi, J. T., Kelley, D. R., Blanton, M. D., & Beitel, P. A. (1990). Sport management curricular evaluation and needs assessment: A multifaceted approach. *Journal of Sport Management, 4*(1), 31–58.
- Edwards, A., & Finger, G. (2007). eLearning and sport management: Hyperpedagogy possibilities. *Sport Management Review, 10*(2), 191–208.
- Eom, S. B., Wen, H. J., & Ashill, N. (2006). The determinants of students' perceived learning outcomes and satisfaction in university online education: An empirical investigation. *Decision Sciences Journal of Innovative Education, 4*(2), 215–235.
- Ferris, G. R., & Perrewe, P. L. (2014). Development of sport management scholars through sequential experiential mentorship: Apprenticeship concepts in the professional training and development of academic. *Sport Management Education Journal, 8*, 71–74.
- Fitó-Bertran, À., Hernández-Lara, A. B., & Serradell-López, E. (2014). Comparing student competences in a face-to-face and online business game. *Computers in Human Behavior, 30*, 452–459.
- Heddy, B. C., Sinatra, G. M., Seli, H., Taasoobshirazi, G., & Mukhopadhyay, A. (2017). Making learning meaningful: Facilitating interest development and transfer in at-risk college students. *Educational Psychology, 37*(5), 565–581.

- Herbert, M. (2006). Staying the course: A study in online student satisfaction and retention. *Online Journal of Distance Learning Administration*, 9(4), 300–317.
- Hernández, A. B., Gorjup, M. T., & Cascón, R. (2010). The role of the instructor in business games: a comparison of face-to-face and online instruction. *International Journal of Training and Development*, 14(3), 169–179.
- Keiper, P., & Kreider, R. B. (2014). Developing and Sustaining Online and Distance Education Programs in Health and Kinesiology. *Kinesiology Review*, 3(4), 217–220.
- Kolowich, S. (2012, June 21). Conflicted: Faculty and Online Education. Retrieved October 7, 2015, from <https://www.insidehighered.com/news/survey/conflicted-faculty-and-online-education-2012>
- Lebel, K., Danylchuk, K., & Millar, P. (2015). Social Media as a Learning Tool: Sport Management Faculty Perceptions of Digital Pedagogies. *Sport Management Education Journal*, 9(1), 39–50.
- Marsh, H. W. (1984). Students' evaluations of university teaching: Dimensionality, reliability, validity, potential biases, and utility. *Journal of Educational Psychology*, 76(5), 707–754.
- Marsh, H. W. (1987). Students' evaluations of University teaching: Research findings, methodological issues, and directions for future research. *International Journal of Educational Research*, 11(3), 253–388.
- Murphy, C., & Stewart, J. (2015). The impact of online or F2F lecture choice on student achievement and engagement in a large lecture-based science course: Closing the gap. *Online Learning*, 19(3), 1–20.
- NASSM. (2017). North American Society for Sport Management: Sport Management Academic Programs. Retrieved from <https://www.nassm.com/Programs/AcademicPrograms>
- National Center for Educational Statistics. (2016). The NCES fast facts tool provides quick answers to many education questions. Retrieved August 4, 2017, from <https://nces.ed.gov/fastfacts/display.asp?id=80>
- O'Boyle, I. (2014). Mobilising social media in sport management education. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 15, 58–60.
- Overall, J. U., & Marsh, H. W. (1980). Students' evaluations of instruction: A longitudinal study of their stability. *Journal of Educational Psychology*, 72(3), 321–235.

- Proserpio, L., & Gioia, D. A. (2007). Teaching the Virtual Generation. *Academy of Management Learning & Education*, 6(1), 69–80.
- Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon and Schuster.
- Smith, A. E., & Humphreys, M. S. (2006). Evaluation of unsupervised semantic mapping of natural language with Leximancer concept mapping. *Behavior Research Methods*, 38(2), 262–279.
- Smith, A., McFadden, T., & McFadden, K. (2016). *Leximancer User Guide* (Manual) (p. 132). Brisbane, Australia.
- Willett, J., Brown, C., & Goldfine, B. (2017). An examination of sport management master's programs in the United States. *The Sport Journal*, 19, 1–13.
- Wingo, N. P., Ivankova, N. V., & Moss, J. A. (2017). Faculty perceptions about teaching online: Exploring the literature using the technology acceptance model as an organizing framework. *Online Learning*, 21(1), 15–35.
- Young, S. (2006). Student views of effective online teaching in higher education. *The American Journal of Distance Education*, 20(2), 65–77.

About

The Journal of SPORT brings together in one journal the wide variety of research disciplines in sport and will be published biannually with Summer and Winter edition. The Journal of Sport is published by the Center for Sport and Recreation Development at Kent State University. A faculty Advisory Board composed of nationally, as well as internationally recognized faculty participates in the peer mentorship review process. This unique, but distinctive, mentorship process provides opportunities for graduate students, at an array of institutions, to thoroughly analyze and review research in conjunction with a faculty mentor. The number of articles accepted will be limited through a selective review process. After the faculty mentored peer review is completed a final determination is made to accept or reject the article. The Journal of SPORT encourages faculty and/or students to submit their research for review.

Submission Guidelines

<https://digitalcommons.kent.edu/cgi/submit.cgi?context=sport>

Editor

Mark Lyberger

Kent State University

Associate Editor

Aaron Mulrooney

Kent State University

Student Editor

Eric Abowd

Kent State University