International Journal of Business in Sports, Tourism & Hospitality Management
https://www.gaics.org/Journal/JBSM

Servant Leadership in Division II Athletic Directors: A correlational study of gender and age utilizing the SL-7

Frances Nee
Grand Canyon University
Joshua Castle
Indiana University of Pennsylvania

Abstract

. This quantitative correlational study examined the relationships between gender, age, and servant leadership among NCAA Division II athletic directors, as perceived by their associate athletic directors. It also explored whether gender moderates the relationship between age and servant leadership. Grounded in Greenleaf's servant leadership theory, the study surveyed a convenience sample of 102 associate athletic directors using an online instrument, including Liden's seven-item Servant Leadership Scale. Hierarchical multiple regression analysis was employed, with gender and age entered in Block 1 and the gender × age interaction in Block 2. Results indicated that neither gender nor age significantly predicted servant leadership scores, and the interaction term did not contribute additional explanatory power. Thus, the study found insufficient evidence to support statistically significant relationships between these variables. It was also concluded that gender does not significantly moderate the age–servant leadership relationship. Future research should include NCAA Division I and III athletic directors and consider a broader range of variables potentially associated with servant leadership (Nee, 2020).

Keywords: Servant leadership, NCAA Division II, Servant Leadership Scale

---

Dr. Frances Nee is a retired Associate Athletic Director from Indiana University of Pennsylvania. Her primary area of research is leadership and college athletics. Dr. Joshua Castle (Corresponding Author: bqfm@iup.edu) is a professor of sport management in the Department of Management at Indiana University of Pennsylvania. His research is mainly in college athletics, particularly student-athlete welfare and policy.

1. Introduction

Since servant leadership was first described by Greenleaf (1970), this leadership style has been examined in dozens of studies covering a wide variety of populations, such as CEOs, managers, and employees in restructured companies (Kool & van Dierendonck, 2012; Liden, Panaccio, Meuser, Hu, & Wayne, 2014a; Peterson, Galvin, & Lange, 2012). More recent empirical research continues to reinforce its applicability: for instance, Ren and Shen (2024) found that servant leadership positively influences team innovation performance, with innovation self-efficacy mediating this relationship (Ren & Shen, 2024). However, there is very limited empirical research exploring servant leadership in intercollegiate athletics (Brown & Bryant, 2015; Green, Rodriguez, Wheeler, & Baggerly-Hinojosa, 2015; van Dierendonck & Nuijten, 2011). In the field of intercollegiate athletics, servant leadership may be an important leadership style because it emphasizes the interpersonal relationships between the athletic director, the coaches, and the student-athletes. Servant leadership aims to prioritize the needs of individual followers over the success of the leader or the organization (Nee, 2020). Greater use of servant leadership in an intercollegiate environment could enable coaches and student-athletes to reach their full potential (Greenleaf, 1977). Jonker and Dube (2025) reviewed evidence linking servant leadership with positive organizational well-being outcomes, including hope, happiness, and group flourishing (Jonker & Dube, 2025). Burton and Welty Peachey (2013) called for empirical research on servant leadership in the context on intercollegiate athletics since its guiding principles align with the mission of the National Collegiate Athletic Association (NCAA). Therefore, it is important to explore this leadership style within intercollegiate athletics, as well as potential factors that may influence it. Gender and age are significant when examining servant leadership because social expectations and perceptions vary across these dimensions. Research indicates that men and women are equally capable of enacting servant leadership behaviors (Barbuto & Gifford, 2010), and that servant leadership is perceived as effective and promotable regardless of leader gender (Barthel & Buengeler, 2023). However, gender stereotypes still influence expectations—for example, people expect more communal behaviors (like servant leadership) from women and more authoritarian behaviors from men (Hogue, 2016). Additionally, servant leadership may function differently across age groups, as younger leaders are sometimes evaluated as less effective and likable (Barthel & Buengeler, 2023), which implies that age may moderate the impact of servant leadership on perceptions of effectiveness.

Research on the relationship between gender, age, and servant leadership has been limited and

inconsistent (Liden et al., 2014a; Walter & Scheibe, 2013). For example, McCuddy and Cavin (2009) found no association between gender and servant leadership behavior, while Rodriguez de Rubio and Galvez-Kiser (2015) reported that both gender and age may be related to servant leadership. Recent empirical evidence further contributes to the debate: Nguyen et al. (2024) found that the positive relationship between servant leadership and supervisory commitment is stronger for

female supervisors than male supervisors. Additionally, Barthel and Buengeler (2023) demonstrated that servant leaders—regardless of gender—are perceived as more effective, likable, and promotable than directive leaders, and women and men benefit equally from servant leadership behaviors. Due to these mixed findings, further research is needed. The present study addresses this gap by examining the relationships between athletic directors' servant leadership behaviors—as perceived by their associate athletic directors—and the athletic directors' gender and age (Nee, 2020). It also explores whether age is related to servant leadership when accounting for gender. Leadership research has increasingly focused on the relationship between leaders and followers, rather than on transformational leadership, which emphasizes organizational goals over individual needs (van Dierendonck & Nuijten, 2011). Although transformational leadership has been the predominant leadership style preferred by intercollegiate athletic directors, some researchers have voiced a need for servant leadership as an alternative leadership style for intercollegiate athletic directors (DeSensi, 2014; Lumpkin & Doty, 2014; Roby, 2014). Burton and Welty Peachey (2009) noted there is a shortage of research regarding leadership styles of intercollegiate athletic administrators as compared to other administrators in higher education.

The strategic plan of the NCAA Division II includes a mission statement that emphasizes community service and the importance of providing educational and leadership opportunities to student-athletes (Nee, 2020). The goals outlined in the mission statement closely aligned with the outcomes that are attributed to servant leadership. Burton and Welty Peachey (2013) suggested that intercollegiate athletics should consider servant leadership as a viable leadership style to provide greater educational and leadership opportunities to student-athletes. The strategic plan for the NCAA Division II "supports a balanced and inclusive approach that affords student-athletes the opportunity to explore their varied academic and social interest, to grow as productive citizens and to contribute to their communities" (National Collegiate Athletic Association, 2015, p. 1).

Researchers have debated the relationship between gender and age and servant leadership behavior with empirical findings being mixed. For

example, Rodriquez de Rubio and Galvez-Kiser (2015) suggested that gender and age could influence servant leadership. Liden et al. (2014a) also suggested that gender influences servant leadership behavior. Meanwhile, several other researchers have taken the position that gender and age are not related to servant leadership (Dannhauser & Boshoff, 2006; Taylor, Martin, Hutchinson, & Jinks, 2007). The empirical evidence regarding the relationships between gender, age and servant leadership is mixed. This research study contributes empirical data relevant to this ongoing debate. The present study contributes to this ongoing debate by providing data specific to NCAA Division II athletic directors, thereby expanding the existing knowledge base and extending research on servant leadership into a new context.

Research Questions

It was not known if or to what extent the demographic variables of gender and age are associated with NCAA Division II athletic directors' servant leadership behavior. The non-manipulated independent variables in this study were gender, age, and the gender x age interaction term. The dependent variable was servant leadership, as perceived by NCAA Division II associate athletic directors. This study addressed the three following research questions:

RQ1: Is there a relationship between gender and servant leadership among NCAA Division II athletic directors?

RQ2: Is there a relationship between age and servant leadership among NCAA Division II athletic directors?

RQ3: Does gender moderate the relationship between age and servant leadership among NCAA Division II athletic directors?

Advancing Scientific Knowledge and Significance of the Study

Athletic directors who adopt servant leadership behavior develop a department in which the primary goal is to support the student-athlete in the best manner possible (Burton & Welty Peachey, 2013; Lumpkin & Doty, 2014). In this study, the leaders were athletic directors whose primary responsibility was to support student-athletes within intercollegiate athletic programs at institutions of higher education. Being a leader of an intercollegiate athletics program involves creating a positive academic and athletic environment for the student-athletes (National Collegiate Athletic Association, 2016a).

This study measured the servant leadership of NCAA Division II athletic directors as perceived by their immediate subordinates- the associate athletic directors. These perceptions were then

analyzed in relation to the athletic directors' gender and age, and the extent to which gender moderated the relationship between age and servant lead-

ership was also examined. The theoretical framework for this study was servant leadership theory, grounded in Greenleaf's (1977) proposition that servant leadership is a style in which leaders prioritize the growth and well-being of their followers. Servant leadership is also believed to foster a positive organizational culture by enabling followers to reach their full potential (Greenleaf, 1977).

Limitations/Delimitation

1. Since this study focused on associate athletic directors' perceptions of their athletic directors' servant leadership, the results may not accurately reflect the actual servant leadership behaviors of NCAA Division II athletic directors. The Servant Leadership Scale (SL-7) used in this research was specifically designed to measure followers' perceptions of their supervisors' servant leadership, rather than direct observations of leadership behavior.

2. Although all 312 associate athletic directors were invited to participate, participation was voluntary and beyond the researcher's control. As a result, the characteristics of the final sample may not accurately represent the broader population of NCAA Division II associate athletic directors.

3. A delimitation of the study was the researcher's decision to use the abbreviated Servant Leadership Scale (SL-7; Liden et al., 2015) instead of the full version, the SL-28 (Liden et al., 2008). While both instruments measure the seven dimensions of servant leadership, the SL-7 provides only an overall score and does not yield individual subscale scores for each dimension, as the SL-28 does. This limited the analysis to overall servant leadership. The SL-7 was selected for its brevity, with the intention of increasing participant response rates.

4. The information collected was limited in scope due to the use of a quantitative approach, chosen to assess the strength of relationships between athletic directors' gender, age, and servant leadership. However, unlike qualitative methods, this approach does not allow for in-depth exploration of participants' perspectives or the reasons behind these relationships.

2. Literature Review

Servant Leadership

Servant leadership is built on the philosophy that the leader gains trust and complicity by demonstrating respect for the value and dignity of all constituents and practicing leadership by example (Spears, 2010). Defining servant leadership has been problematic as Greenleaf (1977) provided only a vague description, leading scholars to attempt to define servant leadership in more precise terms (Barbuto & Wheeler, 2006; Brown & Bryant, 2015; Burton & Welty Peachey, 2013; Focht & Ponton, 2015). This lack of clarity in defining servant leadership has posed a perennial obstacle to developing scales and items for measuring servant leadership (Avolio et al., 2009; Brown & Bryant, 2015), which is further complicated by the difficulty of distinguishing servant leadership from other leadership styles such as transformational leadership (Focht & Ponton, 2015). This was the reason behind the Delphi study to identify the primary characteristics of servant leadership (Focht & Ponton, 2015). Most authors turn to Spears (2010), who presented 10 principles of servant leadership drawn from Greenleaf's (1977) philosophy. According to Spears (2010), the 10 defining attributes of servant leadership are: listening, empathy, healing, awareness, persuasion, conceptualization, foresight, stewardship, commitment to the growth of people, and building community.

