



An Analysis of Female Division I Student-Athlete Expenditures and NACDA Director's Cup Points

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NCAA Division I athletic departments sponsor both men's and women's programs, but female athletes are often under sourced compared to their male counterparts. Male college athletes generally have more scholarship funding, recruit funding, and higher head coaching salaries. An examination of women's resources, particularly as individual sports relate to NACDA Director's Cup points, is nonexistent. Therefore, the purpose of this study was to examine the relationship between three areas of female athletic expenditures and the likelihood of earning Directors' Cup points. The study drew on the Critical Feminist Theory as a lens for examining why females are disadvantaged in college athletics, and to offer strategies for resource allocation that can maximize the success of women's sport programs. Findings suggested women's athletic expenditures were impactful, particularly with regard to the sport of gymnastics and power conference affiliation, which increase the odds of earning Directors' Cup points.

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In National Collegiate Athletic Association (NCAA) Division I intercollegiate athletics, overall program success is evaluated not only through marquee wins in football and men's basketball, but through broad-based excellence across all sports. One of the most comprehensive and prestigious measures of success is the National Association of Collegiate Directors of Athletics (NACDA) Directors' Cup, an annual award administered by the National Association of Collegiate Directors of Athletics. Institutions earn Directors' Cup points based on their teams' performance in NCAA championship events, with the top finishes in both men's and women's sports con-



tributing to a school's final score (Lawrence et al., 2012; NACDA, 2024). These standings are used by athletic departments to signal departmental excellence, enhance institutional branding, and attract support from donors, recruits, and alumni (Stokowski et al., 2020).

The Directors' Cup has become a proxy for comprehensive athletic success. As athletic departments pursue improvement in these standings, strategic resource allocation becomes critical (Beaudin, 2018; Lawrence et al., 2009). Longstanding gender-based resource disparities, however, threaten to undermine women's teams' contributions to overall athletic success (Staurowsky et al., 2022). Despite notable progress since the passage of Title IX, research continues to show that women's teams receive significantly fewer resources across several key expenditure categories, including athletically related student aid, recruiting budgets, and head coaching salaries (Gregg & Fielding, 2016; Staurowsky et al., 2022). These resource gaps exist even as the popularity and participation of female sports has grown. The number of female athletes has increased from fewer than 30,000 in 1972 to more than 220,000 in 2023 (NCAA, 2023).

This misalignment of resources is not only a matter of equity - it may also hinder athletic departments from maximizing their competitive potential. Evidence suggests that investments in women's sports may yield greater returns in Directors' Cup points than equivalent investments in men's sports, particularly in non-revenue programs (Beaudin, 2018; Lawrence et al., 2022). Nevertheless, women's teams remain systematically underfunded, reflecting broader structural inequities that have been deeply embedded in the culture of intercollegiate athletics (Birrell, 2000; Hoerber, 2007).

Guided by critical feminist theory, which emphasizes the ways in which power imbalances marginalize women in organizational systems, this study seeks to investigate how female athlete resources impact athletic success. Specifically, the purpose of this study was to examine the relationship between three key areas of women's athletic expenditures—athletically related student aid, team head coaching salaries, and recruiting expenses—and their association with earning Directors' Cup points. By identifying which investment strategies are most strongly associated with competitive success in specific women's sports, this research offers data-driven insights for athletic departments aiming to enhance equity and improve Directors' Cup performance.

Literature Review

Spending in Intercollegiate Athletics

Since the passing of Title IX, the number of women competing in intercollegiate athletics has grown at an astounding rate, from under 30,000 in 1972 to over 230,000 female athletes competing at NCAA institutions across 10,682 teams (NCAA, 2024). At the time of Title IX's passage, the average Division I institution sponsored just 2.5 women's sports. By 1981–82, the number of sponsored sport had increased to

7.3, and in 2022–23 the average was 10.6 (NCAA, 2024). This growth occurred after decades in which women's intercollegiate athletics operated under their own governance structure, the Association for Intercollegiate Athletics for Women (AIAW; Gerber, 1975), prior to the NCAA's acquisition of women's championships in 1982 (Smith, 2021). This historical shift underscored both the rapid expansion of opportunities for female athletes and the persistence of structural inequities in gender resource allocation.

Despite increased opportunities, financial data reveal that women's program funding continues to lag significantly behind men's programs. In 2022–23, NCAA institutions reported more than \$18.9 billion in operating expenses across Division I athletics, with Power Conference programs (the ACC, Big Ten, Big 12, Pac-12, and SEC, plus Notre Dame) accounting for the largest shares (Knight Commission, 2023). Yet women's teams, despite making up 47% of Division I athletes, received approximately 30% of total recruiting resources (Fulks, 2020). For example, during the 2019–20 academic year, \$214.1 million was spent nationwide on recruiting, but only \$75.3 million was directed toward female athletes (Staurowsky et al., 2022). This discrepancy highlights a central paradox: although nearly half of Division I athletes are women, men's programs, particularly football and basketball, continue to consume disproportionate shares of the recruiting budget.

Recruiting expenses, as defined by the EADA include “all expenses an institution incurs attributable to recruiting activities (U.S. Department of Education, 2025, p. 1),” such as official and unofficial campus visits, transportation, lodging, meals, recruiting services, and staff travel. These costs are essential to talent acquisition, yet expenditures differ drastically across sports. Football alone often commands multimillion-dollar recruiting budgets, while the majority of women's sports operate with resources at a fraction of that level (Knight Commission, 2023). As a result, women's teams face significant disadvantages in attracting top athletes, which undermines both competitive balance and institutions' ability to maximize Directors' Cup success.

