OCCUPATIONAL MEASURES OF FORMER NCAA ATHLETES AND TRADITIONAL STUDENTS

Erianne Weight
J.D. De Freese
Amy Bonfiglio
Zachary Kerr
Barbara Osborne

The model of intercollegiate athletics in the United States is under heightened scrutiny as scholars and journalists differ in perception about the merit of sponsoring elite competitive sport within the university. A body of literature supports an educational rationale for athletics within the academy citing links between athletics participation and positive educational outcomes, experiences, and structures (e.g. Aries, McCarthy, Salovey, & Banaji, 2004; Astin, 1993; Brand, 2006; Pascarella & Smart, 1991; Plunkett, Weight, Osborne, Lancaster, 2016; UniLOA, 2011; Weight, Cooper, & Popp, 2015; Weight & Huml, 2016; Weight, Navarro, Smith-Ryan, Huffman, 2014). Other scholars, however, have documented institutional prioritization of winning over education, excessive athletics-centric time-demands, and unprincipled behavior which undermine the educational experience of athletes, particularly in the revenue-generating sports (e.g. Hawkins, 2010; McCormick & McCormick, 2008; Mitten & Ross, 2014; Sack & Staurowsky, 1998; Singer, 2008; Smith, 2007; Smith & Willingham, 2015; Southall & Staurowsky, 2013).

Simultaneously, there is societal discourse about the merit of higher education, which has led to increased accountability and educational outcome measurement in order to quantify the efficacy of the college student learning experience (Christensen & Eyring, 2011; Shephard, 2008). Three measures that have been linked with the assessment of educational outcomes include graduate job satisfaction, work engagement, and salary (e.g., Baum, Ma, Payea, 2013; Ehrenberg, 2004; Hartog & Oosterbeek, 1998; Pascarella, 2006; Pascarella & Terenzini, 2005; Perna, 2003; Rowley & Hurtado, 2003). Research into this link between labor-market success and higher education has demonstrated the long-term impact a college education can have on occupational measures, however this research is limited relative to documenting causation.

Given the difficulty of attributing the causation of occupational measures with specific educational experiences, we do not intend to measure the educational impact of the collegiate experience or participation in intercollegiate athletics. Rather, we build directly upon literature exploring post-graduation measures which provides adjacent insight into the educational experiences of intercollegiate athletes as has been done in collegiate educational assessment literature which pairs specific undergraduate experiences with post-collegiate measures (e.g., Baxter Magolda, 1999; Gurin, 1999; Mentkowski & Associates, 2000; Pearman Valois, Sargent, Saunders, Drane, & Macera, 1997). Pearman et al. (1997), for example, linked taking a one-semester health course with long-term health knowledge and health-related behaviors. By comparing athletes and non-athletes from a single institution, we can examine the post-graduation differences between those who participate in collegiate athletics and those who do not. We do this by examining salary, work engagement, and job satisfaction within a robust sample of former athletes and non-athletes working full-time 10, 20, 30, and 40 years post-graduation from a large southeastern public university that completes in a "Power Five" NCAA conference.

LITERATURE REVIEW

Former Athlete Occupational Measures

Key findings from the seminal athlete occupational measures study conducted by Shulman and Bowen (2002) on three cohorts of athletes and non-athletes who graduated in 1951, 1976, and 1989 demonstrated association between college athletics participation and occupational outcomes. Male athletes consistently earned more than their non-athlete peers (Shulman & Bowen, 2002). This pattern was found at every type of school present in this study, including co-ed liberal arts colleges and NCAA Division IA (now Football Bowl Subdivision) public universities. The earnings advantage for former male athletes differed between occupations, however. There were no significant differences in the average earnings of athletes and non-athletes in the sectors of medicine and law, and significant large mean differences in the financial services industry. The authors attributed this financial services phenomenon to personal traits associated with being an athlete such as competitiveness, discipline, goal setting, ability to take direction, and ability to work in teams (Shulman & Bowen, 2002). Results of this study also demonstrated that former female athletes experience a number of advantages over their non-athlete peers. Women in the 1976 cohort were more likely to be working full-time, earn advanced degrees, and earn more money than their non-athlete peers (Shulman & Bowen, 2002).

Similar results were found from the Cooperative Institutional Research Survey (CIRP) used to collect information from male and female college freshmen during the 1970-1971 academic year with one follow-up in 1980, ten years

after their freshmen year (Astin, 1982; Henderson, Olbrecht, & Polachek, 2005). In 1980, males who participated in college athletics were estimated to earn 4% higher annual incomes than their non-athlete peers. There was no increase in income related to athletic participation among females at that time (Long & Caudill, 1991). In a follow-up study conducted in 2005, Henderson, Olbrecht, and Polachek utilized a nonparametric approach to estimate the earnings benefit associated with athletic participation for each individual. The authors of this study found that former student-athletes earn a wage premium in business, manual labor, and military occupations. They also found that former college athletes who became teachers at the high school level were linked with lower wages (Henderson et al., 2005).

Other more recent studies have documented similar positive occupational measures for athlete graduates. In a cross-sectional nationwide survey of -1,940 college graduates, Sauer, Desmond, & Heintzelman (2013) found that former college athletes score higher on measures of emotional intelligence and mentoring and have higher salaries during the first ten years of their careers than their non-athlete peers. The authors of this study believe the activities that college students participate in outside the classroom are equally important to traditional educational measures when predicting future success in the workplace.

Building upon this literature alluding to an athlete-advantage in the workplace and additional articles outlining athlete-centric hiring practices (e.g. LaRoche, 2013; McCann, 2012; Soshnick, 2013), Chalfin et al. (2015) explored athlete marketability from the perspective of 50 employers who specifically target athletes in their hiring decisions to document why this demographic is desirable. Employers explained practices of deliberately seeking to hire athletes because of skills and qualities they attribute with collegiate athletes including a competitive nature, goal-orientation, ability to handle pressure, a strong work ethic, confidence, coachability, ability to work with others, and self-motivation. Employers in this sample valued mere membership on an intercollegiate athletics team more highly than a variety of non-sport experiences including serving as editor-in-chief of the student newspaper or as a resident advisor (Chalfin et al., 2015), providing insight into this niche of athlete-centric employment practices.

Athlete occupational literature to date has focused upon salary, employer perceived attributes, and athlete marketability. There is no research which explores athlete-provided measures of job satisfaction or work engagement in comparison to non-athlete peers, and there is no current analysis on trends in salary or occupational measures over time or between gender, ethnicity, sport profile, or industry. Thus we address this literary gap by measuring post-graduation job satisfaction, work engagement, and salary of athlete and non-athlete graduates 10, 20, 30, and 40 years post-graduation. We will now ex-

plore foundational literature to provide a context for the occupational measures we utilize in this study.

Job Satisfaction

Job satisfaction has become as an important topic of inquiry in occupational research related to many aspects of work behavior and wellbeing (Abele & Spurk, 2009; Ng, Eby, Sorensen, & Feldman, 2005; Spurk, Abele, & Volmer, 2011). It is often seen as a central indicator of one's subjective career success, (Gunz & Mayrhofer, 2011; Morgeson, Dierdorff, & Hmurovic, 2010) and has been reciprocally correlated with life satisfaction (Rain, Lane, & Steiner, 1991). People who are satisfied with their life tend to be satisfied with their job, and vice-versa (Rain et al., 1991).