Research indicates that leader age can significantly affect followers' evaluations of leadership behaviors—older leaders (over 45) are often rated higher on transformational leadership and overall effectiveness, whereas leaders aged 36–45 score lower on intellectual stimulation and individualized consideration; no age-related differences were found for influence tactics (Barbuto et al., 2007). In contrast, Tomova Shakur et al.'s (2024) meta-analysis found that older leaders are perceived as using less active leadership styles—such as transformational and contingent reward—and more passive styles like laissez-faire (Tomova Shakur et al., 2024). This pattern challenges prior assumptions about the relationship between age and leadership style.

Gender-related research has produced similarly inconsistent results. Barbuto and Gifford (2010) distinguished servant leadership into communal traits (e.g., emotional healing, altruistic calling) and agentic traits (e.g., wisdom, persuasive mapping), finding no gender differences in how leaders deployed these dimensions. Sousa and van Dierendonck (2017) later recategorized stewardship as agentic, complicating earlier models. More recent work by Lemoine & Blum (2021) and Ghazi et al. (2023) suggests female leaders tend to exhibit authentic, communal servant leadership more frequently than male counterparts, though agentic behaviors are also present (Ghazi et al., 2023). Meanwhile, the meta-analysis "Gender and evaluations of leadership

behaviors" (Paustian-Underdahl et al., 2024) found that women are more likely to engage in both agentic and communal leadership behaviors and are evaluated more positively overall, further complicating a simplistic gender dichotomy. More recent research by Tomova Shakur et al. (2024) and Chung and Lee (2024) critically reviews over 50 studies and reveals that servant leadership's relationship with gender is context-dependent and often moderated by social identity factors such as race and ethnicity.

Several studies have found that gender does not significantly influence servant leadership (Barbuto & Gifford, 2010; Braye, 2000; Goodwin, 2011; Jacobs, 2011; Laub, 1999). In contrast, other research studies indicated gender had a significant difference on servant leadership behavior (Beck, 2010; Fridell et al., 2009; Washington et al., 2014). Because the research indicates different results from their studies, it is inconclusive if gender influences servant leadership behavior.

A study by Parolini (2007) indicated that age did influence servant leadership behavior. This study found that the older an individual was in an organization, more of an increase in servant leadership behavior. This finding is in the direct opposite view of Greenleaf (1977), where the author believed that the future of servant leadership was with younger individuals. McCuddy and Cavin (2009) advanced another point of view; the results of their research demonstrated that age did influence servant leadership behavior and gender did not influence servant leadership behavior.

Given these inconsistent empirical findings, further research is warranted. The present study examines the relationships between NCAA Division II athletic directors' servant leadership behaviors—as perceived by their associate athletic directors—and the athletic directors' age and gender. It also explores whether gender moderates the association between age and servant leadership. Barbuto and Gottfredson (2016), argue that the development of servant leadership could be a major strategic advantage for organizations in attracting and retaining the Millennial generation employees whose workplace presence is rapidly growing. According to Barbuto and Gottfredson, many attributes of servant leadership are uniquely compatible with the preferences of Millennials, such as desires for frequent and honest performance feedback, good interpersonal relationships, strong managerial support, and a leader who serves their best interests. While this may appear to be a compelling argument, it needs to be supported empirically, especially given the large body of research documenting the effectiveness of transformational leadership. Currently there are very few studies of servant leadership in intercollegiate sports.

3. Methodology

The general population and the target population were the same in this study and consisted of 312 current NCAA Division II intercollegiate associate athletic directors (Nee, 2020). Data from a sample of these individuals were analyzed to address the study's research questions. The target population was limited to NCAA Division II intercollegiate athletic programs because the servant leadership style is especially relevant to this division. The strategic plan for NCAA Division II "supports a balanced and inclusive approach that affords student-athletes the opportunity to explore their varied academic and social interests, to grow as productive citizens and to contribute to their communities" (National Collegiate Athletic Association, 2015, p. 1). Servant leadership is a leadership style that is very much in line with the strategic plan of NCAA Division II.

The associate athletic directors were contacted through their university email addresses, which are public information that is accessible through several sources – institutional websites, athletic department websites, conference websites, and the NCAA database. Using these email addresses, site authorization was not required prior to soliciting research participation since the email addresses that were used to contact all potential participants came from public data sources.

The study sample consisted of a convenience sample of volunteers who were willing to complete the survey used for gathering data (Nee, 2020). In their comprehensive study of volunteer research participants, Rosenthal and Rosnow (1975) documented over a dozen individual different characteristics that differentiate those who do and do not volunteer to participate in research. In the context of this study, this means that the sample of associate athletic directors who volunteered to participate probably differed in some ways from those other associate athletic directors who declined to participate. Specifically, the population for this study consisted of NCAA Division II associate athletic directors who were willing to participate in the survey exploring their athletic directors' servant leadership, gender, and age characteristics and whose demographic and professional characteristics correspond to those of the convenience sample. Frazier, Tix, and Barron (2004) recommended using hierarchical multiple regression when the goal is to examine both the main effects of two independent variables on a dependent variable and the extent to which one independent variable moderates the relationship between the other independent variable and the dependent variable (i.e., the interaction effect). In this study, athletic directors' gender (coded as 0 = female, 1 = male) and age (in years) were entered in Block 1 of the hierarchical regression, followed by the gender × age interaction term in Block 2. The significance of the increase in R^2 from Block

1 to Block 2 served as a test of the interaction effect (Research Question 3).

In analyses where both main and interaction effects are of interest, the interaction is tested first, as a significant interaction complicates the interpretation of main effects. Specifically, if the gender × age interaction is significant, the relationship between age and servant leadership would differ by gender, and the relationship between gender and servant leadership would vary by age. As such, no straightforward interpretation of the main effects would be possible without accounting for this interaction.

Given this priority, the main effects of gender and age were examined only after evaluating the interaction effect. These were assessed through the statistical significance of the regression coefficients for gender (RQ1) and age (RQ2) in Block 1—before the interaction term was included (Engqvist, 2005). A significant coefficient for gender in Block 1 would indicate that gender uniquely contributed to the variance in servant leadership beyond what was explained by age, and vice versa for age.

The dependent variable in the hierarchical multiple regression analysis was athletic directors' servant leadership levels (reported by their associate athletic directors). Independent variables entered in Block 1 of the hierarchical multiple regression analysis were the athletic directors' gender and age (also as reported by their associated athletic directors). Finally, the gender x age interaction term were entered in Block 2 of the analysis.

Research questions were addressed by first evaluating the gender x age interaction effect (i.e., the degree to which the relationship between age and servant leadership is moderated by gender, as addressed by RQ 3). This interaction effect was evaluated using the F test of the significance of the increase in R2 from Block1 (where only the effects of gender are considered) to Block 2 (which adds the gender x age interaction effect). Following the test of the gender x age interaction effect, the main effects of gender and age were evaluated by examining the significance of the regression coefficients associated with gender (RQ1) and age (RQ2) in Block 1 of the analysis (Engqvist, 2005). A significant regression coefficient for gender in Block 1 would indicate that gender explained a significant unique portion of the variance in servant leadership, i.e., a variance that was not explained by age. Likewise, a significant regression coefficient for gender in Block 1 would indicate that age explained a significant unique portion of the variance in servant leadership, i.e., a variance that was not explained by age.

The survey data collected by SurveyMonkey® were downloaded as an Excel file and subsequently imported into IBM SPSS (25.0). The variable names assigned by SurveyMonkey®

software were replaced with more descriptive names; string variables were recoded into numeric variables. Additionally, a consecutive case identification variable was added to the file, and variable definitions were checked and corrected as needed. All responses were anonymous. Confidentiality of the participants who provided data in this study was guaranteed because no personally identifiable information was collected. The option available in SurveyMonkey® of tracking IP addresses was turned off.

Instrumentation

The three research questions addressed in the study required data collection on three variables describing athletic directors: (a) gender, (b) age, and (c) servant leadership. These three variables were collected using the Liden et al. (2015) 7-item servant leadership survey. The survey measured the associate athletics directors' perceptions of the seven dimensions of their athletic directors' servant leadership: (a) emotional healing; (b) creating value in the community; (c) conceptual skills; (d) empowering followers; (e) helping subordinates grow and succeed; (f) putting subordinates first; and (g) behaving ethically. The SL-7 was designed by Liden et al. (2015) to be completed by employees to provide information about their managers. However, since associate athletic directors do not think of their athletic directors as "managers" (which is the word used in the original SL-7), the word "manager" was replaced with "athletic director" in this study. The SL-7 has a history of being modified in ways like this to be appropriate to the sample at hand in each study (Liden et al., 2014b; Liden et al., 2015; Panaccio et al., 2015; Washington et al., 2014). For example, in the Liden et al. (2015) study, the SL-7 was modified to use the words "my leader" instead of "my manager." In that study, Cronbach's alpha values for the SL-7 did not vary as a function of item wording. Three similarly worded versions of the SL-7 used in recording data from three separate samples produced Cronbach's alpha coefficients of .80, .81, and .89.

In a series of studies reported by Liden et al. (2008), a 28-item measure of the servant leadership construct, the SL-28, was developed in which each of the seven dimensions of that construct (emotional healing, creating value for the community, conceptual skill, empowering others, helping followers grow and succeed, putting followers first, and behaving ethically) was represented by four items. Each item of the SL-28 is a 7-point Likert rating scale anchored as follows: 1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = neutral, 5 = slightly agree, 6 = agree, and 7 = strongly agree. To shorten the SL-28 instrument, Liden et al. (2015) identified the single items that best represented each of the seven dimensions (i.e., the item with the highest factor loading on the relevant dimension and with the smallest cross-loadings on other dimensions). The

seven items identified in that way became the seven items that form the Servant Leadership Scale (SL-7), and servant leadership is measured as an aggregate construct by averaging ratings across the seven items. Consequently, scores can vary from 1 to 7 with lower scores indicating less servant leadership and higher scores indicating greater servant leadership. Although each item in the SL-7 provides an ordinal scale of measurement (Brown, 2011), the averaged final score was treated as an interval scale variable, consistent with the recommendation of Meyers et al. (2017).