The annual operating cost of intercollegiate athletic departments continues to rise, particularly in the “Power Conferences.” These institutions regularly exceed \$100 million in athletics spending annually, while many Group of Five schools (American, Conference USA, Mid American, Mountain West, Sun Belt) spend less than half that total (Walker & Misawa, 2018). Men's sports, particularly football, dominate these budgets. The average FBS football program spends more than \$20 million annually, compared to less than \$10 million for all women's programs combined at many institutions (Fulks, 2020). These disparities illustrate the importance of examining women's resource allocations not just in terms of participation equity, but also in relation to financial investment and comprehensive measures of athletic department success (i.e., Directors' Cup points).

Athletically Related Student Aid

Although Title IX has led to significant progress in the expansion of women's intercollegiate sport, during the 2019-2020 academic year female athletes received

over \$250 million less in scholarships than male athletes, with 49 Football Bowl Subdivision (FBS) schools having underfunded women's athletic scholarships (Jacoby et al., 2022; Staurowsky, 2022). Scholarships are critical for many students, especially given that students who receive such financial support are more likely to have a higher cumulative Grade Point Average (GPA) and are more likely to graduate from their universities in four years compared to those student athletes not on scholarship (McLaughlin, 2014). Accordingly, female athletes not receiving an equitable amount of athletically related student aid as compared to their male counterparts could have a negative effect on their performance in the classroom.

Coaching Salaries

Previous research has indicated that human resources in athletics provide a competitive advantage, often stemming from the coaches who help to develop and foster a sense of excellence among their athletes (Cunningham & Ashley, 2001; Wright et al., 1995). While these studies have outlined the importance of investing in coaches and athletes as providing a source of competitive advantage for many programs, many schools have not done so in the context of their women's sports (Cunningham, 2003; McLaughlin, 2014). For example, the head coach of a woman's team at Indiana University makes an average of \$257,257 a year, while the head coaches of men's teams make an average of \$1,094,647 a year (EADA, 2026). Group of Five schools show similar patterns. At Central Michigan University, for example, those numbers are \$135,614 and \$367,250, respectively (U.S. Department of Education, 2025). Across all schools that are members of the NCAA FBS, the coaches of women's teams receive only 19% of the total \$1 billion spent on salaries for head coaches within their athletic departments (Staurowsky, 2022).

Recruiting Expenses

Intercollegiate athletic departments spend large sums of money to recruit the most talented players to achieve competitive success (Bergman & Logan, 2020; Caro, 2012). The money spent recruiting these athletes, however, has been disproportionately spent on male athletes. In particular, during the 2019-2020 academic year, of the \$214,140,778 that was spent recruiting athletes, \$75,290,142 (approximately 30%) was spent recruiting female athletes (Bergman & Logan, 2020). Given the suggestions in prior research that increased spending on women's sport programs at the intercollegiate level can result in greater success for those athletic departments (i.e., Directors' Cup standings; Beaudin, 2018; Lawrence et al., 2012), the aforementioned discrepancies in athletically-related student aid, head coaches salaries, and recruiting expenses between men's and women's sports could have a direct impact on the success of these athletic departments.

Sport Type

Individual sports often present unique resource demands compared to team sports, and these distinctions can influence both program sustainability and compet-

itive success. For example, sports such as gymnastics and tennis typically require fewer athletes, but higher per-athlete investments in coaching, equipment, and specialized facilities, while larger roster sports like soccer or softball spread resources across more participants (Lawrence et al., 2012; MacKeddie-Haslam, 2022). Prior research indicates that resource inputs can have differential impacts on success depending on the sport; in gymnastics, even modest increases in coaching salaries and recruiting budgets have been shown to strongly predict competitive outcomes (Colbert & Eckard, 2015). Conversely, in sports with broader rosters, such as soccer or lacrosse, scholarship allocations may be more critical to program competitiveness (Johnson et al., 2012; Pierce et al., 2017). These distinctions suggest that understanding which financial variables most strongly predict success in a given sport can help athletic directors deploy limited resources more effectively. Tailoring investment strategies to the unique characteristics of individual sports may not only improve competitive outcomes, but also enhance institutional standing in Directors' Cup rankings (Beaudin, 2018; Staurowsky et al., 2022).

NACDA Directors' Cup

There are metrics that can be utilized to define what athletic departments consider success. Some metrics include conference/national championships, post-season appearances, revenue generation, cumulative grade point averages of student athletes, and graduation rates of student athletes (Anderson, 2012; Baade & Sundberg, 1996; Humphreys & Mondello, 2007; Litan et al., 2003; Orszag & Orszag, 2005; Osborne, 2004; Pope & Pope, 2008; Stinson & Howard, 2008; Terry et al., 2014; Turner et al., 2001; Walker, 2015). Although some of these metrics provide meaningful information, the most comprehensive marker of overall athletic success is a measure that considers athletic performance from men's and women's teams relative to all other programs in the U.S.

NACDA began the Directors' Cup competition in 1993 as a program to reward institutions that adopted a broad-based method to achieve success in many sports, across both men's and women's competition (NACDA, 2026). The competition encompasses all sports in which the NCAA, National Association of Intercollegiate Athletics (NAIA), or National Junior Collegiate Athletics Association (NJCAA) offers a championship, including FBS football, with the top 10 men's and women's teams from a given university being included in that institution's total score for a given year (NACDA, 2024). Each school must include baseball, men's and women's basketball, and women's volleyball, with the institutions that achieve success across many different sports having the highest rankings in the overall standings (Lawrence et al., 2012). A winning score varies by year and national finish. An NCAA championship earns the most points at 100 with a sliding scale for lower finishes. In the most recent Cup standings, the University of Texas won the 2024-25 Cup earning 1,255.25 points. To earn that level of points, most teams must perform well nationally, and funding is often linked to performance (Beaudin, 2018; Lawrence et al., 2007, 2012) Accordingly, the way an athletic department deploys its resources

can influence its overall success for the year in the form of Directors' Cup standings (Beaudin, 2018; Jones, 2013; Lawrence et al., 2007, 2012; Won, 2004).