One of the most notable job satisfaction models is Edwin A. Locke's Range of Affect Theory (1976) which postulates satisfaction is determined by a discrepancy between what a person wants and what the person gets from a job among different dimensions which employees may weigh including pay, promotions, work, recognition, working conditions, benefits, supervision, company, coworkers, and management. Building on these dimensions, Paul Spector (1985) created the Job Satisfaction Survey (JSS), the scale utilized in this research. Job satisfaction can be considered a global feeling about the job, or as a constellation of attitudes about various facets of the job. The facet approach, which is utilized by Spector's scale, provides a comprehensive picture of an individual's job satisfaction (Spector, 1985).

In a study directly foundational to this research conducted by Spurk, Abele, and Volmer (2014), career satisfaction was measured 15 years after graduation. The authors selected this point in the subjects' careers, because this is when occupational socialization is vastly completed. In the present study, we measured cohorts of graduates 10, 20, 30, and 40 years post-graduation in order to gauge whether there are significant changes between levels of satisfaction based upon time within industry. The Spurk et al. (2014) study found that the variables measured (achieved success, overall career goals, goals for advancement, income, and development of new skills) were different for the four different occupations that were being studied: physicians, economists, engineers, and teachers. Building upon these results, we examine intra-and inter-industry differences in salary, job satisfaction, and work engagement between athlete and non-athlete graduates.

Work Engagement

Another indicator of occupational well-being we measure within this study is work engagement. Work engagement has emerged as an important element in the occupational functioning body of literature and is a construct which generally has a positive correlation to job satisfaction (.22 correlation within Harter, Schmidt, and Hayes (2002) meta-analysis). Work engagement has been defined as "a positive,

fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002, p. 74).

Schaufeli and Bakker utilized their definition to create a self-report questionnaire, the Utrecht Work Engagement Scale (UWES), which was utilized in this research. Work engagement is characterized as displaying a high level of energy and strong identification with one's work (Macey & Schneider, 2008; Schaufeli & Bakker, 2003). The UWES measures three areas that make up work engagement: vigor, dedication, and absorption.

In a Gallup poll conducted in 2014, less than one-third (31.5%) of U.S. workers surveyed reported being engaged in their jobs (Adkins, 2015). Though seemingly low, this statistic is actually the highest it has been since Gallup began measuring work engagement in 2000. Potential reasons for the slight increase is that managers are putting a greater focus on engaging their employees because engagement efforts are a proactive approach toward enhancing individual and organizational performance and evading employee burnout (Adkins, 2015; Bakker & Demerouti, 2008; Kim, Kolb, & Kim, 2010; Maslach, Schaufeli, & Leiter, 2001). Given the desirability of work engagement and correlation between work engagement and positive organizational outcomes documented within the literature, work engagement was utilized within this study as another occupational measure of interest.

CONCEPTUAL FRAMEWORK

The impact of sport on the education and development of athlete participants is an area of inquiry rich in anecdotes and assumptions, but limited in empirical quantification. This deficiency in the literature can largely be attributed to limits in research methodology that can document causational links between sport participation and various outcomes. For this reason, a body of literature is emerging documenting athlete and non-athlete measures that can collectively be utilized to build theory surrounding the impact of intercollegiate athletics (e.g. Brand, 2006; UniLOA, 2011; Weight, Cooper, & Popp, 2015; Weight & Huml, 2016). Within the current research, occupational measures were examined including salary, job satisfaction, and work engagement of former athlete and non-athlete graduates under a hypothesis that these measures provide some insight into holistic preparation for life after college (e.g., Baxter Magolda, 1999; Gurin, 1999; Mentkowski & Associates, 2000; Pearman et al., 1997). We want to be clear that no causal line can be drawn between intercollegiate athletics participation and career outcomes, but that through a body of empirical data relative to athlete and non-athlete post-collegiate outcomes, collegiate experiences, and adolescent commonalities among would-be intercollegiate athletes, we can build a theory relative to the educational value of participation in intercollegiate athletics. Thus, within this research, we add directly to the post-col-

legiate outcomes literature by exploring occupational measures of athletes and non-athletes 10, 20, 30, and 40 years post-graduation.

This research builds directly upon previous studies of athlete, non-athlete salary differences (e.g. Desmond & Heintzelman, 2013; Henderson, Olbrecht, & Polachek, 2005; Long & Caudill, 1991; Shulman & Bowen, 2002), and a body of literature indicating that specific experiences within college can have long-lasting implications (e.g., Baxter Magolda, 1999; Gurin, 1999; Mentkowski & Associates, 2000; Pearman Valois, Sargent, Saunders, Drane, & Macera, 1997). Additionally, this research addresses gaps in the literature by exploring measures associated with occupational quality of life (satisfaction and work engagement), and trends in these measures over time or between graduates with different demographics including gender, ethnicity, sport profile (revenue vs. non-revenue), or industry. Research questions guiding this research include:

RQ 1: Are there differences in salary, occupational satisfaction, or work engagement between former athletes and non-athletes when analyzed by (a) gender, (b) ethnicity, (c) sport profile, (d) graduation cohort, or (e) industry?

RQ 2: How (if at all) do former athletes believe participation in intercollegiate athletics has influenced their career?

METHOD

Participants

The subjects for this study were athlete and non-athlete graduates from a large southeastern public university that completes in a "Power Five" NCAA conference. Members of the target population graduated from this institution in cohorts including graduating classes of 2005 (10 years post-graduation), 1995 (20 years post-graduation), 1985 (30 years post-graduation), and 1975 (40 years post-graduation). Each cohort included the graduating classes surrounding the target graduation year in order to boost sample sizes. For example, for the 10-year cohort, graduates from 2004, 2005, and 2006 were sampled. The entire population of athletes and a random sample of non-athletes from each graduation class of interest were invited to participate in the study. Approximately n = 500 athletes and n = 500 general students were contacted in each of the four 3-year graduation cohorts from the institution, totaling 3,936 surveys that were distributed. A total of 1,347 subjects responded to the survey, yielding a response rate of 34% with a near equal distribution of responses between cohorts. Demographic information of respondents is included in the results section (see Table 1).

The sample was representative of the population in each demographic category, with a slight over-representation of male, revenue-sport athletes. Non-response bias was addressed through a one-way analysis of variance between the initial 100 and final 100 respondents

in the three main variables of job satisfaction, work engagement, and salary, as theoretically late respondents are more reflective of non-respondents. There were no significant differences at the $p < .05$ alpha level between the initial and last 100 respondents, lending additional evidence toward the representativeness of the sample.

Procedure

Access to the sample was attained through the university alumni association database. The random sample of non-athlete graduates was attained via a random number generator which populated a spreadsheet containing graduates with known email addresses. The spreadsheet was then sorted and only the graduates with random numbers 1-500 in each cohort file were included in the random traditional student graduation cohort samples. Once the contact information was attained and organized, the survey was distributed to each subject via email. A mailer with a link to the survey was also sent out a week after the initial email with a small alumni gift bearing the institution's logo. This mailer served as a reminder to the participants about the survey and a thank you gift to those who chose to complete the survey. This method is consistent with other researchers who have studied and utilized the principle of reciprocity through the use of a modest gift to maximize the response rate (Cialdini, 2006; Cialdini, Schaller, Houlihan, Arps, & Fultz, 1987; Fehr, Fischbacher, & Gächter, 2002).

Instrument

The instrument utilized for this study was a combination of two previously developed surveys: a condensed version of the Utrecht Work Engagement Scale (UWES), the UWES-9 (Schaufeli, Bakker, & Salanova, 2006), and a condensed version of the Job Satisfaction Survey (JSS) (Spector, 1994). Ten demographic questions were also included and former athletes were asked two additional open-ended questions related to the effects of being an intercollegiate athlete on their careers.