In addition to providing information about their athletic directors' servant leadership qualities, the associate athletic directors were also called upon in this study to provide information about their athletic directors' gender and age. Gender information was collected using a multiple-choice item with two options—male and female. Gender was coded for data analysis as a binary variable (0 = female, 1 = male). Binary variables are routinely included as independent variables in multiple regression analyses (Meyers, et al., 2017). Information about age was collected by asking associate athletic directors to report their athletic directors' age in years which provided a ratio scale of measurement. Ratio scale variables may also be included as independent variables in multiple regression analyses (Meyers et al., 2017). It is likely that some respondents did not know the exact age of their athletic directors, but instructions to respondents encouraged them to ask for that information if they were uncertain. Realistically, some respondents may have chosen instead to estimate their athletic director's age. This would have the effect of introducing random error variability into the age variable, which would attenuate correlations involving the age variables. Some error variance is an unavoidable reality of social science research and was not limited in this study to just the age variable. The subjectivity involved when respondents rated their athletic directors' servant leadership characteristics also contained variance due to measurement error.

4. Results

The data file downloaded from Survey Monkey® contained 136 responses. Records that did not include complete data on the study's key variables were deleted from the file. Data from 29 cases showed missing data on the key variables and were deleted, leaving 107 cases in the file.

Data were first screened for excessively rapid survey completion times, such as "speeders." Survey completion times were calculated from two metavariables that were automatically collected by the SurveyMonkey® software—date and time of the start and completion of the survey. Completion times ranged from 1 to 1440 minutes, with a median of 2 minutes (SD = 142.44). Those completion times were standardized and screened for z-scores exceeding +3.30 ($p < .001$). Because

the majority (61.8%) of surveys were completed quite quickly, no respondents stood out as "speeders" by the criterion set for making that determination. There were a small number of respondents who took an hour or longer to complete the survey, but it was assumed that this might have resulted from interruptions during the completion of the survey and those records were retained in the file.

Frequency distributions were generated for all survey items to identify out-of-range values and to check items for appropriate levels of data variability. No out-of-range values were found and there was reasonably good variability on all of the study's key variables. Although, variability on athletic directors' gender was somewhat truncated by virtue of the disproportionate number of males (82.4%, compared to only 17.6% females). Gender was treated as a dichotomously scored nominal scale variable, scored as 0 = female and 1 = male. Athletic directors' ages showed strong variability with ages ranging from 31-78 years. The age variable was treated as a ratio scale variable. Variability was also adequate on seven items of the SL-7instrument, with responses ranging from 2 to 7 on all items (responses of 1 were possible but none were observed). Having determined that there were no out-of-range values on the SL-7 items, SL-7 total overall scores were calculated by averaging responses across the seven items.

The next data quality assessment screened for multivariate outliers. Multivariate outliers were screened by calculating the Mahalanobis distance statistic (D) for each case using their responses to the seven items of the SL-7. The D statistic measures the degree to which each case shows a pattern of scores that is different from the average pattern shown by the rest of the sample. Values of D were evaluated against the chi-square distribution with $df = 7$ (the number of variables used in calculating D) using a stringent level of significance ($p < .001$; Meyers et al., 2017). Three multivariate outliers were identified in this study and were deleted from the data file, leaving 104 cases.

The next step in data cleaning was screening for univariate outliers. Univariate outliers show extremely high or low scores relative to the rest of the sample. Univariate outliers were identified in this study by standardizing study variables and screening for z-scores exceeding +3.30 ($p < .001$ in a normal distribution; Meyers et al., 2017). Two outliers were found in this way, both with unusually low scores on the seventh item of the SL-7 (assessing creating value for the community). Both of those cases were deleted in their entirety from the data file because they could not contribute to answering the study's research questions without complete SL-7 data. The deletion of those two cases brought the total number of cases to 102.

The general population and the target population were identical in this study and consisted of 312 current NCAA Division II intercollegiate athletic program associate athletic directors located in the United States. An a priori G*Power (Faul et al., 2007) analysis performed

5. Discussion

This section may be divided by subheadings. It should discuss the findings and analyze future implications. The section can also be divided into subheadings. The format is the same as in any other section during the planning stages of the study estimated that a sample of 55 cases, representing a response rate of 17.6%, would be suffi-cient to support all planned analyses with statistical power of 80%. The actual response rate, even following the elimination of data during data cleaning and screening, was considerably higher. Usable responses were received from 102 individuals, a response rate of 32.7%.

Table 1 provides descriptive statistics for the variables that were important to address the study's research questions. These statistics describe the characteristics of the athletic directors who were the focus of this study. The NCAA provided information on the gender distribution of athletic directors in Division II in their NCAA Demographics Database (National Collegiate Ath letic Association, 2018b). According to that source, 255 (81.7%) athletic directors in Division II are males, and 57 (18.3%) are female. The overall NCAA demographics of NCAA Division II athletic directors compares very closely with the gender distribution of athletic directors in this study, where there were 84 (82.4%) males and 18

Table 1.

Descriptive Statistics for the Athletic Directors (N = 102)

Continuous Variables	Min	Max	*M*	*SD*	Skew	Kurtosis
Age	31	78	51.17	9.55	0.26	--0.40
Servant Leadership[1]	2.86	7.00	5.6	0.89	-0.63	0.20

Categorical Variables	*f*	Percent
Gender		
Female	18	17.60%
Male	84	82.40%
Total	102	100.00%

Note. [1] Scores on the SL-7 measure of servant leadership could range from 1 to 7.

females (17.6%). A chi-square goodness-of-fit test found no significant difference in the gender distributions of the study sample and the NCAA Division II population of athletic directors, $\chi 2(N = 102, 1) = 0.03$, $p = .871$.

The SL-7 used in this study was modified slightly from its original form to increase the relevance of the items to the circumstances involved. Specifically, the word "manager" was replaced with "athletic director" in each item. Cronbach's alpha coefficient was used for this purpose. The analysis found that the seven-item SL-7 instrument displayed a Cronbach's $\alpha = 0.84$ in the sample of 102 individuals. This value is within the range 0.80 to 0.89 described by Tavakol and Dennick (2011) as "good" (but not excellent) and is comparable to values of 0.80 and higher reported by Liden et al. (2015) in studies of six separate samples.

Corrected item-total correlations were calculated for each of the seven items of the SL-7 to identify any items that might have detracted from the instrument's internal consistency reliability. Those corrected item-total correlations measured the degree to which scores on each item were correlated with total scores calculated using the other items. As such, the corrected item-total correlations evaluated the extent to which each SL-7 item measured the same construct (servant leadership) that was measured by the other items of the instrument (Miller & Lovler, 2016).

The results of this item level analysis are summarized in Table 2, which shows both corrected item-total correlations and values of Cronbach's alpha that would result if items were deleted. As seen in that table, all corrected item-total correlations were strong ($r_{IT} \geq .50$; Cohen, Swerdlik, & Sturman, 2010; Warner, 2013), and the removal of any item from the instrument would have reduced its reliability as measured by Cronbach's alpha. It was concluded that the modified SL-7 instrument used in this study

Table 2.

Item Analysis of the Seven Items of the SL-7 Instrument (N = 102)

Item	Corrected Item Total Correlations	Cronbach's α if Item Deleted
1	.61	.82
2	.60	.82
3	.64	.82
4	.54	.83
5	.75	.79
6	.51	.83
7	.60	.83

Note. Cronbach's α = 0.84 for the whole seven-item instrument

displayed good internal consistency reliability that was comparable to that seen in previous research with the SL-7.

Data Analysis Procedures

Two a priori power analyses were performed using G*Power software (Faul et al., 2007) to estimate the sample size needed to provide 80% statistical power to detect effects of medium strength in all statistical analyses aimed at answering the study's research questions. The first power analysis estimated the sample size needed to test the significance of the increase in R^2 from Block 1 to Block 2, which addressed whether gender moderated the relationship between age and servant leadership (Research Question 3). The second power analysis estimated the sample size required to test the significance of the regression coefficients for the individual predictors in Block 1—specifically, athletic directors' gender (RQ1) and age (RQ2). These tests evaluated the main effects of gender and age on servant leadership. Those analyses indicated that a sample of n = 55 would be sufficient. That sample size was substantially exceeded with the obtained sample of 102 cases, meaning that this study had a sufficient sample

Table 3.

Summary of Methods and Results of Tests of Statistical Assumptions for the Hierarchical Multiple Regression Analysis

Statistical Assumption	How Evaluated	Met	Not Met	Corrective Action Taken
Normality DV: SL- 7 Continuous IV: Age	Frequency histograms, normal Q-Q plots, measures of skewness and kurtosis	✓		SL-7 scores required a square-root normalizing data transformation with reflection of the transformed scores. Age provided a close approximation to the normal cure without a data transformation.
Linearity of relationship between continuous variables SL-7 and Age	Scatterplot with line and quadratic curve of best fit	✓		No corrective action needed
Absence of multicollinearity	Calculated tolerance values for all predictors and screened for values less than .10	✓		Mean centered the Age variable and also calculated the Gender x Age interaction term using mean centered Age to mitigate multicollinearity.
Homoscedasticity	Examined plot of residuals on predicted values for rectangular arrangement of points	✓		No corrective action needed
Absence of outliers	Examined plot of residuals on predicted values for outliers; used casewise diagnostics output from SPSS	✓		No corrective action needed

size to detect weaker effects.

Statistical assumptions and the methods by which they were evaluated are summarized in Table 3 along with corrective actions taken, if needed, to meet the statistical assumptions. All statistical assumptions for the multiple regression analysis were satisfied. Methods used to test the statistical assumptions of the hierarchical multiple regression analysis are presented in detail after the summary.

Normality. The normality of the distribution of scores on the SL-7 dependent variable was evaluated visually, by examining frequency histograms and normal Q-Q plots, and statistically, by calculating measures of skewness and kurtosis.

Figure 1 provides a frequency histogram of the SL-7 variable (on the left) and the normal Q-Q plot for the SL-7 (on the right). It was visually apparent that SL-7 scores were somewhat negatively skewed, even though the calculated measure of skewness = -0.63 was considerably lower than the criterion value + 1.0 suggested by Hair, Black, Babin, and Anderson (2010) to identify excessive skewness. Skewed distributions are typically leptokurtic, but there was only a slight tendency toward leptokurtosis in this distribution as confirmed by the measure of kurtosis = 0.20. With that in mind, it was determined that the distribution did not provide a good fit to the normal curve, despite the benig this

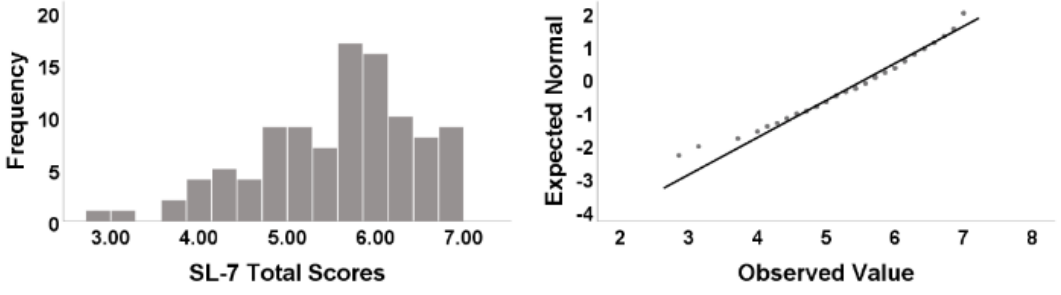

Figure 1. A frequency histogram (left) and normal Q-Q plot (right) used to evaluate the normality of the distribution of scores on the SL-7.