The benefit of winning the Cup includes national prestige and recognition, in addition to a crystal trophy, plaques, and postgraduate scholarships. The winning institution is acknowledged for having broad success throughout the entire athletic program, is considered a benchmark for athletic achievement, and is often associated with a culture of athletic excellence (Lawrence et al., 2012). At the Division I level, the University of North Carolina won the first Directors' Cup in 1993-94. Stanford University has won the cup a record 26 times, including 25 consecutive seasons from 1994-95 to 2020-21. In Division II Grand Valley State has won the most awards with 17, while Williams College has had the most Division III success, winning 22 out of 28 possible times.

There has been prior research utilizing the Directors' Cup standings as a proxy measure of success relative to athletic departments' expenditures, with the general results indicating that the more money reserved for athletic expenditures, the more success that program would have in competition (Jones, 2013; Won, 2004). Prior research has also indicated that when both men's and women's sports are equally successful, the institution will do well in the Directors' Cup (Steinbach, 2006). Regarding women's sports in particular, research has indicated that for every \$1 million increase in women's athletic expenditures, a university would achieve 8.7 more Directors' Cup points than if that money was spent on men's teams (Beaudin, 2018). That finding represents a significant impact of points considering that women's point totals sometimes exceeded the Directors' Cup point totals of entire institutions (NACDA, 2025). Therefore, an understanding of what factors have the most direct relationship to Directors' Cup points relative to the resource allocation by athletic departments on women's sports can impact the overall success and national prestige of these departments. Accordingly, the following hypotheses were proposed:

H1: There will be a positive significant relationship among head coaching salaries for female sports and NACDA Directors' Cup standings.

H2: There will be a positive significant relationship among athletically related student aid for female athletes and NACDA Directors' Cup standings.

H3: There will be a positive significant relationship among recruiting expenses for women's teams and NACDA Directors' Cup standings.

H4: NACDA Directors' Cup standings for each sport will be significantly predicted by the three independent variables under investigation (head coaching salaries for female sports, athletically related student aid for females, and recruiting expenses for women's teams).

Critical Feminist Theory

Critical Feminist Theory was used as the lens from which to make meaning within this work. Critical theory focuses on how social belief systems and relationships are formed in power and privilege (Fiske, 1993). Scholars who have utilized critical theory (e.g., critical race theory) to investigate athletic organizations examine

whether these organizations privilege some groups over others based on asymmetrical power relationships that reflect broader political, cultural, and economic factors within society (Alvesson & Willmott, 2003; Hylton, 2018). One such example is gender, the social meanings attached to a specific sex, which works to influence the perceptions, expectations, and evaluations of women and men, along with the roles, opportunities, and material circumstances of women's and men's lives (Wood, 2008). Examinations of gender roles and inequities within society often occur through the lens of critical feminist theory (CFT; Tsakmakis et al., 2023). CFT assumes that women are routinely devalued and marginalized. CFT also assumes women have less resources and social capital (Birrell, 2000; Hoerber, 2007).

The lens of CFT has been underutilized in sport-related research, particularly within intercollegiate athletics, a context where unequal distribution of resources occurs frequently on a global scale (Burt, 2021). These unequal distributions are born from a culture of physical competition where males have historically dominated in both participation and power (Coakley, 2020). After Title IX, resistance to sport equality still existed, so much that women required the AIAW. Undoubtedly, assimilating into a male-dominated college sport culture revealed inequity. Hoerber (2007) examined the ways gender inequity is embedded in the culture of sport organizations, arguing that gender-based relationships are used to establish organizational reasoning and common-sense beliefs, known as truth rules. Truth rules are the unspoken practices that are present in an organization or company that are accepted as true (Fletcher, 1991).

The goal of critical feminist inquiry is to disrupt the status quo and traditional power structures (Taskmakis et al., 2023). It achieves this by "critiquing taken for granted assumptions and establishing conditions whereby individuals can draw upon alternative vocabularies to produce new meanings and practices [within an organization] ..." (Hoerber, 2007, p. 261). The belief that women's sports contribute less value than men's sports (Beaudin, 2018; Burt, 2021; Fletcher, 1991; Hoerber, 2007; Lawrence et al., 2009; Staurowsky et al., 2022) is the type of assumption that the current study aims to investigate, which is why CFT was adopted.

Method

This study employed a descriptive analytical historical design (Sterling et al., 2017) to collect archived data related to female intercollegiate athletic resources and NACDA Directors' Cup Standings. All variables in the current study were from a representative sample of NCAA Division I public institutions (two Power Four conferences and two Group of Five conferences) collected between 2010 and 2023 (see Table 1). Delineating between Power and Group institutions allowed for representative evaluation of all Division I programs while noting the differences among Power and Group institutions. Evaluating Power and Group institutions differently is logical considering that Power conferences have considerably more resources and legislative autonomy than institutions from the Group of Five (Portnoy, 2025).

Table 1
Years of Analysis and Number of Teams per Year

Year	Conference	Number of Schools	Number of Sports
2010	Power Four	24	139
	Group of Five	20	106
2011	Power Four	24	138
	Group of Five	20	106
2012	Power Four	24	138
	Group of Five	19	101
2013	Power Four	24	139
	Group of Five	21	112
2014	Power Four	24	140
	Group of Five	20	105
2015	Power Four	24	140
	Group of Five	20	106
2016	Power Four	24	140
	Group of Five	20	106
2017	Power Four	24	140
	Group of Five	21	111
2018	Power Four	24	140
	Group of Five	21	112
2020	Power Four	24	140
	Group of Five	21	111
2021	Power Four	24	140
	Group of Five	21	112
2022	Power Four	24	140
	Group of Five	21	113

The academic year of 2019-2020 (fall sports in 2019, spring sports in 2020) were not included in the data collection because the NACDA Cup standings were not calculated due to the COVID-19 pandemic. The starting year of 2010 was selected to ensure there was over a decade of data while accounting for the removal of 2019-2020 year. The year 2023 is the most recent year that includes data from all variables. Only sports that utilize a regular season conference schedule were included in this study.