The UWES-9 includes nine questions related to how often respondents experience certain feelings about their current occupation (Schaufeli et al., 2006). The seven-point Likert scale includes options ranging from (0) never, to (1) a few times a year or less, (2) once a month, (3) a few times a month, (4) once a week, (5) a few times a week, and (6) every day. When testing the internal consistency reliability of the UWES-9 for this study, the Cronbach's alpha, α, was equal to .921, with sub-scale alphas ranging between 0.763 and 0.921 (see Table 3).

For this study, a condensed version of the Job Satisfaction Survey (JSS) was utilized. The original JSS is comprised of 36 questions related to nine facets: Communication, Contingent Rewards, Coworkers, Fringe Benefits, Nature of Work, Operating Conditions, Pay, Promotion, and Supervision (Spector, 1994). The condensed version of this scale utilized two statements related to how participants feel about their job on each of the nine facets. A six-point Likert

scale included (1) disagree very much (2) disagree moderately, (3) disagree slightly, (4) agree slightly, (5) agree moderately, and (6) agree very much. When testing the internal consistency reliability of the JSS for this study, the Cronbach's alpha, α, was equal to .881 with subscale alphas ranging between .352 and .831 (see Table 4). Low subscale alphas demonstrated the condensed version did not have high reliability on all facets, but the overall instrument demonstrated an acceptable level of reliability.

Analysis

Data were collected through Qualtrics Survey Software and input into Statistical Package for the Social Sciences software (SPSS 24.0) for analysis. To address research questions two and three, descriptive statistics and a series of one and two-way ANOVAs were run to analyze differences in dependent variables of salary, job satisfaction, work engagement, and educational satisfaction between and within independent variables of athlete/non-athlete status, gender, race, athlete sport-type, graduation cohort, and industry. Addressing research question two, qualitative data from an open-ended question was organized independently by two researchers utilizing open in-vivo manual coding methods (Strauss & Corbin, 1998). Emergent themes were compared and linked together through axial coding and the researchers then reviewed each response and independently coded the narratives utilizing the finalized code listed in Table 6 (Strauss & Corbin, 1998). This two-cycle coding allowed each of the researchers to interpret the participant responses independently (Saldaña, 2009). Inter-coder reliability was high, indicating a valid and reliable coding structure as well as evidence for narrative validity with a Krippendorf's Alpha of 0.918, and 93.8% agreement among coders (Hayes & Krippendorff, 2007).

RESULTS

Demographic Information

Of the 1,347 survey respondents, 74% reported working full time (n = 992). Reported reasons for non-full-time employment included part-time employment (8.5%, n = 115), retirement (6.7%, n = 90), working in the home (4.0%, n = 54), "other" which included business-owners, students, and those with disabilities (3.0%, n = 41), and unemployment (1.3%, n = 17). Only the (n = 992) respondents working full time were included in the study. Of the athlete, full-time employee respondents, 64% (n = 301) were male and 36% (n = 171) were female. Of the non-athlete, full-time employee respondents, 53% (n = 274) were male and 47% (n = 246) were female. The majority of responding athletes (89%, n = 422) and non-athletes (88%, n = 459) reported their ethnicity as Caucasian. Within the athlete sample, each sport was represented, with the most responses from football (n = 71) and track and field (n = 52) alumni. The football (n = 71) and basketball (n = 29) graduates make up the "revenue sport" variable, representing 21% of the athlete sample. The graduation cohort respond-

ents were fairly evenly split with the lowest number of full-time employees (n = 86), representing just 16% of the non-athlete graduates in the non-athlete graduate 40 years post-graduation cohort due to many retirees in this group (n =18). These demographics are very representative of the historic university and athlete populations (UNC Registrar, 2017). A complete listing of respondent demographic information of those that work full-time and were included in the study are presented in Table 1, with a listing of industry sectors and occupations from the U.S. Census (2014) respondents reported working within in Table 2.

Salary

Respondents were asked to provide their annual salary measured in U.S. dollars. After removing athletes who were playing their sport professionally and capping responses at $400,000 to exclude outliers, athletes on average earned $34,484 more than the non-athletes [$F(1, 980) = 24.809$, $p < .001$]. Median measures revealed a similar trend. The median salary of former athletes was $128,000, compared with a median salary of $100,000 for non-athletes. Additional significant sub-group differences emerged through two-way analysis of variance between

Table 1
Demographic Information of Respondents Who Work Full Time

	Athletes		Non-athletes	
	%	*n*	%	*n*
Sex				
Male	64%	301	53%	274
Female	36%	171	47%	246
Ethnicity				
Caucasian	89%	422	88%	459
African American	8%	37	8%	39
Asian	2%	9	2%	11
Other	1%	4	2%	12
Athlete Sport Type				
Revenue Sport	21%	100		
Nonrevenue Sport	79%	372		
Graduation Cohort				
1974-1976	20%	98	16%	86
1984-1986	26%	126	27%	151
1994-1996	29%	139	27%	151
2004-2006	25%	118	30%	164

n = 992

Table 2
Current Occupation and Industry

	Athletes		Non-athletes	
	%	*n*	%	*n*
Industry				
Health care	18.2%	86	22.9%	119
Business	16.7%	79	11.6%	60
Finance and Insurance	13.1%	62	9.4%	49
Education	12.3%	58	15.2%	79
Other	35.3%	158	43.1%	231
Occupation				
Executive or manager	34.3%	162	29.8%	155
Scientist, technician, Professional	18.6%	88	27.9%	145
Salesperson	11.6%	55	5.8%	30
Educator	8.7%	41	10.0%	52
Lawyer	5.5%	26	3.7%	19
Other	21.3%	101	22.9%	119

Note: "Other" included occupations with less than 2% and industries with less than 5% of the sample.

and within athlete and non-athlete groups by gender and ethnicity, though no interaction effects were significant. Most notably, male and female athletes out-earned their same-gender non-athlete graduates on average by $23,312 [$F(1, 558) = 5.394$, $p = .021$], and $31,426 [$F(1, 417) = 16.324$, $p < .001$], respectively. In both groups, men out-earned their female athlete and non-athlete colleagues by $63,382 [$F(1,465) = 35.009$, $p < .001$], and $71.496 [$F(1, 510) = 72.322$, $p < .001$], respectively.

When broken down by graduation cohort, athletes consistently earned more than their non-athlete peers, with significant differences between athletes and non-athletes in cohorts of graduates 10, 20, and 30 years post-graduation. Within athlete/non-athlete effects were also evident. Non-athlete 2004-2006 graduates earned significantly less than each of the three more-senior cohorts [$F(3, 503) = 9.869$, $p < .001$], while athlete 2004-2006 graduate salaries only differed significantly from the 1984-1986 graduates [$F(3, 458) = 3.629$, $p = .013$].

Significant differences also emerged in salary comparisons by ethnicity. Caucasian, African American, and "Other" athletes yielded means higher than their non-athlete graduates, though the only significant difference was between Caucasian athletes, who out-earn their Caucasian non-athlete graduates on average by $37,310 [$F(1, 866) = 24.380$, $p < .001$]. Within group differences yielded only one significant result in tests of athlete

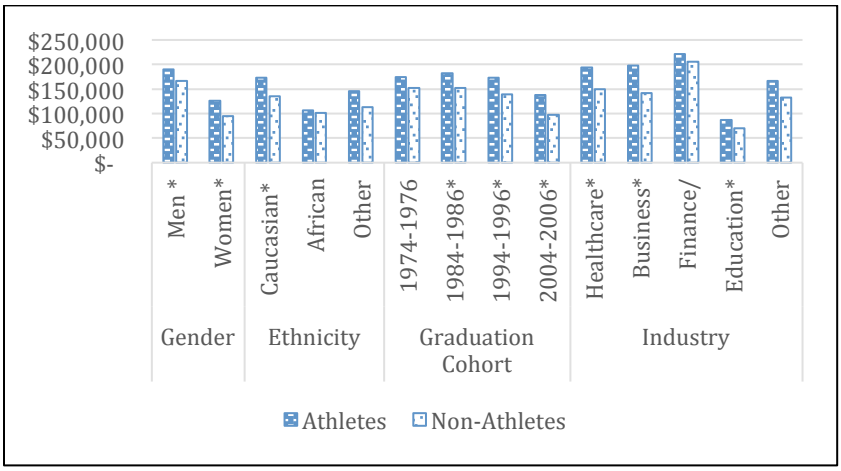

Figure 1. Annual salary of athletes and non-athletes by demographic sub-group.