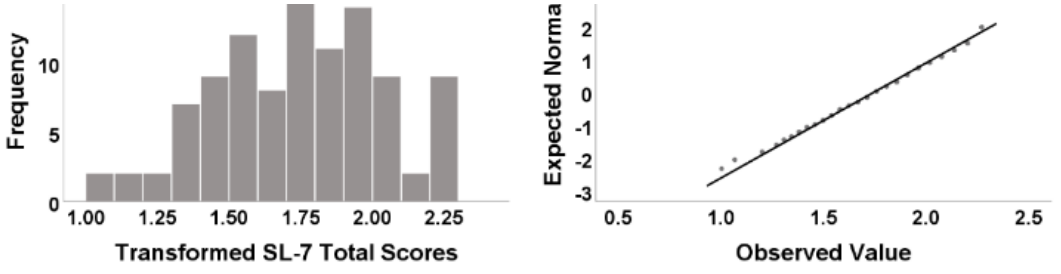

Figure 2. A frequency histogram (left) and normal Q-Q plot (right) used to evaluate the normality of the distribution of re-reflected square-root transformed SL-7 scores.

can cause (like reversing the signs of correlations), Tabachnick and Fidell (2013) suggested re-reflecting the transformed scores, thus eliminating the problem of score reflection. Accordingly, square-root transformed SL-7 scores were reflected in the manner described by those authors, and the results are displayed in Figure 2. That figure shows a frequency histogram for the re-reflected square-root transformed scores (on the left) and a normal Q-Q plot (on the right). A comparison of Figure 1 and Figure 2 shows that the square-root transformation was successful in removing some of the skewness that was present in the raw scores. This was confirmed by the measure of skewness = -0.19, reduced from skewness = -0.63 with raw scores. The transformation caused a shift from slight leptokurtosis in the raw score distribution (kurtosis = 0.20) to slight platy kurtosis in the transformed score distribution (kurtosis = -0.38), but the improvement in the visual characteristics of the distribution was undeniable.

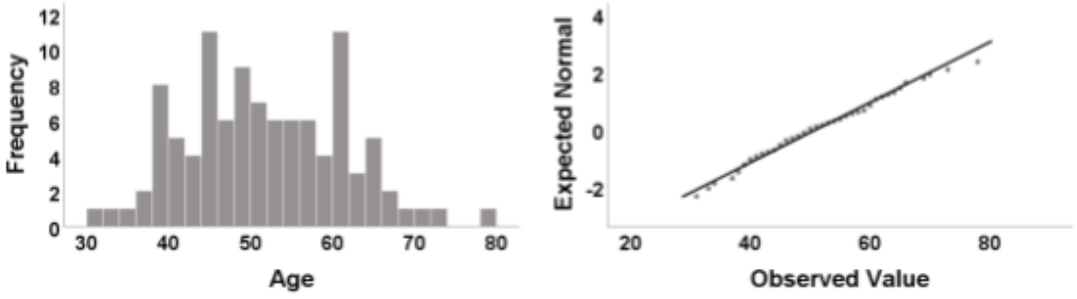

Figure 3. A frequency histogram (left) and normal Q-Q plot (right) used to evaluate the normality of the distribution of re-reflected square-root transformed SL-7 scores

While normalizing score transformations enable a researcher to meet the statistical assumptions of parametric procedures like multiple regression analysis, they have the negative effect of changing the scores; the transformed scores take on very different values than the raw scores. In the context of the present study, raw scores on the SL-7 could range from a very interpretable 1 = strongly disagree (indicating very little of the attribute) to 7 = strongly agree (indicating a great deal of the attribute) with a neutral point of 4 and mean of 5.60 (SD = 0.89). In contrast, the transformed SL-7 scores ranged from 1 to 2.27 with a neutral point of 1.27 and a mean of 1.75 (SD = 0.29). The simplest way of coming to terms with the changes in score values that result from data transformations is to remember that despite the transformation, higher scores indicate more of the attribute (servant leadership) and lower scores indicate less of the attribute.

With the arithmetic manipulations and score

changes that are involved in data transformation, one can be left wondering if the intended construct-servant leadership-is still being measured by the transformed scores. The simplest way of confirming that the transformed scores do indeed measure servant leadership is with a correlation. It is axiomatic in statistics that to the degree that two variables are correlated, they measure the same construct (Miller & Lovler, 2016). The correlation between the SL-7 raw scores and SL-7 transformed scores was +.994. It is clear from this that the transformed SL-7 scores measured the same construct that was measured by raw SL-7 scores. The normality of the independent variable, age,

was also evaluated using a frequency histogram, normal Q-Q plot, and measures of skewness and kurtosis. Figure 2 shows the histogram (on the left) and normal Q-Q plot (on the right). Despite the presence of a few scattered frequency spikes in the frequency histogram, the distribution of athletic directors' ages appeared to provide a reasonable approximation to the normal curve. This was confirmed by measures of skewness = 0.26 and kurtosis = -0.40. Based on these results, it was concluded that age approximated a normal distr-

ibution sufficiently, and no data transformation was necessary.

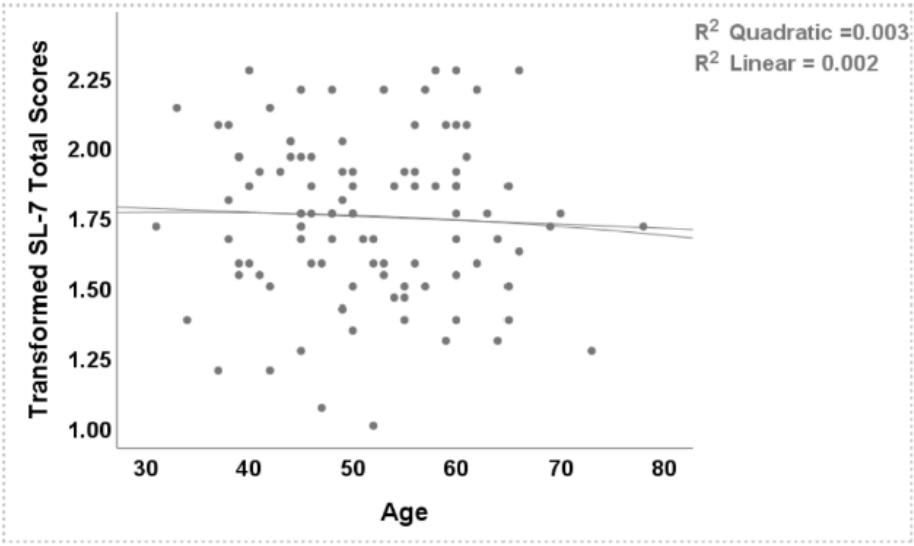

Figure 4. A scatterplot showing the relationship between athletic directors' age and their reported levels of servant leadership fitted with a line and quadratic curve.

Linearity. The linearity of the relationship between athletic directors' ages and servant leadership was evaluated by developing a scatterplot, which depicted the relationship between athletic directors' age and transformed SL-7 scores, then fitting both a line and a quadratic curve through the scatterplot. A strong nonlinear relationship was identified as one in which the curve provided both a good fit (measured by a strong R2 value for the curve) and

a substantially better fit than the line (measured by R2 for the line). Figure 4 shows the scatterplot with a line and curve of best fit. Neither the linear or quadratic relationship between athletic directors' age and their reported levels of servant leadership was strong. Most importantly for evaluating the statistical assumptions of the multiple regression analysis, there was no strong evidence of nonlinearity, so the linearity assumption was satisfied.

Absence of multicollinearity. Multicollinearity was evaluated in this study by performing a preliminary run of the hierarchical multiple regression analysis to examine the diagnostic tools included in the output, including values of the tolerance statistic for each of the predictors. The tolerance statistic indicates the proportion of variance in each predictor that is not explained by the other predictors in the analysis (Meyers et al., 2017). With athletic directors' age (mean centered), gender, and the gender x age interaction term as predictors, the tolerance values associated with each were 0.10, 0.80, and 0.10 respectively, all within acceptable limits (Stevens, 2009).

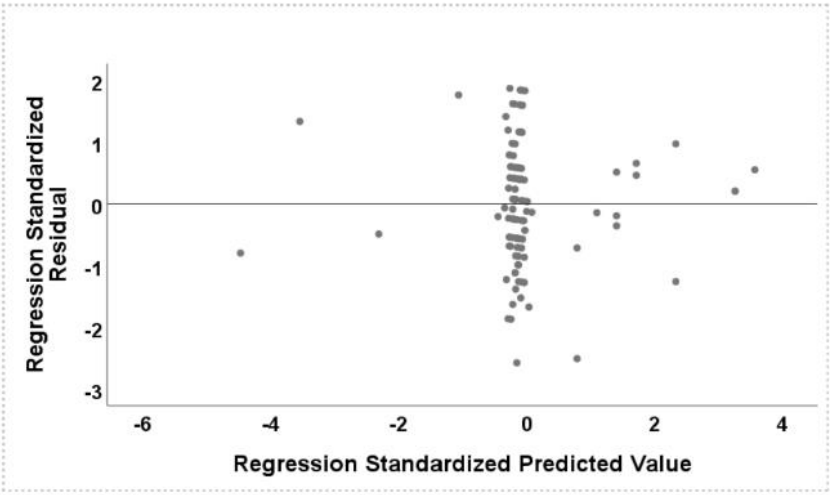

Figure 5. Plot of prediction errors (residuals) as predicted values used to evaluate the assumption of homoscedasticity.

Homoscedasticity. In multiple regression analysis, it is assumed that errors of prediction are approximately equally distributed (dispersed) across the full range of predicted values (Tabachnick & Fidell, 2013). In a bivariate regression analysis, homoscedasticity is displayed by an approximately equal scattering of points around the regression line of Y on X fitted through the scatterplot depicting the relationship between X and Y (Tokunaga, 2019). In multiple regression, the assumption of homoscedasticity is evaluated using a plot of residuals (prediction errors) on predicted values (Tabachnick & Fidell, 2013). That plot is included in the diagnostic output from the SPSS

multiple regression analysis and is shown in Figure 5. The fact that the points in the plot were relatively equally vertically dispersed around the horizontal line in the plot along the full range of the X-axis indicates that the homoscedasticity assumption was satisfied.