Using critical feminist theory as the theoretical lens from which athletic resource allocation was viewed allowed framing of perspectives relevant to women's historically under-resourced experiences. Though this lens, discovery of new strategies to more effectively allocate resources for female athletes are offered. In turn, this discovery could lead to more athletic success, and ultimately more Directors' Cup points.

Procedure

Women's intercollegiate recruiting expenses, athletically related student aid, and head coaching salaries were extracted from the Equity in Athletics Disclosure Act (EADA) Cutting Tool. These variables were selected because they are the areas of athletic expenditures that continue to have the largest gap between men's and women's programs (Kaplan & Fink, 2021), and directly contribute to athletic outcomes. The EADA (2026) defined recruiting expenses as "all expenses an institution incurs attributable to recruiting activities... include[ing] expenses for lodging, meals, and transportation for both recruits and personnel engaged in recruiting" (p. 1); head coaching salary as "all wages and bonuses the institution pays a coach as compensation attributable to coaching" (n.p.); and athletically related student aid as "any scholarship, grant, or other form of financial assistance offered by an institution, the terms of which require the recipient to participate in a program of intercollegiate athletics at the institution" (n.p.). The data were collected for all women's sports teams that had regular season head-to-head conference matchups (i.e., basketball, gymnastics, lacrosse, soccer, softball, tennis, volleyball, and water polo). Public institutions were used for this analysis because they receive federal funding and must complete an annual EADA report whereas some private schools do not receive federal funds.

Data were also extracted from the NACDA Directors' Cup standings. This data can be found in the previous Directors' Cup standings archives (NACDA, 2024). The female contribution to the institution's overall Directors' Cup score was calculated by manually combining all the points earned by women's sports teams that had regular season head-to-head conference matchups from an institution. This number resulted in the female contribution to an institution's Directors' Cup score.

Data Analysis

Data were collected and stored in an electronic Microsoft Excel database and was analyzed using the Statistical Package for the Social Sciences software. Frequencies and measures of central tendency were calculated to describe the context of athletic/academic success. To provide meaningful and realistic differences in potential funding levels, Directors' Cup analyses were based on \$10,000 increases in each variable and adjusted subsequently. Changes in \$10,000 increments provided a sensitive enough threshold to detect how manageable funding changes could impact each variable and allowed for a multiple of 10 to compare larger funding perspectives. Hypotheses one through three were tested using Pearson and Point-Biserial Correlations. Hypothesis four was tested using binary logistical regression to determine the degree to which each variable aided in the probability of earning NACDA Directors' Cup points. All assumptions were met for statistical analyses.

Results

Within the sample ($n = 2,980$ individual institutions by sport and year), the variable that contributed most to spending was female athletically related student aid ($M = \$4,513,468.67$). The next second highest area of spending in the sample

collected was female recruiting expenses ($M = \$331,698.43$). Last was the head coaching salaries for female sports ($M = \$173,716.53$). For Directors' Cup points, Power conferences ($M = 34.84$) demonstrated nearly five times the number of Directors' Cup contributions as Group of Five conferences ($M = 6.27$; see Table 2).

Table 2
Descriptive Information for Variables Under Investigation

Conference	Power Four Conferences <i>N</i> =1679	Group of Five Conferences <i>N</i> =1301	Total 2980
Female Recruiting Expenses (total dollars)	$M = \$450,059.41$ $SD = \$204,581.69$	$M = \$178,948.17$ $SD = \$95,129.84$	$M = \$331,698.43$ $SD = \$213,565.20$
Head Coaching Salaries (total dollars)	$M = \$218,603.91$ $SD = \$76,952.90$	$M = \$115,787.30$ $SD = \$58,863.14$	$M = \$173,716.53$ $SD = \$86,306.27$
Athletically Related Student Aid (total dollars)	$M =$ $\$5,275,487.85$ $SD =$ $\$1,446,925.42$	$M = \$3,530,048.08$ $SD =$ $\$1,330,965.23$	$M = \$4,513,468.67$ $SD = \$1,643,762.73$
Directors' Cup Points Contributed	$M = 34.84$ $SD = 33.67$	$M = 6.27$ $SD = 16.24$	$M = 22.37$ $SD = 30.90$

Table 3 provides the correlation coefficients for the variables under investigation. H1 was confirmed, indicating a positive significant relationship among head coaching salaries for female sports and NACDA Directors' Cup standings ($r = .386$). H2 was confirmed as well, revealing a positive significant relationship among athletically related student aid for female athletes and NACDA Directors' Cup standings ($r = .350$). H3 was also confirmed, showing a positive significant relationship among recruiting expenses for women's teams and NACDA Directors' Cup standings ($r = .385$). The strongest relationship occurred among head coaching salaries for female sports and female recruiting expenses ($r = .677$).