Table 3

Annual Salary Comparisons of Athlete and Non-athlete Graduates

	Athletes		Non-athletes		*F*	*p*
	Mean	SD	Mean	SD		
Overall*	$166,760	$115.537	$132,276	$101,385	24.81	.000
Gender						
Men*	$190,108	$120,784	$166,796	$116,100	5.39	.021
Women*	$126,726	$ 93,918	$ 95,300	$ 65,326	16.32	.000
Ethnicity						
Caucasian*	$173,123	$118,250	$135,813	$104,345	24.38	.000
African American	$107,256	$ 66,264	$101,079	$ 58,621	0.19	.666
Other	$145,866	$ 96,571	$113,181	$ 88,131	1.14	.294
Athlete Sport Type					0.01	.905
Revenue Sport	$164,712	$116,171				
Nonrevenue Sport	$167,086	$115,527				
Graduation Cohort						
1974-1976	$174,022	$120,558	$152,553	$112,308	1.40	0.238
1984-1986*	$182,763	$125,255	$152,235	$113,846	4.28	0.040
1994-1996*	$173,829	$114,395	$139.412	$106.325	6.40	0.012
2004-2006*	$137,333	$ 97,352	$ 97,270	$ 62,311	17.10	0.000
Industry						
Healthcare*	$194,177	$124,352	$150,068	$115,740	6.72	0.010
Business*	$197,904	$120,700	$142,272	$ 80,918	8.88	0.003
Finance/Insurance	$222,117	$122,291	$205,521	$124,826	0.47	0.494
Education*	$ 86,586	$ 63,248	$70,250	$ 34,924	3.87	0.051
Other	$166,761	$115,537	$132,276	$101,385	4.16	0.042

*p<.05 *Notes:* Professional athlete respondents were excluded and salary was capped at $400,000 to exclude outliers. Within group significant differences and interaction effects discussed in text.

status and ethnicity with Caucasian athletes out-earning their African American athlete peers by $65,887 [$F(2, 765) = 6.175$, $p = .002$]. Athletes by sport-type and ethnicity were also explored, and no significant differences emerged between revenue or non-revenue sport athletes, or interaction effects when analyzed by race or gender.

When salary was analyzed by industry, athletes out-earned their non-athlete graduates on average within each of the top four-listed industries, with healthcare, business, and "other" industries yielding significant between-group differences (see Table 3).

Work engagement

The UWES-9 measured total work engagement and three sub-components including dedication, absorption, and vigor. In this study, there was a significant difference between athletes and non-athletes in each of the work engagement measures. The biggest difference between athletes ($M = 4.57$, $SD = 1.24$) and non-athletes ($M = 4.17$, $SD = 1.35$) was within the vigor subcomponent [F (1,994) = 22.41, $p < 0.001$]. Analysis of independent variables revealed higher athlete scores for each demographic sub-group except for those working in the finance/insurance industry with significantly higher total work engagement means for Caucasian and female former athletes, former athletes 20-years post-graduation, and former athletes who work in healthcare, business, and education (see Table 4). Significant within group differences emerged only for athletes, with those working in education or "other" industries significantly more engaged than those working in finance/insurance [F (4, 455) = 3.212, $p = 0.035$]. No significant interaction effects emerged between the independent variables and total work engagement.

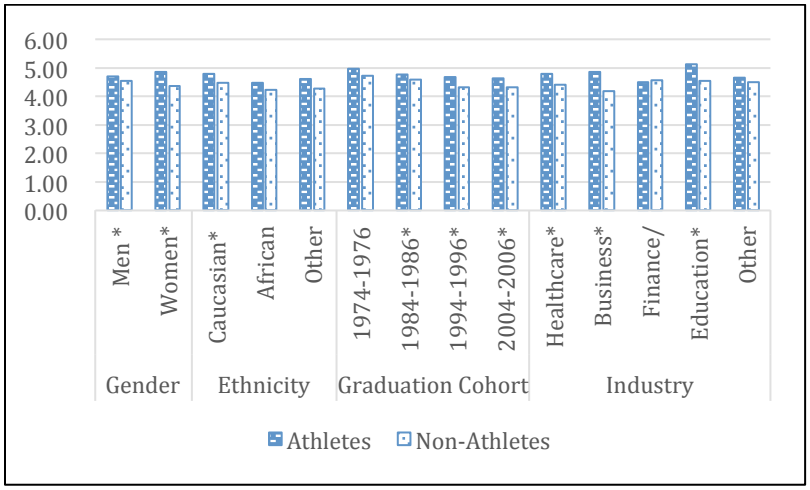

Figure 2. Work engagement of athletes and non-athletes by demographic sub-group

Table 4
Work Engagement of Athletes and Non-athletes

	Athletes		Non-Athletes		Mean Difference	*F*	*P*	α
	Mean	SD	Mean	SD				
Total Work Engagement	4.75	1.05	4.45	1.21	0.30	17.33	0.000	0.92
Dedication*	4.99	1.13	4.68	1.29	0.31	16.51	0.000	0.86
Absorption*	4.70	1.17	4.51	1.27	0.19	6.20	0.013	0.76
Vigor*	4.57	1.24	4.17	1.35	0.40	22.41	0.000	0.87
Gender								
Men	4.70	1.09	4.54	1.12	0.16	3.08	0.080	
Women*	4.85	0.94	4.36	1.28	0.49	17.91	0.000	
Ethnicity								
Caucasian*	4.78	1.03	4.49	1.19	0.30	15.19	0.000	
African American	4.48	1.14	4.22	1.23	0.26	0.93	0.338	
Other	4.62	0.83	4.28	1.44	0.33	0.51	0.481	
Athlete Sport Type						0.16	0.690	
Revenue Sport	4.72	1.07						
Nonrevenue Sport	4.77	1.03						
Graduation Cohort								
1974-1976	4.98	0.91	4.73	1.07	0.25	2.61	0.108	
1983-1986	4.78	1.04	4.58	1.23	0.20	1.92	0.167	
1994-1996*	4.67	1.05	4.32	1.16	0.35	6.70	0.010	
2004-2006	4.64	1.13	4.33	1.26	0.32	4.40	0.037	
Industry								
Healthcare*	4.80	1.00	4.42	1.22	0.38	5.63	0.019	
Business*	4.85	0.96	4.18	1.27	0.67	12.45	0.001	
Finance/Insurance	4.50	1.09	4.56	1.15	(0.07)	0.10	0.749	
Education*	5.12	0.71	4.54	1.08	0.57	12.09	0.001	
Other	4.67	1.13	4.50	1.23	0.16	1.88	0.171	

*p<.001. *Note*: Scale from (0) never to (6) every day.

