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LEARFIELD SPORTS-NACDA DIRECTORS'
CUP: CULTURE TYPE AS A POTENTIAL
MEDIATOR

Ryan D. Kettler

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**PREDICTORS IN FINISHING POSITION OF NCAA DIVISION
II SCHOOLS IN THE LEARFIELD SPORTS-NACDA
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MEDIATOR**

by

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DISSERTATION

Submitted in Partial Fulfillment of the
Requirements for the Degree of

Doctor of Philosophy

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DEDICATION

This dissertation is dedicated to my wife, Jessica, who encouraged me and supported me through this process. You are my best friend and my greatest support. I would like to also dedicate this dissertation to my two children, Madyson and Bryson. With dedication and perseverance, even the most difficult hurdles can be overcome.

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**PREDICTORS IN FINISHING POSITION OF NCAA DIVISION II SCHOOLS IN
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A POTENTIAL MEDIATOR**

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ABSTRACT

Predictor variables, institution type and annual allocated revenue, were investigated as potential predictors of success in NCAA Division II Athletic Departments, on the outcome variable (points scored in the Learfield sports-NACDA Directors' Cup), working through mediating variables representing culture type (clan, adhocracy, market, and hierarchy). Data were collected through an electronic survey emailed to all NCAA Division II institution athletic directors and head coaches. Data specific to institution type (public vs private) and the number of points an athletic department earned in the Learfield sports-NACDA Directors' Cup was also collected from archived records. Statistical testing included the use of SPSS and the PROCESS Macro to make inferences about direct effects of predictor variables on the outcome variable, inferences about specific indirect effects of predictor variables on the outcome variable through mediating variables, pairwise comparisons between specific indirect effects, and inference about the total indirect effect.

Of all the respondents (N=847) to the survey, 285 different NCAA Division II athletic departments were represented. Because of the definition and nature of culture, the number of usable athletic departments was reduced to 67 with a total of 337 respondents with usable data for analysis. Bivariate correlation analysis between the number of Directors' Cup points scored three culture types was found to be statistically significant. However, only the correlation between market culture the number of Directors' Cup points scored was found to moderate in size $r(335) = .250$. Mediation analysis found only one statistically significant interaction between a dependent variable and mediating variable leading to the outcome. Annual allocated revenue was found to effect the number of Directors' Cup points earned when operating through market culture. In addition, the mediating effect of market culture was found to be statistically different from adhocracy culture and hierarchy culture.

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Chapter 1

Introduction

According to Scott (2014), many different ways of measuring success in sport organizations exist and is dependent upon the type of sport organization, the level of the sport organization, and the ability to produce positive outcomes consistently. Some of the measures used in sport to evaluate performance include winning, ticket and merchandise sales, sponsorships, and media contracts. No matter what measures are used in evaluating performance, the end goal is to determine the overall effectiveness or success of the organization. For the purposes of this study, sport organization success was used interchangeably with organizational effectiveness.

Organizational effectiveness by itself is difficult to define. Hossein, Ramezanehghad, Yosefi, Sajjadi, and Malekakhlagh (2011) state, “organizational effectiveness is a broad concept referring to a wide range of variables at different organizational levels” (p. 6). Organizational effectiveness has many different meanings, especially to different constituents or stakeholders, which makes measuring organizational effectiveness a complicated task. According to Slack and Parent (2006), organizational effectiveness can be defined as the extent to which an organization reaches its goals. Chelladurai and Trail (2000) reported that in general, intercollegiate athletic organizations were concerned with the attainment of multiple goals. The researchers identified ten goals of intercollegiate athletics and broke them down into two categories. The first category is classified as performance goals and include winning,

entertainment, visibility and prestige, financial security, and national sport development. The second category of goals are developmental goals and include academic achievement, health and fitness, social and moral citizenship, careers, and culture of diversity. Of the ten goals identified by Chelladurai and Trail (2000), this research is most interested in winning as it is directly related to the outcome of points earned in the Learfield Sports-NACDA Directors' Cup. This outcome measure is explained in greater detail later in this section.

Cameron and Quinn (2011) state "success in organizations has more to do with company values, personal beliefs, and vision than with things like market forces, competitive positioning, and resource advantages" (p. 5). To Quinn and Rohrbaugh (1983), organizational effectiveness is an abstract notion carried out in the head of organizational theorists. Furthermore, organizational effectiveness is a complex social construct, not a concept. As Hossein et al. (2011) point out; no universal agreement exists on the precise definition of organizational effectiveness as it means different things to different groups of people.