Table 3*Pearson and Point Biserial Correlations (and Significance Levels) for Variables Under Investigation*

	Sport	Conference (1=Power, 2=Non- Power)	Female Recruiting Expenses (total dollars)	Head Coaching Salaries (total dollars)	Athletically Related Student Aid (total dollars)	Directors' Cup Points Contributed
Sport	1.00					
Conference (1=Power, 2=NonPower)	-.002 (.898)	1.00				
Female Recruiting Expenses (total dollars)	.005 (.769)	-.630 (<.01**)	1.00			
Head Coach- ing Salaries (total dollars)	.012 (.497)	-.591 (<.01**)	.677 (<.01**)	1.00		
Athletically Related Stu- dent Aid (total dollars)	.060 (<.01**)	-.527 (<.01**)	.476 (<.01**)	.578 (<.01**)	1.00	
Directors' Cup Points Contributed	-.059 (<.01**)	-.459 (<.01**)	.385 (<.01**)	.386 (<.01**)	.350 (<.01**)	1.00

Note: * $p < .05$, ** $p < .001$

Initial results of the binary logistic regression revealed that water polo did not contain enough entries (i.e., there were not enough teams) for a valid model. Thus, water polo was removed from the analysis. The final model with results by sport is displayed in Table 4. All regression models were significant (Basketball [$x^2 = 141.2, p < .01$]; Gymnastics [$x^2 = 151.5, p < .01$]; Soccer [$x^2 = 89.4, p < .01$]; Softball [$x^2 = 247.2, p < .01$]; Tennis [$x^2 = 171.0, p < .01$]; Volleyball [$x^2 = 109.5, p < .01$]; Lacrosse [$x^2 = 37.1, p < .01$]). The most predictive sport for earning Directors' Cup points was gymnastics (Nagelkerke $R^2 = .608$) followed by softball (Nagelkerke $R^2 = .553$), lacrosse (Nagelkerke $R^2 = .417$), tennis (Nagelkerke $R^2 = .403$), basketball (Nagelkerke $R^2 = .323$), volleyball (Nagelkerke $R^2 = .262$), and soccer (Nagelkerke $R^2 = .216$). Although each model was significant, the three financial variables within each model were not consistently significant across each sport. Gymnastics was the only sport where all three financial variables were significant. Thus, H4 was rejected.

Table 4
Binary Regression Results for Women's Sports

	β	S.E.	Wald	df	Sig.	Exp (β)	95% C.I. for EXP (β)	
							Lower	Upper
Basketball								
Conference	-.09	.33	.08	1	.773	.91	.48	1.73
Recruiting Expenses	.01	.01	2.50	1	.114	1.1	1.00	1.03
Head Coach Salary	.13	.02	37.27	1	<.001**	.14	1.09	1.19
Student Aid	.00	.00	.03	1	.868	1.00	1.00	1.00
Gymnastics								
Conference	2.45	.85	8.22	1	.004**	11.60	2.17	61.93
Recruiting Expenses	.04	.02	5.36	1	.021*	1.05	1.01	1.09
Head Coach Salary	.15	.07	4.63	1	.031*	1.16	1.01	1.32
Student Aid	-.01	.00	6.85	1	.009**	.99	.99	1.00
Soccer								
Conference	.70	.30	5.61	1	.018*	2.02	1.13	3.62
Recruiting Expenses	.01	.01	1.41	1	.235	1.01	.99	1.03
Head Coach Salary	.04	.02	4.93	1	.026*	1.04	1.00	1.08
Student Aid	.00	.00	4.10	1	.043*	1.00	1.00	1.00
Softball								
Conference	2.29	.39	34.22	1	<.001**	9.89	4.59	21.30
Recruiting Expenses	.01	.01	.76	1	.382	1.01	.98	1.04
Head Coach Salary	.04	.02	3.35	1	.067	1.05	1.00	1.10

Tennis									
Student Aid	.00	.00	2.05	1	.152	1.00	1.00	1.00	1.00
Volleyball									
Conference	1.54	.32	22.85	1	<.001**	4.67	2.48	8.78	
Recruiting Expenses	.02	.01	3.58	1	.058	1.02	1.00	1.04	
Head Coach Salary	.02	.02	1.61	1	.204	1.02	.99	1.06	
Student Aid	.00	.00	11.81	1	<.001**	1.00	1.00	1.01	
Lacrosse									
Conference	1.69	.33	26.65	1	<.001**	5.45	2.86	10.37	
Recruiting Expenses	.01	.01	.47	1	.492	1.01	.99	1.02	
Head Coach Salary	.00	.02	.01	1	.909	1.00	.97	1.04	
Student Aid	.00	.00	2.66	1	.103	1.00	1.00	1.00	
Lacrosse									
Conference	.52	.69	.58	1	.445	1.69	.44	6.48	
Recruiting Expenses	.05	.03	3.79	1	.052	1.06	1.00	1.11	
Head Coach Salary	.16	.05	10.36	1	.001**	1.17	1.07	1.30	
Student Aid	-.01	.00	4.53	1	.033*	.99	.99	1.00	

*p<.05, **p<.001

Discussion

To date, there have not been studies focused exclusively on female athletic expenditures relative to specific on-field success of specific sports. To help fill this knowledge gap, the current study yielded results that could lead to more effective utilization of athletic department resources dedicated to female sports through the analysis of three categories of financial resources. The findings are best understood through an analysis of descriptive, correlational, and predictive results.

Descriptive information generally supported existing research. The highest female expenditure was athletically-related student aid ($M = \$4,513,468.67$). While this was the highest area of spending relative to the other variables, and is consistent across institutions, it illustrates the commitment to provide athletic scholarships at the largest institutions is a primary budget consideration. It is, however, important to note the stark differences in spending at Power Four institutions versus spending at Group of Five institutions. For example, Louisiana State University ($M = \$5,697,026.67$), on average, spends more than twice the amount on female student aid as Bowling Green State University ($M = \$2,424,525.58$). This trend is consistent when comparing power schools to group schools.