Job satisfaction

The JSS provided a score for each of the nine facets measured, as well as a score for total job satisfaction. Scores for Total Job Satisfaction are presented in means that range from one to six, with mean scores of four or more representing job satisfaction, scores of three or less representing dissatisfaction, and scores between three and four representing ambivalence (Spector, 1994). Athlete graduates were on average more satisfied with their jobs with each mean higher than their non-athlete graduates and significant differences evident in seven of the nine facets measured by the JSS as well as Total Job Satisfaction.

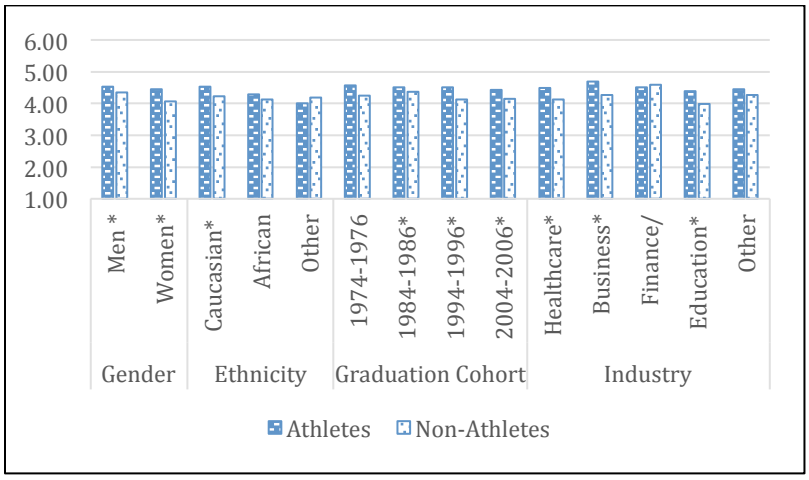

Figure 3. Job satisfaction of athletes and non-athletes by demographic sub-group

Table 5
Job Satisfaction of Athletes and Non-Athletes

	Athletes		Non-Athletes		Mean Difference	*F*	*P*	α
	Mean	SD	Mean	SD				
Total Job Satisfaction*	4.50	0.83	4.23	0.82	0.28	24.91	0.000	0.88
Supervision	5.07	1.23	4.94	1.22	0.26	2.61	0.107	0.83
Coworkers*	5.16	0.91	4.88	1.03	0.57	20.01	0.000	0.54
Nature of Work*	5.24	0.96	5.00	1.08	0.47	13.24	0.000	0.72
Pay*	4.43	1.36	4.04	1.41	0.77	18.33	0.000	0.72
Contingent Rewards*	4.56	1.28	4.29	1.29	0.53	10.26	0.001	0.71
Promotion*	4.02	1.48	3.61	1.49	0.82	17.87	0.000	0.79
Fringe Benefits	4.17	1.42	4.05	1.31	0.25	2.09	0.149	0.60
Communication*	4.31	1.27	3.86	1.31	1.00	29.03	0.000	0.71
Operating Conditions*	3.85	1.21	3.60	1.17	0.49	10.46	0.001	0.35
Gender								
Men*	4.53	0.85	4.34	0.75	0.19	7.05	0.008	
Women*	4.44	0.78	4.08	0.87	0.37	17.97	0.000	
Ethnicity								
Caucasian*	4.54	0.81	4.23	0.81	0.31	28.50	0.000	
African American	4.28	0.92	4.13	0.94	0.15	0.46	0.500	
Other	4.00	0.71	4.20	0.83	–0.19	0.46	0.500	
Athlete Sport Type						0.000	0.995	
Revenue Sport	4.50	0.89						
Nonrevenue Sport	4.50	0.80						

Table 5 (continued)

Table 5 (continued)

	Athletes		Non-Athletes		Mean Difference	*F*	*P*	α
	Mean	SD	Mean	SD				
Graduation Cohort								
1974-1976	4.58	0.82	4.24	0.75	0.34	6.28	0.013	
1984-1986	4.51	0.82	4.37	0.82	0.14	1.65	0.200	
1994-1996*	4.50	0.86	4.14	0.88	0.36	10.80	0.001	
2004-2006*	4.42	0.80	4.15	0.80	0.28	7.31	0.007	
Industry								
Healthcare*	4.49	0.84	4.13	0.81	0.36	8.24	0.005	
Business*	4.70	0.80	4.27	0.82	0.43	9.01	0.003	
Finance/Insurance	4.51	0.78	4.59	0.63	–0.07	0.24	0.622	
Education*	4.39	0.64	3.99	0.79	0.40	9.52	0.002	
Other	4.46	0.89	4.26	0.85	0.19	4.29	0.039	

*p<.01 Note: Scores can range from 1 to 6 Mean scores of 4 or more represent satisfaction, scores of 3 or less represent dissatisfaction, and scores between 3 and 4 represent ambivalence (Spector, 1994).

Table 6

How has the experience of being an intercollegiate athlete affected your career?

Theme	*n*	%
Teamwork (working well with others)	103	20.7
Work Ethic	68	13.7
Discipline	61	12.3
Confidence	60	12.1
Positively	55	11.1
Perseverance	43	8.7
Goal setting	39	7.9
Competitive Nature/Spirit	33	6.6
No Effect	32	6.4
Time Management	28	5.6
Focus	21	4.2
Networking	20	4.0

Within-group differences emerged in job satisfaction only for non-athletes, with those working in finance significantly more satisfied than those working in education [F (4, 467) = 4.311, p = 0.001]. No significant interaction effects emerged between the independent variables and total job satisfaction.

Effect of intercollegiate athletics participation on career

In order to provide an element of qualitative depth to the study, former athletes were asked how the experience of participation in intercollegiate athletics (if at all) has affected their career. Results of this open-ended question yielded responses that varied in length from one word to several paragraphs. These narratives were organized into twelve categories, listed in Table 6. Former athletes wrote beliefs that their time spent as an athlete prepared them to work in team environments and work well with others from backgrounds different from their own (n = 103), to work hard and develop a work ethic that has been beneficial in the work place (n = 68), to have discipline in order to accomplish difficult tasks (n = 61), and several other note-worthy attributes (see Table 6). A small portion of the sample (n = 32; 6.4%) noted being an intercollegiate athlete has had no effect on their career.

DISCUSSION

There are statistically significant differences in job satisfaction, salary, and work engagement between former intercollegiate athletes and non-athletes from the robust sample of single-institution graduates within this study. Building directly upon previous studies of athlete, non-athlete salary differences (e.g. Desmond & Heintzelman, 2013; Henderson, Olbrecht, & Polachek, 2005; Long & Caudill, 1991; Shulman & Bowen, 2002), we will now explore the unique additions this study contributes directly to this literature. As previously stated, this research does not draw causal lines between athletics participation and these occupational post-collegiate outcomes. It is possible that commonalities among the elite athlete demographic pre-date collegiate athletics experiences. This research does, however, contribute to a body of empirical data relative to athlete and non-athlete post-collegiate outcomes and collegiate experiences, which in conjunction with additional research on adolescent commonalities among would-be intercollegiate athletes, can contribute to theory-building relative to the educational value of participation in intercollegiate athletics. Thus, within this research, we add directly to the post-collegiate outcomes literature by exploring occupational measures of athletes and non-athletes 10, 20, 30, and 40 years post-graduation.

Salary

Previous literature suggests athletes tend to earn more than non-athletes in certain industry sectors (business, manual labor, and military occupations) and less in other sectors (education) (Henderson et al, 2005; Shulman & Bowen, 2002). The data in this study updates and supports the wage premiums discussed in previous literature, but contradict the wage deficits documented in the education sector. Athletes in this sample (excluding those who are currently playing professionally), earn

$34,484 more annually on average than the non-athletes, with wage premiums evident in each demographic sub-category (see Figure 1). Anecdotal evidence may support this finding as former athletes are presumably more likely to coach, and therefore may receive a slightly higher salary for their extra duties.