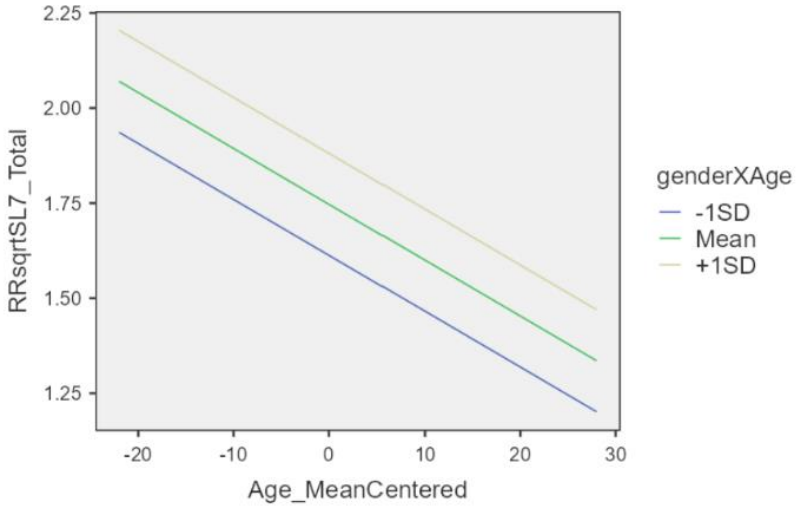

Figure 6. Results of moderated multiple regression analysis

Outliers. It is assumed in multiple regression analysis that there are no outliers (Tabachnick & Fidell, 2013). In a bivariate regression analysis, outliers appear as points unusually far away from the regression line of Y on X fitted through a scatterplot depicting the relationship between X and Y (Tokunaga, 2019). In multiple regression anal-

ysis, outliers can be observed in the plot of residuals on predicted values (Figure 5.) as points that are unusually high or low on the vertical axis. Such cases are also identified in the case wise diagnostics output of the SPSS multiple regression procedure (Tabachnick & Fidell, 2013). In this study, "unusually" was defined as falling 3.3 or more standard deviations from the mean (Meyers et al., 2017). No such outliers were identified in this study.

The hierarchical multiple regression analysis. Hierarchical multiple regression analysis was used to address the study's research questions. In this analysis, athletic directors' servant leadership (as measured by the square-root transformed SL-7 scores) served as the dependent variable. Athletic directors' age (mean- centered) and gender (coded as a binary variable, 0 = female and 1 = male) served as the independent variables. Gender and age were entered as predictor variables in Block 1 of the analysis. The gender x

age interaction term was entered in Block 2 of the analysis. When hierarchical multiple regression analysis is used in this manner to evaluate a moderator effect, it is referred to as moderated multiple regression analysis (Aguinis & Gottfredson, 2010; Frazier et al., 2004). Figure 6 clearly shows that there was no significant interaction between the variables because the lines did not intersect.

The study's research questions were addressed by first evaluating the gender x age interaction effect (the focus of RQ3). The interaction effect in an analysis of this type is evaluated first because the presence of an interaction effect obviates any straightforward interpretation of main effects (Frazier et al., 2004; Meyers et al., 2017). In this study, a significant gender x age interaction effect would mean that the nature of the relationship between age and servant leadership (RQ1) depends upon a participant's gender, and the nature of the relationship between gender and servant leadership (RQ2) depends upon a participant's age. However, in the absence of a significant gender x age interaction effect, attention can be turned to an evaluation of the main effects. The main effects under investigation were those of gender (i.e., the correlational relationship between gender and servant leadership, which is the focus of RQ1) and age (i.e., the correlational relationship between age and servant leadership, which is the focus of RQ2). These main effects were evaluated by checking the significance of the regression coefficients associated with gender and age in Block 1 of the hierarchical multiple regression analysis, that is, without the nonsignificant interaction term included in the model. A significant regression coefficient associated with age would indicate that age explains significant unique variance in servant leadership, which is the variance that is not accounted for by gender. Similarly, a significant regression coefficient associated with gender would indicate that gender explains significant unique variance in servant leadership, that is the variance that is not accounted for by age.

Table 5.

Table 4.

Study Variable Intercorrelations and Variable Descriptive Statistics (N = 102)

Variables	1	2	3	*M*	*SD*
1 Age				51.17	9.55
2 Gender	.20*[1]			0.82[2]	0.38[2]
3 Servant Leadership	-.05	-.06[1]		1.75	0.29

Note. * $p < .05$.

Table 6.

Regression Coefficients and Test of the Significance of the Coefficients at Blocks 1 and 2

Block		Unstandardized B	Std. Err.	Standardized β	*t*	*p*
1	(Constant)	1.78	0.07		25.8	<.001
	Age[1]	-0.00	0.00	-0.04	-0.38	.707
	Gender	-0.04	0.08	-0.05	-0.48	.630
2	(Constant)	1.72	0.08		22.34	<.001
	Age[1]	-0.02	0.01	-0.49	-1.57	.121
	Gender	0.02	0.08	0.02	0.19	.847
	Gender x Age	0.02	0.01	0.47	1.52	.131

Overview of the results

The dependent variable in the hierarchical multiple regression analysis was athletic directors' servant leadership, as reported by their associate athletic directors using the SL-7 instrument. Gender and mean centered age were entered as predictors variables in Block 1 of the analysis and the significance of the regression coefficients associated with those variables evaluated the main effects of the variables. The significance of the regression coefficient for gender assessed the degree to which gender was associated with servant leadership—RQ1. The significance of the regression coefficient for the mean centered age assessed the degree to which age was associated with servant leadership—RQ2. The interaction term (mean centered gender x age) was entered at Block 2 and the significance of the increase in R2 from Block 1 to Block 2 provided an evaluation of the degree to which gender moderated the relatio-nship between age and servant leadership—RQ3.

Table 4 provides variable intercorrelations and descriptive statistics for the study variables. Table 5 summarizes the results of the hierarchical multiple regression analysis at Blocks 1 and 2. Table 6 provides regression coefficients and tests of the significance of those coefficients for Blocks 1 and 2. Portions of these results that pertain to each of the study's research questions are presented next.

Gender was a binary nominal scale variable coded 0 = female, 1= male. Consequently, correlations involving gender are point-biserial correlations. The weak, but statistically significant correlation between gender and age indicates that male athletic directors were significantly older female athletic directors. The mean of a binary var-

iable like gender is an interpretable value which

indicates the proportion of cases that scored 1 (i.e., male). The standard deviation is also an interpretable value that ranges from 0 (when all cases scored 0 or all cases scored 1) to a maximum value of .50 (when cases are evenly split between 0 and 1).

Results related to RQ1. Is there a relationship between gender and servant leadership among NCAA Division II athletic directors? Having established that the gender x age interaction effect was nonsignificant, the main effects of gender and servant leadership were evaluated at Block 1 with the interaction term excluded from the model (Engqvist, 2005). The bivariate correlation between gender and servant leadership was nonsignificant, r(100) = -.06. The relationship between gender and servant leadership, controlled for age, was evaluated by examining the significance of the regression coefficient (β = -0.05) assigned to gender in Block 1 of the analysis. Gender did not predict a statistically significant unique portion of the variance in servant leadership among NCAA Division II athletic directors, t = -0.48, p = .630. It was concluded that there was insufficient evidence in this study to reject the null hypothesis that servant leadership is not significantly related to gender among NCAA Division II athletic directors. Expressed more directly, there was insufficient evidence to conclude that gender is related to servant leadership among NCAA Division II athletic directors.

Results related to RQ2. Is there a relationship between age and servant leadership among NCAA Division II athletic directors? The relationship between age and servant leadership was evaluated by examining the significance of the regression coefficient (β = -0.04) assigned to age in Block 1 of the analysis. The bivariate correlation between age and servant leadership was nonsignificant, r(100) = -.05, not significant. Age did not predict a statistically significant unique portion of the variance in servant leadership among NCAA Division II athletic directors, t = -0.38, p = .707. It was concluded that there was insufficient evidence to reject the null hypothesis that servant leadership is not significantly related to age among NCAA Division II athletic directors. Expressed more directly, there was insufficient evi-dence to conclude that age is related to servant leadership among NCAA Division II athletic dire-ctors.

Results related to RQ3. Does gender moderate the relationship between age and servant leadership in NCAA Division II athletic directors? The significance of the gender x age interaction (or moderator) effect was tested first by evaluating the significance of the increase in R2 from Block 1 to Block 2. That increase in R2 is attributable to the interaction term and in this study addresses RQ3. The value of R2 at Block 1 (with gender and age included in the model) was

.01. With the addition of the gender x age interaction term at Block 2, R2 increased to .03. That slight increase in explained variance in servant leadership was not statistically significant, $F(1, 98) = 2.32$, $p = .131$. It was concluded that there was insufficient evidence to reject the null hypothesis that gender does not significantly moderate the relationship between age and servant leadership in NCAA Division II athletic directors. Expressed more directly, there was insufficient evidence to conclude that gender moderates the relationship between age and servant leadership among NCAA Division II athletic directors.

In the absence of statistically significant findings, the statistical power of an analysis becomes an important consideration. This is because the lack of significant findings might be a reflection of Type II or "beta" error (β). A Type II error has occurred if an effect (such as the interaction or main effects tested in this study) actually exists in the population, but sampling error resulted in the failure to observe that effect as a statistically signi-
ficant finding in the sample that was drawn from the population. What is the probability that the nonsignificant gender x age interaction effect and/or the nonsignificant gender and age main effects were due to Type II errors? The answer is related to the strength of those effects and how much statistical power was provided by a sample of N = 102 to detect them using the statistical procedures that were employed in this study. Statistical power is equal to $1 - \beta$, meaning that as power increases, the likelihood of making a Type II or β error decreases. Knowing how much power was available to detect an effect of a given size enables one to calculate the probability of making a Type II or (β) error in the test for that effect.

The strength of the observed gender x age interaction effect (RQ3) was measured as the change in R2 from Block 1 to Block 2. The partial R2 value was .02. G*Power software was used to calculate an observed Cohen's f 2 effect size for this partial R2 value. The observed effect size was $f2 = .02$, considered to be a small effect (Dattalo, 2008). That observed effect size was used along with the following parameters in a post hoc G*Power analysis: $\alpha = .05$, $N = 102$, number of tested predictors = 1 (the interaction term), and the total number of predictors = 3. Observed power for the interaction effect was estimated as $1 - \beta = .30$. It was concluded from this that for a weak interaction effect like that seen in this study (i.e., Cohen's $f2 = .02$), the available sample size provided statistical power of only $1 - \beta = .30$. The probability that a weak population effect like this would fail to be detected as a statistically significant sample finding (i.e., a Type II error) was .70.