One primary reason for the large gap of athletic expenditures is due to the differences in conference allocations. For example, Southeastern Conference institutions receive approximately \$32.7 million while Group of Five institutions averaged \$2 million per institution (Walker & Misawa, 2018). Walker and Misawa (2018) highlighted the large gap between financial profiles of Power Four and Group of Five institutions that disrupt competitive balance. Moreover, aligning with CFT, it is important to note that previous research suggests male athletes receive approximately \$252 million more in athletically related student aid than females annually (Staurowsky, 2022). This supports CFT's main assertion that women are devalued within the broader lens of society (Hoerber, 2007). When considering the disproportionately low amount of student aid for females, especially at the Group of Five levels, it is easy to understand how athletic outcomes are impacted. These findings support critical feminist theory by exposing the ongoing resource advantage that male sports have had since the creation of intercollegiate athletes while highlighting the current under-resourcing of women college athletes.

The second highest mean was for recruiting budgets. The results of the current study suggest there has been an increase in female recruiting budgets since the work of Staurowsky (2022), who showed the 2019-2020 mean recruiting budgets of \$75,290. Moreover, current results show that average recruiting expenses for females was \$331,698, which is considerably less than the \$4.5 million average spent on student aid. It is important to note, however, that the vast increase in recruiting budgets may be the result of the pandemic occurring during the time in which the data for the Staurowsky (2022) study were collected. Furthermore, it is noteworthy that recruiting budgets for Power conferences ($M = \$450,059$) were more than dou-

ble those of Group conferences ($M = \$178,948$), further reinforcing the vast differences in conference resources.

The lowest female athletic expenditure examined was head coaching salaries ($M = \$173,716.53$). Despite this being the lowest expenditure, there was nearly twice the budget for the Power Four head coaching salaries ($M = \$218,603$) than the Group of Five head coaching salaries ($M = \$115,787$). Again, this finding is supported by previous research that examined large gaps in conference financial profiles (Walker & Misawa, 2018). Previous research has also suggested that while head coaching salaries for women's teams are on the rise, there is still a significant earning gap (Gentry & Alexander, 2012; Traugutt et al., 2018). Work from Traugutt and co-authors (2018) revealed the median head coach's salary of men's basketball programs was \$2.7 million while the median head coach's salary of women's programs was only \$690,000. Staurowsky (2022) confirmed evidence that across all NCAA Division I FBS institutions, coaches of women's teams receive only 19% of the \$1 billion that is spent on head coaching salaries. The highest paid coaches in women's basketball, who happen to all coach in Power conferences, raise the average mean. Without women's basketball salaries in Power conferences, the overall women's coaching salaries would be far less than identified in these results further reinforcing the lack of resources devoted to women's sports. As with athletically-related student aid, the unequal distribution of resources between men's and women's sports reflects the traditional paradigm within physical competition (Burt, 2021). Through the lens of CFT it is clear that despite efforts to remedy the situation women's intercollegiate athletics remain under-resourced.

Relationship to Directors' Cup Points

When investigating the relationships among variables, nearly all combinations of variables were significant. Specific to H1, the significant positive relationship ($r = .386$) between head coaching salaries and Directors' Cup points confirms the hypothesis. This finding is not surprising considering the common assumption that higher paid coaches are better coaches, and that quality of coaching leads to increased salaries and higher winning percentages (Mixon et al., 2013). Thus, it is a positive sign that when coaches are paid larger sums, it relates to on-field success, even if female coaching salaries still lag behind men (U.S. Department of Education, 2023). Interpreting this specific relationship, however, should be approached with caution as coaching salaries can sometimes be retroactive to winning, implying that winning and high salaries are not necessarily occurring at the same time. Nonetheless, there is a strong relationship between the two variables that cannot be ignored. This notion is especially relevant when utilizing the CFT framework because, regardless of the gender of the coach, paying them more can result in athletic success.

H2 was also confirmed. Student aid was found to have a significant positive relationship with Directors' Cup points. Similar to coaching salaries, it was reasonable to assume the more money spent on student aid would produce more on-field success given the ability to attract skilled athletes with scholarship funds. This finding supports previous research that athletic departments with high student aid had

higher Directors' Cup totals (Won, 2004). In addition to Directors' Cup points, student aid has also been found to be positively related to student-athlete academic performance (Milton et al., 2012). Milton and co-authors (2012) found that scholarship student-athletes had significantly higher GPAs than non-scholarship athletes. Hardwick-Day (2008) also concluded athletic scholarships offered to females are more beneficial to an institution's academic profile. Thus, increasing the amount spent on student aid may lead to athletic departments succeeding on the field and in the classroom.

While the findings of the current study indicate a positive significant relationship between athletically related student aid and Directors' Cup points, it is important to note that female athletes are still underserved regarding athletically related student aid compared to their male counterparts (Staurowsky, 2022) supporting the primary assumption of CFT (Birrell, 2020; Hoerber, 2007). Athletic departments would have needed to award \$750 million more in athletic scholarships to female athletes during the 2019-2020 academic year to be proportional to the women's undergraduate enrollment (Staurowsky, 2022). Despite these gender differences, athletic directors are aware of the importance of athletic aid and encourage donors to help their cause (Virginia Sports, 2025). As one prominent athletic director whose athletic program recently finished fifth in Directors' Cup standings wrote, "your investments fuel the success of our programs, empowering student-athletes to achieve greatness, in their sport and beyond" (Virginia Sports, 2025, para. 1).

H3, which predicted a positive significant relationship between female recruiting expenses Directors' Cup points, was also confirmed. This finding is certainly in line with an investment philosophy that securing high-level athletic talent can yield positive results (Jewell 2020). It is reasonable that as athletic directors invest in their coaches and recruiting efforts, their likelihood of on-field success increases, especially if they are investing more than other institutions in their conference (Frank, 2004). Previous research supports this finding and emphasizes that the acquisition of high-quality human capital is critical to success (Harris et al., 2025). More specifically, Lawrence et al. (2012) and Beaudin's (2018) findings suggest increased spending on women's programs is correlated with increased Directors' Cup standings, while there is no evidence that spending on men's sports is related to more points. Although previous research suggested department wide spending on women's programs results in a greater number of Directors' Cup points, during the 2019-2020 academic year, only 30% of the total amount spent nationwide on recruiting was spent on female athletic programs (Staurowsky, 2022). The relational findings from the first three hypotheses in this study, in combination with the individual sport predictions, can now inform athletic directors of the areas in which spending can most effectively be directed.