Previous research exploring demographic sub-categories related to athlete/non-athlete earnings found male athletes earn an estimated four percent higher annual income than their non-athlete male peers, with no significant difference evident in female athletes (Astin, 1982; Henderson, Olbrecht, & Polachek, 2005, Long & Caudill, 1991). In this study, utilizing more current samples, we found a 19% earnings surplus for male athletes and a 24% surplus for female athletes over their non-athlete peers. This deviation from previous literature may be due to the differences in samples and the vastly different landscape of contemporary collegiate athletics for men and women since the time the previous studies were conducted. Supporting this hypothesis tangentially, the athlete salary surplus appears to be greatest 10-years post-graduation, with each decade in the work force narrowing the gap. Athletes from this sample ten-years post-graduation made 29% more than their non-athlete peers, 20% more 20-years post-graduation, 17% more 30-years post-graduation, and 12% more 40-years post-graduation. The largest salary surplus in the 10-year post-graduation cohort may be due to the industry of collegiate athlete-centric search firms and literature documenting athlete-centric attributions that employers value (Chalfin et al., 2015; LaRoche, 2013; McCann, 2012; Soshnick, 2013). This athlete advantage in the workplace would likely be most pronounced in the 10-years after graduation as the impact of collegiate experiences become less important as current experiences populate employee resumes (Chalfin et al., 2015). This is supported by the data demonstrating consistent decreases in the athlete surplus in each decade post-graduation.

Another important contribution to the literature related to the demographic breakdown of salary and other occupational measures is the consistency in athlete advantages within each demographic sub-category. This data supports research documenting systemic discrimination faced by women and minorities in much of the labor market, and adds to this literature by providing some insight into the significant differences between athletes and non-athletes in each of these sub-groups.

Because salary is one concrete measure of employee marketability, these consistent significant results of athlete salary advantage within each demographic sub-category provide tangential support for a theory that participation in intercollegiate athletics may facilitate educational experiences directly relevant to career success (Brand, 2006; Chalfin et al., 2015; UniLOA, 2011).

Work engagement and Job Satisfaction

Work engagement and job satisfaction are additional measures of occupational well-being and are often seen as central indicators of one's subjective career success (Adkins, 2015; Gunz & Mayrhofer, 2011; Morgenson, Dierdorff, & Hmurovic, 2010). One reason for the prevalent focus on job satisfaction is that career satisfaction is related to many aspects of work behavior, involvement, commitment, and wellbeing (Abele & Spurk, 2009; Adkins, 2015; Ng, Eby, Sorensen, & Feldman, 2005; Spurk, Abele, & Volmer, 2011).

There was a significant difference between athletes and non-athletes in three of the four areas related to work engagement, and eight of the ten measures of job satisfaction. These results imply that former athletes in this sample have an overall better sense of health and wellbeing than their non-athlete peers in a workplace environment supporting the notion that those who participate in intercollegiate athletics may be more prepared for the job market than their non-athlete peers (Chalfin et al., 2014).

Former athletes scored higher than non-athletes in both job satisfaction and work engagement within each graduation cohort. This adds a unique longitudinal perspective to previous athlete/non-athlete salary comparisons and provides data to support the notion that athletics may not only provide a competitive advantage early in a career (years 1-10) as documented by Chalfin et al. (2015), but a lasting competitive advantage throughout one's career. There are likely many other sources of competitive advantages that differentiate individuals throughout their careers, but the consistent significant differences between athletes and non-athletes provides compelling data to support a theory that there may be an educational component to participation in intercollegiate athletics (Weight et al., 2015). An alternative or supporting theory is there is simply a commonality among those who compete in intercollegiate athletics that translates into sustained positive occupational measures.

This significant differences between athletes and non-athletes in job satisfaction and work engagement were extended to different industry categories as well, with each industry yielding significantly higher scores within the athlete sample except for those working in finance or insurance. A possible explanation for the lack of significance within the finance/insurance sector could be found in literature documenting a common path for athletes to be recruited into Wall Street and other cutthroat jobs in the sales, insurance, and finance industries through a number of search firms who target former athletes (La Roche, 2013; Soshnick, 2013). These firms exist because of industry speculation that athletes are believed to be more resilient and able to handle the intense pressures within these industries. It may be possible that athletes were recruited to join firms directly from their playing days, and work in industries that don't necessarily match with their passions, but rather were open doors upon grad-

uation. On the other side of this argument, one may argue that because of the pipeline for athletes into different industries, perhaps satisfaction and engagement rates are also higher for athletes because of the ease of placement into jobs well-suited for their passions.

According to previous literature on work engagement, engaged employees are involved in, enthusiastic about, and committed to their workplace (Adkins, 2015). Highly engaged employees' values also seem to match well with the values of the organization that they work for and are less likely to experience burnout (Schaufeli & Bakker, 2003). Another important thing to note from previous literature is the strong correlation between job satisfaction and life satisfaction (Rain, Lane, & Steiner, 1991). This correlation appears to be reciprocal, meaning that people who are satisfied with their life tend to be satisfied with their job, and people who are satisfied with their job tend to be satisfied with their life (Rain et al., 1991). As higher education professionals seek to facilitate a holistic educational experience, the significant correlation participation in intercollegiate athletics has with higher job satisfaction is critical and serves as strong support for the career implications of participation in competitive athletics.

Ethnicity and Olympic sport athletes versus revenue generating sport athletes

The final categories of demographic examination were ethnicity and sport profile, an area of inquiry that has not previously been examined related to athlete occupational measures. In athlete-non-athlete comparisons, only Caucasian athletes were significantly more satisfied and engaged with their job than their Caucasian non-athlete peers, indicating, perhaps, that the sport experience could be more directly linked with positive occupational measures for Caucasian athletes, or alternatively, the sport experience does not have a significant differentiating effect on occupational measures for non-white graduates.

Ethnicity was an independent variable of interest because of the literature citing disparate experiences of the athletes in the revenue-generating sports who are primarily African American. The landscape of black athletes in predominantly white NCAA institutions has been labelled "the new plantation" pointing to the economic exploitation of these athletes who represent the labor on the field or court but are shielded from the profits (e.g. Edwards, 2017; Hawkins, 2010; Southall & Staurowsky, 2013). The lack of sport-effect between non-white athletes and non-athletes could support this literature, but there were no significant differences between Olympic sport athletes and revenue generating athletes related to salary, job satisfaction, or work engagement from this one-school sample, and no interaction effects between ethnicity and sport profile.

This finding offers some indication that there is a correlation between an increase in positive occupational measures and participation in intercollegiate

athletics regardless of the sport played. This finding supports research conducted by Chalfin et al. (2015) where employers associated positive attributes to former intercollegiate athletes regardless of the sport or division they participated within. While there is no doubt that revenue sport athletes face heightened commercial pressures (e.g. playing on national television and live in front of 100,000 fans) that may affect their academic focus and performance while in school (e.g. Rishe, 2003), this study suggests these experiences may positively affect their post-graduate occupational endeavors, and serve as a contributing factor to career success.