The strength of the observed relationship between gender and servant leadership (RQ1) was measured at Block 1 as the squared partial

correlation between servant leadership and gender, controlling for age, r2 = .002, a very weak effect (Dattalo, 2008). G*Power found that this squared partial correlation translated to a Cohen's f2 value of .002. For a population effect this weak, a sample size of N = 102 provided a statistical power of only .07. Consequently, the probability that a weak population effect like this would fail to be detected as statistically significant (i.e., a Type II error) was estimated as .93.

The strength of the observed relationship between age and servant leadership (RQ2) was measured at Block 2 as the squared partial correlation between servant leadership and age, controlling for gender, r2 = .001. G*Power analysis translated this squared partial correlation to an extremely weak effect size, measured by Cohen's f^2 = .001 (Dattalo, 2008). For a population effect this weak, the statistical power provided by the ob-tained sample of N = 102 was only .06. Thus, the probability that a population effect this weak would fail to be detected as a statistically signifi- cant was .94. It can be concluded that all observed effect sizes in this study were very weak, and the obtained sample size did not provide sufficient statistical power to detect effects of this magnitude.

6. Conclusion

The purpose of this quantitative, correlational study was to determine if, and to what degree, the servant leadership of NCAA Division II athletic directors-as perceived by their immediate subordinates, the associate athletic directors- is related to the gender and age of the athletic directors. Further, the study sought to determine if, and to what degree, the gender of the athletic directors moderated the relationship between their age and servant leadership. Data were collected using an online survey sent to all 312 associate athletic directors in NCAA Division II intercollegiate athletic programs in the United States. Surveys were returned by 136 individuals; however data cleaning and quality screening reduced the usable data file to 102 cases, constituting a 32.7% response rate. This sample size met Krejcie and Morgan's (1970) standard for a representative sample and provided over 97% statistical power to support the statistical analyses used in the study to address the research questions (assuming moderate popular-tion effects and using the .05 level of significa-nce).

The SL-7 (Liden et al., 2015) instrument was slightly modified from its original form to serve as the dependent variable measuring servant leade- rship among NCAA Division II athletic directors as reported by their associate athletic directors. The internal consistency reliability of the revised instrument was evaluated using Cronbach's alpha and was found to be good, α = .84, which compared favorably to values reported by Liden et al. (2015). Two non-manipulated independent

(predictor) variables were evaluated in this study—athletic directors' gender and age. The gender x age interaction was also evaluated. These variables were analyzed using a hierarchical multiple regression analysis. At Block 1, gender and age (mean-centered) were entered as predictors. At Block 2 the gender x age interaction term was entered. The significance of the change in R2 from Block 1 to Block 2 served as a test of the degree to which gender moderates the relationship between age and servant leadership among NCAA Division II athletic directors (RQ3). The significance of the regression coefficients associated with gender and age in Block 1 served to test the degree to which gender and age were individually related to servant leadership.

Prior to performing the hierarchical multiple regression analysis, tests were conducted to determine if the statistical assumptions of that procedure were satisfied by the available data. The SL-7 scores were found to be somewhat negatively skewed and were normalized using a square-root data transformation followed by re-reflection of the transformed scores. Although multicollinearity can be problematic when hierarchical multiple regression analysis is used to evaluate interaction (moderator) effects, multicollinearity was mitigated in this study by mean centering the study' sole continuous predictor variable, athletic directors' age. With that corrective action, multicollin

earity was not excessive. All other assumptions of the procedure were satisfied without taking any further corrective actions.

The interaction (moderator) effect was evaluated first to address RQ3. With gender and age in the model (Block 1), R2 was .01. The addition of the gender x age interaction term (Block 2) increased R2 to .03, an increase of .02. This increase was not statistically significant, $F(1, 98) = 2.32$, $p = .131$. It was concluded that there was insufficient evidence to reject the null hypothesis that gender does not significantly moderate the relationship between age and servant leadership among NCAA Division II athletic directors; i.e., gender did not moderate the relationship between age and servant leadership.

The main effect of gender was evaluated by the test of significance of the regression coefficient assigned to gender, $\beta = -0.05$, at Block 1 (Engqvist, 2005). That regression coefficient was not significant, $t = -0.48$, $p = .630$. It was concluded that there was insufficient evidence in this study to reject the null hypothesis that is, gender was not found to be related to servant leadership among NCAA Division II athletic directors (i.e., gender was not found to be related to servant leadership).

The main effect of age was evaluated by the test of significance of the regression coefficient assigned to age, $\beta = -0.04$, at Block 1 (Engqvist,

2005). That regression coefficient was not signif icant, t = -0.38, p = .707. It was concluded that there was insufficient evidence in this study to reject the null hypothesis that age is not related to servant leadership among NCAA Division II athletic directors; that age was not found to be related to servant leadership.

None of the effects examined in this study were statistically significant. However, the effects observed in the sample were all very weak. Observed values of Cohen's f2 were .02 for the interaction effect, .002 for the main effect of gender, and .001 for the main effect of age. Post hoc G*Power analyses were used to estimate how much statistical power was provided by the obtained sample of N = 102 to detect population effects as weak as these observed effects (using α = .05). Statistical power for all tests was very low: for the gender x age interaction effect, 1 – β = .30; for the main effect of gender, 1 – β = .07; and for the main effect of age, 1 – β = .06. Of course, these weak values of statis-tical power also point to strong Type II (β) error probabilities associated with the tests. The available sample size was insufficient to provide adeq-uate statistical power to detect population effects as weak as the sample effects that were observed in this study.

Summary of Findings and Conclusion

Results related to RQ1: Is there a relationship between gender and servant leadership among NCAA Division II athletic directors? The relationship between gender and servant leadership was evaluated by examining the significance of the regression coefficient assigned to gender in Block 1 of the hierarchical multiple regression analysis (β = -0.05). That regression coefficient was not statistically significant, indicating that gender did not predict a statistically significant unique portion of the variance in servant leadership among NCAA Division II athletic directors, t = -0.48, p = .630. It was concluded that there was insufficient evidence in this study to reject the null hypothesis that servant leadership is not significantly related to gender among NCAA Division II athletic directors. Expressed more directly, insufficient evidence was found to conclude that gender is related to servant leadership among NCAA Division II athletic directors.

Previous research on gender and servant leadership produced mixed findings. Several authors (Barbuto & Gifford, 2010; Braye, 2000; Goodwin, 2011; Jacobs, 2011; Laub, 1999; Majd, 2018) reported no gender differences in servant leadership behavior. However, other researchers found gender differences, with women generally exhibiting stronger servant leadership behaviors than men (Beck, 2014; Fridell et al., 2009; Washington et al., 2006; Kim & Lee, 2020; Santos & Rodrigues, 2021). Findings of the present study fell on the side of no relationship between gender and servant

leadership.

Results related to RQ2: Is there a relationship between age and servant leadership among NCAA Division II athletic directors? The relationship between age and servant leadership was evaluated by examining the significance of the regression coefficient (β = -0.04) assigned to the age predictor in Block 1 of the analysis. Age did not predict a statistically significant unique portion of the variance in servant leadership among NCAA Division II athletic directors, t = -0.38, p = .707. It was concluded that there was insufficient evidence in this study to reject the null hypothesis that servant leadership is not significantly related to age among NCAA Division II athletic directors. Expressed more directly, there was insufficient evidence to conclude that age is related to servant leadership among NCAA Division II athletic directors.

Previous research studies regarding leadership research, age is one of the most common demographic questions asked of participants. However, no research was identified that specifically examined the correlation between age and overall levels of servant leadership. Barbuto and Gifford (2010) examined the relationship between demographic characteristics and five specific servant leadership behaviors. None of the demographic characteristics included in their research was significantly related to the servant leadership behavior that they examined, including age. In the present study, the test of the significance of the relationship between servant leadership and age carried sufficient sta-

tistical power to have an 80% chance of detecting a population interaction effect of medium strength and still no significant interaction effect emerged.

Results related to RQ3: Does gender moderate the relationship between age and servant leadership in NCAA Division II athletic directors? The significance of the gender x age interaction (or moderator) effect was tested by evaluating the significance of the increase in R2 from Block 1 to Block 2 in the hierarchical multiple regression analysis. At Block 1, with gender and age included as predictors, R2 = .01. At Block 2, with gender, age, and the gender x age interaction term included as predictors, R2 = .03. The increase in R2 from Block 1 to Block 2 was not statistically significant.

Consequently, it was concluded that there was insufficient evidence to reject the null hypothesis that gender does not significantly moderate the relationship between age and servant leadership in NCAA Division II athletic directors. Expressed more directly, there was insufficient evidence to conclude that gender moderates the relationship between age and servant leadership among NCAA Division II athletic directors. Since the test of the significance of the change in R2 from Block 1 to Block 2 carried greater than 80% statistical power to detect an interaction effect of medium strength,

failure to detect the effect in this study was either an unlikely Type II error or the population effect was considerably weaker than medium strength.

Theoretical implications.

Prior to this study, there was a gap in the literature regarding the relationship between gender, age, and servant leadership of NCAA Division II athletic directors (McCuddy & Cavin (2009); Parris and Welty Peachey, (2013). The results of this quantitative correlational study failed to identify significant relationships between gender and serv-ant leadership or age and servant leadership in NCAA Division II athletic directors. This study also failed to identify gender as a significant moderator of the relationship between age and servant leadership in NCAA Division II athletic directors. The findings were inconsistent with previous empirical research on gender and servant leadership that indicated that women demonstrate higher servant leadership behavior than men ((Beck, 2014; Fridell et al., 2009; Washington et al., 2006). However, the findings of this study were consistent with other research, which found no re-lationship between gender and servant leadership behavior (Barbuto & Gifford, 2010; Braye, 2000; Goodwin, 2011; Jacobs, 2011; Laub, 1999; Majd, 2018). It is not clear why the relationship between gender and servant leadership is seen only in some studies but not others. The fact that the gender x age interaction effect was found to be nonsignificant in this study suggests that age differences from one study to the next are probably not responsible for the different study outcomes. That is, age probably does not moderate the relationship between gender and servant leadership. Additional research should be conducted to identify variables that moderate the relationship between gender and servant leadership and that are responsible for the inconsistent results linking gender and servant leadership. Those studies might evaluate a wider variety of other potential moderating variables than was the case in this study using in-formation gathered from a broader variety of sources than were used. Instead of relying on only the perceptions of associate athletic directors, other individuals who are familiar with the characteristics of athletic directors might be interviewed or surveyed. In future studies, researchers would be advised to collect data on as many potential moderating variables as possible.