Beyond the three hypotheses, there were a few other noteworthy relationships. The strongest correlation occurred between head coaching salaries for female sports and female recruiting expenses ($r = .677$). This finding suggests programs that can spend money on their head coaching salaries also have the resource profile to pay for recruiting expenditures. This relationship may also suggest that spending money

on recruiting could lead to better coaching outcomes, and ultimately higher coaching salaries. Another strong correlation was found among recruiting expenses and conference ($r = -.630$). The strong correlation is supported by research confirming vast differences in financial profiles of Group of Five and Power Four conferences that reinforce an existing “arms race” in college athletics. For example, Walker and Misawa (2018) identified the smallest Power Five budget belonged to the PAC-12 at \$82.8 million, while the largest Group of Five budget was the American Athletic Conference’s \$49.20 million. Not surprisingly, schools that belong to a Power conference have more resources to spend on aid, coaching, and recruiting. Despite these Power conference advantages, it is important to remember that both Power Four and Group of Five institutions are still underserving their female athletes (Gaynor, 2011; Staurowsky, 2022). This underlying reality aligns with the critical feminist theory assumption that society is structured with inequitable relationships of power whereby women are routinely devalued and marginalized despite their potential to bring their athletic department increased prestige through athletic achievement in the form of Directors’ Cup points (Birrell, 2000; Hoeber, 2007).

Individual Sport Predictions

This is the first study to investigate the predictive ability of resource allocations to team success relative to specific sports. For basketball, head coaching salary was the only significant predictor of Directors’ Cup points. Every \$10,000 increase in head coaching salaries for female sports increased the odds of earning Directors’ Cup points by 14%. Subsequently, an increase of \$50,000 in head coaching salaries improved the odds of earning Directors’ Cup points by 92%. Ironically, coaching salaries are not predicted most by coach experience or their on-court performance, but by size of basketball program revenue (Brewer et al., 2015). Given that Power Four schools have considerably more resources to help generate revenue (Walker & Misawa, 2018), it is not surprising Power schools can invest more in basketball programs that generate revenue.

While the current study shows how notable an increase in women’s basketball head coaching salaries is for Directors’ Cup points, women’s coaches earn only about half of men’s basketball coaching salaries (Humphreys, 2000). It appears an investment in women’s basketball head coaches has the potential to impact Directors’ Cup points more so than men’s coaching salaries given the large gap that exists. Ironically, no other variables were significant in increasing the predictable odds of Directors’ Cup points for basketball. Similar to the relationship results, however, predictive results should be interpreted with caution because coach salaries can be a reward after already having success, rather than producing success after increasing salaries. Additionally, the pay gap between men’s and women’s basketball salaries has improved, however, women coaches’ compensation continues to lag far behind men’s coaches at comparable levels (Graham, 2023), further reinforcing critical feminist theory specific to the sport of basketball.

Gymnastics appears to be the most influential sport for earning Directors’ Cup points. Unlike basketball, where only head coach salaries were predictive, all vari-

ables significantly aided in predicting Directors' Cup points. The most significant predictive variable was conference ($p = .004$). The results of the current study suggest that athletic directors of Power Four schools who want to improve Directors' Cup points should invest in their women's gymnastics programs. Power Four gymnastics programs increase the odds of earning Directors' Cup points by 1060% compared to Group of Five schools. For recruiting, a \$10,000 increase in recruiting expenses for women's gymnastics, increases the odds of earning Directors' Cup Points by 5%. A \$50,000 increase in recruiting expenses would increase the odds of earning Directors' Cup points by 22%. A \$50,000 increase in head coaching salaries for women's gymnastics would result in a 112% increase in the program's odds of earning Directors' Cup points. For athletically related student aid, a \$50,000 increase would result in a 5% increase in the odds that gymnastics will earn Directors' Cup points.

These gymnastics numbers are not surprising given that coaching pay and team performance are positively correlated (Colbert & Eckard, 2015), and the strong relationships that exist between variables seen in Table 3. What is somewhat surprising is that gymnastics was more predictive of cup points than any other sport. This finding could be due to the commitment necessary to have competitive gymnastics programs often found at larger institutions that can afford equipment, training space, and recruitment of a relatively small number of elite gymnasts. Thus, it may be most beneficial for athletic departments that wish to increase Directors' Cup points to invest in this uniquely influential sport. It is important to note, however, there are only 62 current DI women's gymnastics programs. Therefore, if more schools were to create/invest/sponsor women's gymnastics, investment may eventually lead to diminished returns. For the time being, however, gymnastics appears to be a sound investment.

For soccer, the results indicated that head coaching salary and student aid, as well as the team's conference, were significant. Similar to gymnastics, soccer programs that were part of a Power Four conference increased their odds of earning Directors' Cup points by 102%. Additionally, a \$50,000 increase in a head coach's salary would increase the odds of Directors' Cup points by 22%. While student aid was found to be significant, an increase was minimal in predictive ability, indicating less focus should be spent on aid compared to coach salary. Investing in women's soccer programs, however, may be counterintuitive to some veteran athletic directors because some women's soccer programs were added to allow athletic departments to be compliant with Title IX (Mehrhoff, 2001). If women's soccer programs are viewed as a way to be in compliance, rather than a viable sport capable of national success, a systemic problem exists as suggested by critical feminist theory. The results from this study confirm that women's soccer is indeed a contributing factor to Directors' Cup standings, particularly for Power Four institutions that invest in their head coach.