Effect of intercollegiate athletics participation on career

In an effort to provide a qualitative glimpse into the links between collegiate education, athletics participation, and career metrics, athletes in the sample were asked what effect (if any) their college athletics participation has had on their career. This question yielded responses that varied from a few words to multiple paragraphs with the most common emergent themes including lessons learned through sport that translate into career success. Most-mentioned themes of teamwork, work-ethic, discipline, and confidence support previous research on employer-held attributes of collegiate athletes (Chalfin et al., 2015) and add a supplementary causational link between athletics participation and educational outcomes (Brand, 2006; Weight et al., 2015). A theme that emerged in 4% of the narratives (n = 20), provided one possible explanation for the greatest salary disparity between athletes and non-athletes 10-years post-graduation. Participants mentioned their college playing experience opened doors for them in the workforce. Some respondents believe they obtained their first position out of college, or a position down the line, directly due to their intercollegiate athletics participation.

A member of the 1974-1976 graduation cohort who served as a captain on the football team stated: "Playing helped me land my 1st job and always was a positive part of my career" (Respondent 353). A member of the 2004-2006 graduation cohort who played on the Women's Basketball team stated: "I think that being a student athlete opened up doors for me. People want to hire student athletes because of our work ethic and ability to handle stressful situations" (Respondent 244). Another respondent (901) who played on the Men's Basketball team and graduated between 1984 and 1986 said: "It has provided me with a strong sense of achievement throughout my life. I believe it helped me land my first career position out of college". These results directly link intercollegiate athletics participation with positive life after graduation metrics, providing evidence that the clear quantitative differences between athlete and non-athlete graduates in this sample may have causational links. Future research is needed in order to explore true causation for these significant differences in postgraduate occupational metrics.

LIMITATIONS AND FUTURE RESEARCH

This study extends previous studies of athlete occupational measures through an exploration of salary, work engagement, and job satisfaction of former NCAA athletes and traditional students from one Division I Power 5 institution. Given this one-school sample, there are clear limitations to the generalizability of the data and follow-up research is needed to validate and extend the conclusions drawn. The most logical follow-up would be to replicate the study comparing multiple Division I Power 5 institutions. This would create a broader picture of the educational impacts of intercollegiate athletics participation on occupational measures and create a richer data set. While the sample was appropriate for the specific research questions in this study, one school poses a limitation on the ability to generalize these findings to a broader sample of athletes and non-athletes at other Division I Power 5 schools, and other divisions of competitive intercollegiate athletics. The very high salary means are demonstrative of the unique nature of the school utilized within the sample, which is consistently ranked one of the top public universities in the United States. In addition to extending the sample to other Division I Power 5 schools, it would be interesting to replicate the study at other NCAA and intercollegiate athletics divisions. An additional sample-related limitation is related to the graduate nature of the population of interest. Drawing participants from a population of graduates delimits athletes and non-athletes who did not graduate—a vulnerable population of athletes, in particular, who may have chosen to discontinue school because of injury or academic issues. Future research should include non-graduates in order to uncover trends within these student sub-populations.

Another limitation of this research is the limited number of industry sectors that were analyzed. In a follow-up study it would be interesting to compare a broader sample of industry-by-industry comparisons. This would provide even more information about the respondents who work in each of the industry sectors. Finally, a sampling delimitation in this study involved the possibility of individuals not having access to a computer or to the internet. The survey was sent via email using Qualtrics and a tinyurl, which was included in a mailer sent to the participant's home addresses. One individual contacted the researcher after receiving the mailer and informed the researcher they were interesting in taking the survey but did not have access to a computer. A phone interview was conducted with this individual but it is unclear if there were others in the sample who were similarly affected. One way to prevent this situation in the future would be to include on the mailer that an individual can contact the researcher to either take the survey over the phone or be mailed a paper copy of the survey.

CONCLUSION

A clear correlation between intercollegiate athletics participation and positive occupational measures were observed between athletes and non-athletes in virtually every occupational measure including salary, total work engagement, dedication, vigor, total job satisfaction, satisfaction with coworkers, nature of work, pay, contingent rewards, promotion, communication, and operating conditions. These findings are a tremendously valuable addition to the current literature, as well as popular opinion and governance discussions related to the current state of intercollegiate athletics. An understanding of the correlation between intercollegiate athletics participation and occupational functioning can help to quantify the value of the current U.S. athlete experience and support theory development related to the educational impact of participation in competitive sport.

REFERENCES

Adkins, A. (2015, January 28). Majority of U.S. employees not engaged despite gains in 2014. Retrieved from http://www.gallup.com/poll/181289/majority-employees-notengaged-despite-gains-2014.aspx

Aries, E., McCarthy, D., & Banaji, M. (2004). A comparison of athletes and non-athletes at highly selective colleges: Academic performance and personal development. *Research in Higher Education, 45*(6), 577-602.

Astin, A. (1982). *Minorities in American higher education*. San Francisco, CA: Jossey-Bass.

Astin, A.W. (1993). *What matters in college? Four critical years revisited*. San Francisco, CA: Jossey-Bass.

Bakker, A.B., Demerouti, E. (2008). Towards a model of work engagement. *Career Development International*, 13(3), 209-223.

Baxter Magolda, M.B. (1999). Constructing adult identities. Journal of College Student Development, 40, 629-644.

Brand, M. (2006). The role and value of intercollegiate athletics in universities. *Journal of the Philosophy of Sport*, *33,* 9–20.

Baum, S., Ma, J., & Payea, K. (2013). Education Pays, 2013: The Benefits of Higher Education for Individuals and Society. Trends in Higher Education Series. *College Board*.

Chalfin, P., Weight, E.A., Osborne, B., Johnson, S. (2015). The value of intercollegiate athletics participation from the perspective of employers who target athletes. *Journal of Issues in Intercollegiate Athletics. 8,* 1-27.

Christensen, C.M., & Eyring, H.J. (2011). *The innovative university: Changing the DNA of higher education from the inside out*. John Wiley & Sons.

Cialdini, R. (2006). *Influence: The Psychology of Persuasion, Revised edition*. New York, NY: William Morrow & Company, Inc.

Cialdini, R.B., Schaller, M., Houlihan, D., Arps, K., & Fultz, J. (1987). Empathy-based helping: Is it selflessly or selfishly motivated?. *Journal of Personality and Social Psychology* 52 (4): 749–758.

Edwards, H. (2017). *The revolt of the black athlete*. Champaign, IL: University of Illinois Press.

Ehrenberg, R.G. (2004). Econometric studies of higher education. *Journal of Econometrics*, *121*, 19-37

Fehr, E., Fischbacher, U., & Gächter, S. (2002). Strong reciprocity, human cooperation, and the enforcement of social norms. *Human nature*, *13*(1), 1-25.

Gunz, H., & Mayrhofer, W. (2011). Reconceptualizing career success: A contextual approach. *Journal for Labour Market Research*, 43, 251–260.

Gurin, P., Nagda, B.A., & Lopez, G.E. (2004). The benefits of diversity in education for democratic citizenship. *Journal of Social Issues*, *60*, 17-34.

Harter, J.K., Schmidt, F.L., & Hayes, T.L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology, 87*(2), 268-279.

Hartog, J., & Oosterbeek, H. (1998). Health, wealth, and happiness: Why pursue a higher education? Economics of Education Review, 17(3), 245-256.

Hawkins, B. J. (2010). *The new plantation: Black athletes, college sports, and predominantly white NCAA institutions*. New York, NY: Palgrave Macmillan.

Hayes, A.F., & Krippendorff, K. (2007). Answering the call for a standard reliability measure for coding data. *Communication methods and measures*, *1*(1), 77-89.

Kim, W., Kolb, J.A., & Kim, T. (2012). The relationship between work engagement and performance: A review of empirical literature and a proposed research agenda. *Human Resource Development Review, 12*(3), 248-276.

Locke, E.A. (1976). The nature and causes of job satisfaction. In M.D. Dunnette (Ed.). Handbook of industrial and organizational psychology (pp.1297-1349). Chicago, IL: Rand McNally.