Recommendations

Prior to this study no known research had been conducted to determine if, and to what extent, the servant leadership of NCAA Division II athletic directors -as perceived by their immediate subordinates, associate athletic directors- is related to gender and age of the athletic directors. This research also evaluated the degree to which gender moderates the relationship between age

and servant leadership. The researcher recommends that this study be extended to include additional variables and additional intercollegiate athletic department administrative staff such as sports information directors, head athletic trainers, and facilities coordinators who are also considered immediate subordinates of the athletic director. Head coaches and student-athletes could provide another perspective in future research on servant leadership, as there exists a unique relationship between head coaches and student-athletes.

Second, the instrument used in this study, the SL-7, provided only a global overall measure of servant leadership. It is recommended that research using the SL-28, another instrument that measures servant leadership, might provide a more in-depth review of an NCAA athletic director's servant leadership. Unlike the SL-7, the SL-28 provides subscale scores on each of the seven components of servant leadership. Age, gender, and other characteristics of athletic directors and those who work with student-athletes may be related to one or more of these components of serv-ant leadership while not showing significant rela-tionships to overall servant leadership.

Third, this study explored the extent to which athletic directors in NCAA Division II institutions display servant leadership, however, it is also important to study this special leadership style in the other NCAA divisions. Therefore, future research on servant leadership as a potential leadership style for NCAA Division I and NCAA Division III athletic directors should be explored to extend the generalizability of the findings.

The goal of this study was to determine if there exists a relationship between gender, age, and servant leadership. This study did not reveal any statistically significant relationships between those variables, nor were there any findings to suggest that gender moderates the relationship between age and servant leadership among NCAA Division II athletic directors. Because the results of this study found no significant correlational relationships and also failed to discern any gender x age interaction effect on servant leadership, the use of this study as the basis for making recommendations for future practice is limited.

The practical implications of these findings are notable. First, organizations can confidently encourage the development and implementation of servant leadership across diverse age groups and among all genders without concern for diminished effectiveness or credibility. Second, leadership training programs can emphasize servant leader-ship as an inclusive model that transcends tradi-tional demographic boundaries, supporting equi-table development opportunities. Lastly, these re-sults challenge persistent stereotypes related to leadership traits, reinforcing that servant leadership is a universally applicable

style that resonates across various leader profiles. However, one important finding from this study was the confirmation that servant leadership is a leadership style that is practiced to greater or lesser degrees by athletic directors in NCAA Division II intercollegiate programs. Not all athletic directors are servant leaders, but some are, and Division II intercollegiate athletic programs provide an environment in which that leadership style might be particularly effective. In Division II, athletic directors have more interactive experience with student-athletes, and the mentoring of potential athletic administrators are frequent.

Most previous studies of leadership styles in intercollegiate athletic programs have focused on transformational and transactional leadership where the focus is on organizational goals and not on individuals. Servant leadership needs to be further studied and recognized as a viable form of leadership in the context of intercollegiate athletics. Current leadership research emphasizes a shared vision and the relationship between the leader and the follower (Wang, Waldman, & Zhang, 2014).

Servant leadership provides a people-centered approach that utilizes both community engagement and ethical components not found in other leadership styles. The NCAA has encouraged student-athletes to participate in community engagement activities. It is through these outreach programs that the student-athletes are educated about the needs of their local community. It is through the actions of the student athletes of giving back to the community and helping others reach their full potential, that student-athletes become servant
leaders.

REFERENCES

Aguinis, H., & Gottfredson, R. K. (2010). Best-practice recommendations for estimating interaction effects using moderated multiple regression. Journal of Organizational Behavior, 31(6), 776–786. https://doiorg.lopes.idm.oclc.org/10.1002/job.686

Andrade, M. S. (2023). Servant leadership: Developing others and addressing gender inequities. Strategic HR Review, 22(2), 52–57.https://doi.org/10.1108/SHR-06-2022-0032

Avolio, B. J., Walumbwa, F., & Weber, T. J. (2009). Leadership: Current theories, research, and future directions. (2009). Management Department Faculty Publications, 37. Retrieved from http://digitalcommons.unl.edu/managementfacpub/37

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice Hall.

Barbuto, J. E., & Wheeler, D. W. (2006). Scale development and construct clarification of servant leadership. Group & Organization Management, 31, 300–326. http://dx.doi.org/10.1177/1059601106287709

Barbuto, J. E., Jr., Fritz, S. M., Matkin, G. S., & Marx, D. B. (2007). Effects of age on transformational leadership behaviors and effectiveness. Journal of Leadership & Organizational Studies, 13(4), 258–270.https://doi.org/10.1177/1548051807307639

Barbuto, J. E., Jr., & Gifford, G. T. (2010). Examining gender differences in servant leadership: An analysis of the agentic and communal properties of the Servant Leadership Questionnaire. Journal of Leadership Education, 9(2), 4–22. https://doi.org/10.12806/V9/I2/RF1

Barbuto, J. E., & Hayden, R. W. (2011). Testing relationships between servant leadership dimensions and leader member exchange (LMX). Journal of Leadership Education, 10, 4-21.

Barbuto, J. E., & Gottfredson, R. K. (2016).

Human Capital, the Millennial's Reign, and the Need For Servant Leadership. Journal of Leadership Studies,10 (2),59–63.doi: 10.1002/jls.21474

Barthel, B., & Buengeler, C. (2023). Servant versus directive leadership and promotability: Does leader gender matter? Frontiers in Psychology, 14, Article 957121. https://doi.org/10.3389/fpsyg.2023.957121

Bass, B. M. (1999). Two decades of research and development in transformational leadership. European Journal of Work and Organizational Psychology, 8(1), 9-32. doi: 10.1080/135943299398410

Bass, B. M., & Riggio, R. E. (2006). Transformational leadership (2nd ed.). Mahwah,NJ: Lawrence Erlbaum Associates.

Beck, C. D. (2014). Antecedents of Servant Leadership:AMixedMethods Study. Journal of Leadership & Organizational Studies, 21(3),299314. https://doi.org/10.1177/1548051814529993

Braye, R. H. (2000). Servant leadership: Beliefs and practice in women-led businesses (Doctoral dissertation).

Brown, S., & Bryant, P. (2015). Getting to know the elephant: A call to advance servant leadership through construct consensus, empirical evidence and multilevel theoretical development. Servant Leadership: Theory and Practice, 2(1), 10-35. Retrieved from http://csuepress.columbusstate.edu/sltp/vol2/iss1/2

Burton, L. J., & Welty Peachey, J. W. (2009). Transactional or transformational? Leadership preferences of Division III athletic administrators. Journal of Intercollegiate Sport,2(2),245259.https://doi.org/10.1123/jis.2.2.245

Burton, L. J., & Welty Peachey, J. W. (2013).The call for servant leadership in intercollegiate athletics. Quest, 65(3), 354371.http://dx.doi.org/10.1080/00336297.2013.791870

Burton, L. J., & Welty Peachey, J. W. (2013). Ethical leadership in intercollegiate sport: Challenges, opportunities, future directions. Journal of Intercollegiate Sport, 6(1),39-55.https://doi.org/10.1123/jis.6.1.39

Burton, L. J., Welty Peachey, J. W., & Wells, J. E. (2017). The role of servant leadershipin developing an ethical climate in sport organizations. Journal of

Sport Management, 31, 229-240.

Chiniara, M., & Bentein, K. (2016). Linking servant leadership to individual performance: Differentiating the mediating role of autonomy, competence and relatedness need satisfaction. The Leadership Quarterly, 27(1),124141.http://dx.doi.org /10.1016/j.leaqua.2015.08.004

Chung, H., & Lee, D. (2024). A critical review of servant leadership through the lens of gender and race–ethnicity. AcademyofManagementProceedings,20 24(1) .https://doi.org/10.5465/AMPROC.2024. 19677

Cohen, R. J., Swerdlik, M. E., & Sturman, E. D. (2010). Psychological testing and assessment: An introduction to tests and measurements (8th ed.). New York, NY: McGraw-Hill.

Dannhauser, Z., & Boshoff, A. B. (2006). The relationships between servant leadership, trust, team commitment and demographic variables. Proceedings of the 2006 Servant Leadership Research Round table. Virginia Beach, Virginia.

Dattalo, P. (2008). Determining sample size: Balancing power, precision, and practice ality. New York, NY: Oxford University Press.

Deci, E. L., & Ryan, R. M. (2008). Facilitating optimal motivation and psychological well-being across life's domains. Canadian Psychology, 49, 14-24. doi:10.1037/ 0708-5591.49.1.14s

DeSensi, J. T. (2014). Sport: An ethos based on values and servant leadership. Journal of Intercollegiate Sport, 7(1), 58-63. Retrieved from http://journals.humanKinet ics.com/jis

Dodd, R., Achen, R. M., & Lumpkin, A. (2018). Servant leadership and its impact on ethical climate. The Journal of Values-Based Leadership, 11(1), Article 11.

Engqvist, L. (2005). The mistreatment of covariate interaction terms in linear model analyses of behavioural and evolutionary ecology studies. Animal Behavior, 70, 967-971.

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*power 3: A flexi

ble statistical power analysis program for the social, behavioral, and biometrical sciences. Behavior Research Methods, 39, 175-191. Retrieved from http://web .ebscohost.com

Ferkins, L., Skinner, J., & Swanson, S. (2018). Sport leadership: A new generation of thinking. Journal of Sport

Management, 32,77-81. http://dx.doi.org/10.1123/jsm.2018-0054

Focht, A., & Ponton, M. (2015). Identifying primary characteristics of servant leadership: A Delphi study. International Journal of Leadership Studies, 9(1), 44-61.

Frazier, P. A., Tix, A. P., & Barron, K. E. (2004). Testing moderator and mediator effects in counseling psychology research . Journal of Counseling Psychology, 51(1), 115-134.http://dx.doi.ofr/10.1037/0022-0167.51.1.115

Fridell, M., Newcom Belcher, R., & Messner, P. E. (2009). Discriminate analysis gender public school principal servant leadership differences. Leadership & Organization Development Journal, 30(8), 722-736. http://dx.doi.org/10.1108/01437730911003894

Ghazi, N., Eriksson, C., & Smith, D. (2023). Female servant leaders show greater communal orientation in leadershipstyles.Journal of Leadership & Organization Studies,30(4),502–518. https://doi.org/10.1108/JLOS-07-2022-0032

Gigliotti, R. A., & Dwyer, B. (2016). Cultivating dialogue: A central imperative for the study and practice of servant leadership. Servant Leadership: Theory and Practice, 3, 69–88.