Organizations exist in order to achieve a specific goal or set of goals and effectiveness of an organization can be measured by the degree to which an organization achieves those goals (Slack & Parent, 2006). Therefore, it could be argued that an organization that achieves its goals is not only an effective organization, but also a successful organization. If the creation of a successful organization is the main purpose of sport managers (Slack & Parent, 2006), then studying organizational effectiveness is key for the administration of a successful sport program. According to Lewin and Minton (1986), the question of why one

organization is more effective than another is as old as organizational research itself. In a review of organizational behavior research, Doherty (1998) reported findings of very few studies that examined the outcomes of organizational effectiveness. However, when addressing the issue of successful cultures, Scott (2014) discussed the importance of organizational culture on the long-term performance of an effective organization. Research in organizational culture has revealed that culture has an effect on organizational performance and organizational effectiveness (Cameron & Freeman, 1991; Cameron & Quinn, 2011; Dennison & Spreitzer, 1991).

It is commonly accepted by sport management scholars (Doherty & Chelladurai, 1999; Scott, 1997; Shilbury & Moore, 2006; Slack & Parent, 2006; Weese, 1995) as well as organizational management scholars (Cameron & Freeman, 1991; Deal & Kennedy, 1982) that an understanding of organizational culture can lead to enhanced organizational performance and long-term success. Scott (1997) suggests that organizational culture is a concept that has distinct applications for sport organizations. In addition, researchers have identified that organizational culture affects the ability of an organization to perform effectively and at a high level (Cameron & Freeman, 1991; Deal & Kennedy, 1982; Dennison & Spreitzer, 1991). Delobbe, Haccoun, and Vandenberghe (2000) suggested that identifying and understanding organizational culture is an essential step in evaluating the organizational performance of sport organizations. Furthermore, creating, managing, and changing organizational culture within sport organizations may play a significant role in successfully

dealing with internal and external challenges (Choi, Martin, & Park, 2008). While organizational culture has been identified as a meaningful variable in organizational effectiveness, few studies have attempted to explore the relationship between culture and effectiveness in the sport setting (Choi et al., 2008; Coyler, 2000).

Frost, Moore, Louis, Lundberg, and Martin (1985) stated that organizational culture potentially holds the solution to overcoming problems within an organization that lead to its ineffectiveness. In both the corporate and sport organizational settings, Scott (1997) reported that the bottom line often determines the success of the organization. For athletic programs, the bottom line may be winning games, sellout crowds, increased media attention, increased sponsorships, and increased donations from supporters.

Coyler (2000) points out that while little exploration of organizational culture in sport organizations has occurred, a sport organizations culture may give insights to the organizations success. Sport organizations are unique with many different factors that may affect their organizational effectiveness. In general, intercollegiate athletic departments are part of a university, have a hierarchical structure, contain different programs made up of different personalities, may be publicly funded, privately funded, or funded in a combination of the two methods, and may measure organizational effectiveness differently depending on the goals of the university and the athletic department. As Slack and Parent (2006) point out, little or no work in sport management has been done using the culture approach to understanding sport organizations, in

spite of its great potential. However, although empirical studies are still forthcoming, organizational culture has been considered an essential predictor in investigating overall organizational effectiveness in sport organizations (Choi et al., 2008). Because it is difficult to account for every part of organizational culture, the identification and use of specific dimensions of an organization's culture is necessary (Choi et al., 2010). Possibly due to this complexity, few studies have analyzed the organizational effectiveness of NCAA Division II athletic programs and the possible predictors of success within the athletic department.

In intercollegiate athletics, studies in organizational culture are still relatively new. Scott (1997) made connections for leaders of intercollegiate athletic departments between organizational culture theory from business and higher education to culture management. In addition, Scott (1999) investigated the connection between leadership and organizational climate as a contributor to organizational performance. Connections between financial resources and athletic success have also been made. Won (2004) used a resource-based view in studying NCAA Division I athletic programs. The researcher reported that an athletic department's resources were strongly related to its attainment of performance and development goals. In addition to resources, other factors play into the success of athletic departments. Type of institution, public or private, is also a variable of interest and is likely to have an effect on the organization.

While many measures of success may exist for NCAA programs, no measure is as publicly visible as the Learfield Sports-NACDA Directors' Cup. For

purposes of brevity throughout the remainder of the manuscript, this will be referred to as the “Director’s Cup.” Described by Learfield Sports as the crowning achievement in college athletics (Learfield, n.d.a.), this award began in 1993-1994 with Division I schools but has been expanded to include Division II schools, Division III schools, NAIA schools, and junior/community colleges (NACDA, n.d.a.). With the National Association of Collegiate Directors of Athletics (NACDA) providing support, a crystal trophy is given annually to the institution who scores the most points during the fall, winter, and spring sport seasons. The score total provides one measurement of effectiveness for university athletic departments (Lawrence, Li, Regas, and Kander, 2012).