Conference affiliation was the only significant variable that led to an increased chance of earning Directors' Cup points for softball. As the data continues to reinforce, programs in Power Four conferences are the most nationally successful programs. In fact, the odds of earning Directors' Cup points increases by 889% for softball programs in Power conferences. This finding further confirms the vast dif-

ferences in financial resource profiles between Power Four and Group of Five institutions (Harris et al., 2025; Walker & Misawa, 2018). It is somewhat curious that financial variables were not significant predictors of Cup points for softball given its growing popularity for televised games. Last year, the Women's College World Series was the most watched ever with 2.2 million viewers and year over year growth of 2% (Callahan, 2025). Additionally, the nature of softball as a largely warm-weather sport restricts the number of elite athletes, most of whom end up at Power schools (Garcia, 2022). One out of five softball student athletes who compete at the Division I level originate from California (Garcia, 2022). Moreover, successful programs have invested in large softball stadiums and training facilities that are clearly dissimilar between Power and Group of Five institutions (Bardahl & Mandel, 2024).

For both tennis and volleyball, the only significant variable that contributed to an increase in the odds of earning Directors' Cup points was conference. Increasing Directors' Cup points was 367% more likely for tennis programs and 445% more likely for volleyball programs residing in a Power Four conference. These results further confirm the level of dominance exhibited by Power schools relative to Group schools. The findings also seem to highlight a large talent disparity in sports where participation numbers are dramatically lower in scholastic sport participation. In other words, if less females are playing sports at lower levels, there are fewer elite players to recruit, and those players ultimately find themselves at the largest and most resourced programs in the Power Four conferences. For example, of the sports examined in the current study, during the 2023-2024 academic year, tennis and lacrosse had the lowest national scholastic participation rates at 195,766 and 101,204 participants respectively (NFHS, 2025). This system is different from males, who have 1.2 million more athletes playing at lower levels and can populate Group of Five rosters with talent closer to elite status (NFHS, 2025). Ultimately, the accumulation of elite talent at Power schools rather than Group schools reinforces the arms race mentality where the "haves" and "have nots" are identifiable (Wolohan, 2015).

Similar to basketball, gymnastics, and soccer, head coaching salaries of women's lacrosse was a significant predictor of Directors' Cup points. For every \$10,000 increase in a head coach's salary, the odds of earning Directors' Cup points increased by 17%. Furthermore, a \$50,000 increase in a head coach's salary would result in a 123% increase in the odds of a lacrosse team earning Directors' Cup points. While previous research outlines the importance of coaching performance (Johnson et al., 2013, 2015, 2017; Pierce et al., 2017), the current study highlights the impact of investing in head coaching salaries of female teams, or that salaries are a result of performance. It is also noteworthy that lacrosse is an Olympic sport that does not receive the national notoriety often found in more commercialized sports like basketball, softball, and volleyball. Thus, head coaching salaries are typically lower for lacrosse coaches compared to the other sports. Increasing lacrosse head coach salaries may be a more cost-effective decision compared to larger investments if an increase in Directors' Cup points is the goal.

Overall, the current study aligns with previous research that outlines the vast differences between schools competing at the Power Four and Group of Five lev-

els. Notably, the largest athletic department budget at a Group of Five school was \$33.6 million less than the smallest athletic budget at a Power Four school (Walker & Misawa, 2018). This point is further enforced by the large standard deviations present in the current study, especially for head coaching salaries ($SD = \$86,306.27$). The conference also plays an important role as the gap for average coaching salaries grows between Power and Non-Power programs (Hirko et al., 2025). Moreover, these results suggest that if the resource gap widens due to ongoing NIL collectives, transfer portal decisions, or direct payments from the recent House vs. NCAA decision (Mandel & Williams, 2025), the likelihood of underdog stories from small school success decreases.

Limitations & Future Recommendations

While this study promoted further understanding of the relationship between athletic expenditures and on-field success of Division I public institutions, there are limitations. First, the data were collected from two representative Power conferences and two Group conferences. Although there were 2,980 data points, which is statistically representative of the population, the data did not include all Division I public institutions. It is recommended that any comprehensive replication or extension of the current study consider data from additional Division I public institutions like the method used in the Jones (2013) and Beaudin (2018) studies. Furthermore, additional examination based on other relevant groupings of variables (e.g., NCAA subdivisions) could yield different results.

Second, the variables examined in this study are limited when considering the possible number of variables that could contribute to athletic success and Directors' Cup points. There may be other athletic expenditures (e.g., assistant coach salaries, infrastructure investments) that could have a positive relationship with on-field success. Future research could consider both broad and narrow approaches to define athletic expenditure variables beyond the three primary sources examined here.

Conclusion

The results from this study can be utilized by administrators shaping their athletic budgets to increase their department's odds of earning Directors' Cup points. With increased Directors' Cup points come increased notoriety and prestige because of athletic success. The current landscape of college athletics, however, is changing rapidly. The final approval of the House v. NCAA settlement, which allows schools to directly pay student-athletes, has the potential to cause significant financial decisions for many athletic departments (Mandel & Williams, 2025). Effective resource allocation will certainly be in an athletic director's best interest. With NCAA programs now able to spend up to \$20.5 million dollars on direct NIL payments for the 2025-2026 academic year, many smaller Group of Five programs may struggle more than before. Schools in the Group of Five will face challenges that Power Four conferences are better suited to navigate (Helwick, 2025). This study provides athletic departments with information to better allocate their resources specifically towards individual sports, and in turn increase their odds of earning benefits that come with athletic success and Directors' Cup points.

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