Goodwin, O. (2011). Committed to serve: A descriptive study of the growing presence of servant leadership within a nonprofit organization (Doctoral dissertation, Walden University, Minneapolis, MN).

Green, M. T., Rodriguez, R. A., Wheeler, C. A., & Baggerly-Hinojosa, B. (2015). Servant leadership: A quantitative review of instruments and related findings. Servant Leadership: Theory and Practice 2(2), 76-96. Retrieved from http://www.sltpjournal.org/uploads/2/6/3/9/26394582/servant_leadership-a quantitative_review.pdf

Greenleaf, R. K. (1970). The servant as leader. Newton Centre, MA: The Robert K. Greenleaf Center.

Greenleaf, R. K. (1977). Servant leadership: A journey into the nature of legitimate power and greatness. New York, NY: Paulist.

Hair, J. E., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis (7th ed.). Upper Saddle River, NJ: Prentice Hall.

Hogue, M. (2016). Gender bias in communal leadership: Examining servant leadership. Journal of Managerial Psychology, 31(4),837–849.

https://doi.org/10.1108
/JMP-10-2014-0292

Jacobs, K. (2011). Assessing the relationship between servant leadership and effective teaching in a private university setting. (Doctoral dissertation, Northcentral University, Scottsdale, AZ).

Jonker, C. S., & Dube, S. C. (2025). Servant leadership and wellbeing: A scoping review of positive organizational outcomes
. SA Journal of Human Resource Management,23,Artcle a2783.https://doi.org/
10.4102/sajhrm.v23i0.2783

Kim, H., & Lee, J. (2020). Women have the advantage in servant leadership. Person nel Psychology. https://doi.org/10.1111
/jopy.12345

Kool, M., & van Dierendonck, D. (2012). Servant leadership and commitment to change, the mediating role of justice and optimism. Journal of Organizational Change Management, 25(3), pp.422-433. https://doi.org/10.1108/09534811211228139

Kouzes, J. M., & Posner, B. Z. (2007). The leadership challenge (4th ed.). San Francisco, CA: Jossey-Bass.

Krejcie, R. V., & Morgan, D. W. (1970). De termining sample size for research activities. Educational and Psychological Measurement, 30, 607-610.

Laub, J. (1999). Assessing the servant organization: Development of the servant organizational Leadership assessment instrument (Unpublished doctoral dissertation, Florida Atlantic University, Boca Raton, FL).

Lemoine, G. J., & Blum, T. C. (2021). The leadership advantage of servant leadership: Gender, communion, and promotion. Academy of Management Journal, 64(3), 734–749. https://doi.org/10.5465
/AMJ.2020.0602

Liden, R. C., Wayne, S. J., Zhao, H., & Henderson, D. (2008). Servant leadership :Development of a multidimensional mea sure and multilevel assessment. The Lead ership Quarterly, 19, 161-177.http://dx.doi.org/10.1016/j.lequa.2008.01.006

Liden, R. C., Panaccio, A., Meuser, J. D., Hu, J., & Wayne, S. J. (2014a) Servant leadership: Antecedents, processes, and outcomes. In D. V. Day (Ed.), The Oxford handbook of leadership and organizations (pp. 357-379). Oxford University Press.

Liden, R. C., Wayne, S., Liao, C., & Meuser, J. D. (2014b). Servant leadership and serving culture: Influence on individual and unit performance. Academy of Man

agement Journal, 57(5), 1434-1451. http://dx.doi.org/10.5465/amj.2012.0034

Liden, R. C., Wayne, S. J., Meuser, J. D., Hu, J., Wu, J., & Liao, C. (2015). Servant leadership: Validation of a short form of the SL-28. The Leadership Quarterly, 26, 254-269.

Liu, P., & Shi, J. (2018). Transmission of service from leader to followers: A parallel multiple mediator model. Social Behavior and Personality, 46, 769–782. https: //doi.org/10.2224/sbp.6653

Lumpkin, A., & Doty, J. (2014). Ethical leadership in intercollegiate athletics. The Journal of Values-Based Leadership 2, 1-12. Retrieved from http://scholar.valpo .edu/jvblagu

Majd, M. (2018). Insights on practicing of servant leadership in the events sector. Sport, Business and Manament, 8(2), 134-152.doi:http://dx.doi.org.lopes.idm. oclc.org/10.1108/SBM-01-2017-0001

McCuddy, M. K., & Cavin, M. C. (2009). The demographic context of servant leadership. Journal of the Academy of Business & Economics, 9(2), 129–139.

Meyers, L. S., Gamst, G., & Guarino, A. J. (2017). Applied multivariate research: Design and interpretation (3rd ed.). Los Angeles, CA: Sage.

Miller, L. A., & Lovler, R. L. (2016). Foun

dations of psychological testing: A practical approach (5th ed.). Thousand Oaks, CA, US: Sage Publications, Inc.

National Collegiate Athletic Association. (2015). Division II membership decides new brand moniker. Accessed from http: //www.ncaa.org/about/resources/media-center/news/division-ii-membership-decides-new-brand-moniker

National Collegiate Athletic Association. (2016a). History of Division II. Retrieved from http://www.ncaa.org/about/history-division-ii

National Collegiate Athletic Association. (2018b). NCAA demographics database [Data visualization dashboard]. Retrieved from http://www.ncaa.org/about/resources/research/ncaa-demographics-database

Nee, F. A. (2020). A correlation study of gender, age, and servant leadership of NCAA Division II athletic directors (Publication No. 27548055) [Doctoral dissertation, Grand Canyon University]. ProQuest Dissertations & Theses Global.

Nguyen, P. H., Nguyen, L. T., & Nguyen, L. T. C. (2024). Target similarity and gender difference: Effects of servant leadership on supervisory commitment and supervisory citizenship behavior. IIM

Ranchi Journal of Management Studies, 3(2), 92–107. https://doi.org/10.1108/IRJMS-07-2023-0060

Panaccio, A., Henderson, D. J., Liden, R. C., Wayne, S. J., & Cao, X. (2015). Toward an understanding of when and why servant leadership accounts for employee extra-role behaviors. Journal of Business and Psychology, 30(4), 657- 675.doi.org /10.1007/s10869-014-9388-z

Parris, D. L., & Welty Peachey, J. (2013). A systematic literature review of servant leadership theory in organizational contexts. Journal of Business Ethics, 113(3), 377-393. http://dx.doi.org/10.1007/s10551-012-1322-6

Paustian-Underdahl, S. C., Smith-Sockbeson, C. E., Hall, A. V., & Halliday, C. S. (2024). Gender and evaluations of leadership behaviors: A meta-analytic review of 50 years of research. Leadership Quarterly, 35(6), Article 101822.Https://doi.org/10.1016/j.leaqua.2024.101822

Peterson, S. J., Galvin, B. M., & Lange, D. (2012). CEO servant leadership: Exploring executive characteristics and firm performance. Retrieved from https://www.researchgate.net/publication/263757279_CEO_Servant_Leadership_Exploring_Executive_Characteristics_and_Firm_Performance

Ren, L., & Shen, H. (2024). The relationship between servant leadership and team innovation performance: Mediating effect of innovation self efficacy.Heliyon, 10(6),Article27723.https:/ /doi.org/10.1016/j.heliyon.2024.e27723

Roby, P. (2014). Ethical leadership in college athletics. Journal of Intercollegiate Sport, 7, 3539. doi.org/10.1123/jis.2014-0086

Rodriquez de Rubio, A. R., & Galvez-Kiser, A. (2015). Gender and age differences in servant leadership. Academy of Business Research Journal, 1, 49-63.

Rosenthal, R., & Rosnow, R. L. (1975). The volunteer subject. New York, NY: Wiley.

Santos, R. S., & Rodrigues, L. (2021). Give twice to get the same: Gender impact on leaders' orientations and career paths. Journal of Leadership & Organizational Studies,31(2),234-245.https://doi.org/10.1177/08948453241232076

Spears, L. C. (2010) "Servant leadership and Robert Greenleaf's legacy". In Servant leadership: Developments in theory and research, Edited by: van Dierendonck, D. and Patterson, K. 11–23. Hamshire, England: Palgrave Macmillan.

Tabachnick, B. G., & Fidell, L. S. (2013).

Using multivariate statistics (6th ed.). Boston, MA: Pearson.

Tavakol, M., & Dennick, R. (2011) Making sense of Cronbach's alpha. International Journal of Medical Education, 2, 53-55.

Taylor, T., Martin, B. N., Hutchinson, S., & Jinks, M. (2007). Examination of leadership practices of principals identified as servant leaders. International Journal of Leadership in Education, 10(4), 401–419. https://doi.org/10.1080/13603120701408262

Tokunaga, H. T. (2019). Fundamental statistics for the social and behavioral sciences (2nd ed.). Los Angeles, CA: Sage.

Tomova Shakur, T. (2024). The age of leadership: Meta-analytic findings on leader age and perceived leadership style across cultures and industries. Personnel Psych ology,77(4),712–739. https://doi.org /10. 1111/peps.12644

van Dierendonck, D., & Nuijten, I. (2011). The servant-leadership survey: Development and validation of a multidimensional measure. Journal of Business and Psychology, 26(3), 249 267. https://doi. org/10.1007/s10869-010-9194-1

Walter, F., & Scheibe, S. (2013). A literature review and emotion-based model of age and leadership: New directions for the trait approach. The Leadership Quarterly, 24 (Leadership Quarterly Yearly Review: Advances in Traditional Leadership Theory and Research), 882 901.http://dx.d oi.org/10.1016/jlequa.2013.10. 003

Wang, G., Oh, I. S., Courtright, S. H., & Col bert, A. E. (2011). Transformational leadership and performance across criteria and levels: a meta-analytic review of 25 years of research. Group and Organization Management, 36, 223–270. http://d x.doi.org/10.1177/1059601111401017

Wang, D., Waldman, D. A., & Zhang, Z. (2014). A meta-analysis of shared leadership and team effectiveness. Journal of Applied Psychology, 99(2), 181-198. https://doi: /10.1037/a0034531

Warner, R. M. (2013). Applied statistics: From bivariate through multivariate techniques (2nd ed.). Los Angeles, CA: Sage.

Washington, R. R., Sutton, C. D., & Feild, H. S. (2006). Individual differences in servant leadership: The roles of values and personality. Leadership & Organization Development Journal, 27

(8), 700716. htt p://doi/10.1108/01437730610709309

Washington, R. R., Sutton, C. D., & Sauser, W. I. (2014). How distinct is servant leadership theory? Empirical comparisons wi th competing theories. Journal of Leadership, Accountability and Ethics, 11(1),11-23.