Long, J. and S. Caudill (1991). "The Impact of Participation in Intercollegiate Athletics on Income and Graduation," *Review of Economics and Statistics,* 73, 525-31.

La Roche, J. (2013). *42 of the biggest football players on Wall Street*. Retrieved from: http://www. businessinsider.com/football-players-on-wall-street-2013-10?op=1

Macey, W.H., & Schneider, B. (2008). The meaning of employee engagement. *Industrial and Organizational Psychology*, *1*(1), 3-30.

McCann, Z. (2012). *Athletes more prepared for real world?* Retrieved from: http://espn.go.com/espn/page2/story/_/id/7633078/skeptical-re-

searchers-surprised-find-student-athletes-more-prepared-real-world

McCormick, A., & McCormick, R. (2008). The emperor's new clothes: Lifting the NCAA's veil of amateurism. *The San Diego Law Review, 45*(2), 495-545.

Mentkowski, M., & Associates. (2000). Learning that lasts: Integrating learning, development, and performance in college and beyond. San Francisco: Jossey-Bass.

Mitten, M., & Ross, S. F. (2014, June, 10). Op-Ed; Regulate, Don't Litigate, Change in College Sports, Inside Higher Ed Retrieved from http://www.insidehighered.com/views/2014/06/10/college-sports-would-be-betterreformed-through-federal-regulation-lawsuits-essay#sthash.yfmGB3NF.dpbs

Morgeson, F.P., Dierdorff, E.C. and Hmurovic, J.L. (2010), Work design *in situ*: Understanding the role of occupational and organizational context. *Journal of Organizational Behavior*, 31: 351–360.

Ng, T.W.H., Eby, L.T., Sorensen, K.L. & Feldman, D.C. (2005), Predictors of objective and subjective career success: A meta-analysis. *Personnel Psychology*, 58: 367 – 408.

North American Industry Classification System (NAICS). (2014). Retrieved from http://www.bls.gov/bls/naics.htm

Pascarella, E.T. (2006). How college affects students: Ten directions for future research. Journal of college student development, 47(5), 508-520.

Pascarella, E.T., & Smart, J.C. (1991). Impact of intercollegiate athletic participation for African American and Caucasian men: Some further evidence. *Journal of College*

Student Development. 32: 123-130.

Pascarella, E., & Terenzini, P. (2005). *How college affects students (Vol. 2): A third decade of research*. San Francisco: Jossey-Bass.

Pearman, S.N., III, Valois, R.F., Sargent, R.G., Saunders, R.P., Drane, J.W., & Macera, C.A. (1997). The impact of a required college health and physical education course on the health status of alumni. *Journal of American College Health*, *46*(2), 77-85.

Plunkett, M.R., Weight, E., Osborne, B., & Lancaster, E. (2016). The value of intercollegiate athletics participation from the perspective of former athletes. *International Journal of Sport Management. 17,* 1-12.

Rain, J.S., Lane, I.M., & Steiner, D.D. (1991). A current look at the job satisfaction/life satisfaction relationship: Review and future considerations. *Human relations*, *44*(3), 287-307.

Renfro, W. (2012, September 6). *Amateurism, professionalism, commercial activity and inter-collegiate athletics: Ambivalence about principles.* Proceedings of the Santa Clara Sports Law Symposium, Santa Clara, CA.

Rishe, P.J. (2003), A Reexamination of how athletic success impacts gradu-

ation rates: Comparing student-athletes to all other undergraduates. *American Journal of Economics and Sociology*, 62: 407–427.

Sack, A.L., & Staurowsky, E.J. (1998). *College athletes for hire: The evolution and legacy of the NCAA's amateur myth.* New York, NY: Columbia University Press.

Sauer, S., Desmond, S., & Heintzelman, M. (2013). Beyond the playing field: The role of athletic participation in early career success. *Personnel Review*, *42*(6), 664-661.

Schaufeli, W.B., Salanova, M., Gonzalez-Roma, V., & Bakker, A.B. (2002). The measurement of engagement and burnout: A confirmative analytic approach. *Journal of Happiness Studies* 3: 71-92.

Schaufeli, W.B., & Bakker, A.B. (2003, November 1). UWES Utrecht work engagement scale. Preliminary manual. Version 1. Utrecht University, the Netherlands.

Schaufeli, W.B., Bakker, A.B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: a cross national study. *Educational and Psychological Measurement,* 66:4, 701-716.

Shephard, K. (2008). Higher education for sustainability: seeking affective learning outcomes. International *Journal of Sustainability in Higher Education, 9*(1), 87-98.

Shulman, J.L., & Bowen, W.G. (2002). *The game of life: College sports and educational values.* Princeton, NJ: Princeton University Press.

Singer, J.N. (2008). Benefits and detriments of African American male athletes' participation in a big-time college football program. *International Review for the Sociology of Sport, 43*(4), 399–408.

Smith, E. (2007). *Race, Sport and the American Dream* (2nd ed.). Durham, NC: Carolina Academic Press.

Smith, J.M., & Willingham, M. (2015). Cheated: The UNC scandal, the education of athletes, and the future of big-time college sports. Lincoln, NE: University of Nebraska Press.

Southall, R.M., & Staurowsky, E.J. (2013). Cheering on the collegiate model: Creating, disseminating, and imbedding the NCAA's redefinition of amateurism. *Journal of Sport and Social Issues*, *37*(4), 403-429.

Soshnick, S. (2013). *Wall street hires losers turned winners After college athletics*. Retrieved from: http://www.bloomberg. com/news/2013-10-16/wall-street-hires-losers-turnedwinners-after-college-athletics.html

Spector, P.E. (1985). Measurement of human service staff selection: Development of the Job Satisfaction Survey. *American Journal of Community Psychology,* 13, 693-713.

Spector, P.E (1994) *Job Satisfaction Survey, JSS.* Retrieved from http://shell.cas.usf.edu/~pspector/scales/jsspag.html

Spector, P. E. (1997). *Advanced Topics in Organization Behavior*: *Job satisfaction: Application, assessment, causes, and consequences.* Thousand Oaks, CA: SAGE Publications, Inc.

Spurk, D., Abele, A., & Volmer, J. (2011). The career satisfaction scale: Longitudinal measurement invariance and latent growth analysis. *Journal of Occupational and*

Organizational Psychology, 84, 315-324.

Spurk, D., Abele, A.E., & Volmer, J. (2014). The career satisfaction scale in context: A test for measurement invariance across four occupational groups. *Journal of Career Assessment*, *22*, 1-19.

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory (2nd ed.).* Thousand Oaks, CA: Sage.

University Learning Outcomes Assessent (UniLOA). (2011). Intercollegiate athletes report of means. Retrieved from http://www.measuringbehaviors.com/AthletesFinal2011.pdf

Weight, E.A., Cooper, C., & Popp, N. K. (2015). The coach-educator: NCAA Division I coach perspectives about an integrated university organizational structure. *Journal of Sport Management*, 29(5), 510-522.

Weight, E.A., Huml, M. (2016). Facilitating education through athletics: An examination of academic courses designed for NCAA athletes. *Journal of Intercollegiate Sport, 9*(2), 154-174.

Weight, E.A., Navarro, K., Huffman, L., Smith-Ryan, A. (2014). Quantifying the psychological benefits of intercollegiate athletics participation: Implications for higher education policy and practice. *Journal of Issues in Intercollegiate Athletics. 7, 390-409.*

Erianne Weight, J.D. DeFreese, Amy Bonfoiglio, Zachary Kerr and Barbara Osborne are with the Department of Exercise and Sport Science at the University of North Carolina, Chapel Hill.