NCAA Division II sports included in the scoring are the top seven scoring men’s sports and the top seven women’s sports (NACDA, n.d.). Points are automatically awarded in the first seven sports per gender where points are earned. If, during any sport season an institution scores points in more than seven sports in either gender, points will only be awarded for the top seven scoring sports for that gender. Points earned are based on preset point determinations specific to the type of sport and finishing position in that sport. For sports, which utilize a bracket when conducting championships, points are awarded based on the size of the bracket and finishing position. For sports, which do not utilize brackets when conducting championships, points are awarded to each individual place. A breakdown of points based on non-bracket and bracket championships is found in Appendix E. The institution scoring the most points during the course of the academic year is declared the winner at the

end of the spring season. Should two teams tie for first place in the Directors' Cup, one of two tiebreakers then determines the winner. First, the institution which won the most national championships during the year is declared the winner. If a winner still cannot be declared, the institution with the most second place finishes is declared the winner.

Little research exists surrounding the Directors' Cup and how a school can best position itself for success. In an attempt to identify measurable variables that may predict success in the Directors' Cup, Lawrence et al. (2012) collected and analyzed data made available by the Equity in Athletics Disclosure Act (EADA). The findings revealed, through multiple regression analysis, significant differences existed in determining finishing position for NCAA Division I schools in the Directors' Cup. Specifically, their data suggests that NCAA Division I schools' who want to improve their finishing position in the Directors' Cup, should allocate more financial resources in all women's sports, financial resources in areas that support all student-athletes, and salary equability for coaches among men's and women's programs. Echoing these findings, Steinbach (2006) wrote similar recommendations for athletic departments to improve finishing position in the Directors' Cup. The author cites schools such as Stanford as a model of leadership. Such schools invest considerably in women's athletic programs, invest heavily in athletic scholarships, and spread resources throughout the athletic department.

While financial resources are undeniably important to the success of a sport organization, sport organizations must adapt their structure and

management processes to meet the demands of each situation (Slack & Parent, 2006). The only way to adapt structure and make the changes necessary to enhance organizational performance is by understanding the nuances of the organization through the study of an organization's culture. Arogysawamy and Byles (1987) suggest success for an organization is found within the different characteristics unique to the organization. Such characteristics may include the ways in which a culture manifests itself (Trice & Beyer, 1984) and organizational variables such as strategy, environment, technology, and culture itself (Slack & Parent, 2006).

One starting point to begin understanding the culture of NCAA Division II athletic departments is with the NCAA. According to the NCAA website (About, n.d.), "all three NCAA divisions emphasize athletics and academic excellence for their student-athletes." The NCAA's overall mission is to make "athletics an integral part of the educational process at all member schools". Interestingly, how each school chooses to fund and administer its athletic program creates not only differences in programs themselves, but also in the way an athletic department defines success. At the NCAA Division II level, college experience for athletes are a combination of athletic scholarship and other means of financing college which include academic scholarships, financial aid, and money earned from employment.

Published on the NCAA website, the Division II philosophy is to conduct the intercollegiate athletics program based on sound educational principles and practices (NCAA, n.d.). In addition, the Division II philosophy should be part of

the institutions educational program and the primary concern of the athletics program should be the academic success of student athletes. Based on this philosophy statement, it would appear that the members of Division II institutions might judge athletic program success based on the academic success of its student athletes. This is further exacerbated by division II member institutions priorities and emphasis, which includes learning, service, passion, sportsmanship, resourcefulness, and balance (NCAA, n.d.). In fact, among the guiding principles of Division II member institutions is the statement that, “championships are intended to provide national-level competition among eligible student-athletes and teams of member institutions” (NCAA, n.d.). Based on the NCAA Division II philosophy statement, priorities and emphasis, and guiding principles, it would appear the NCAA defines success among member institutions athletic programs by participation and academic success.

Due to the components of organizational culture, values, beliefs, and patterns of meaning, studies in organizational culture have typically been qualitative (Slack & Parent, 2006). Cameron and Quinn (2011) reported three methods for measuring culture. The first method, qualitative, involved the immersion of the researcher into the culture in order to conduct in-depth observations. The second method, also qualitative, relies on the researcher looking at language patterns in documents, reports, stories, and conversations to reveal cultural patterns. The third method reported to measure culture is a quantitative approach involving questionnaires or interviews to assess culture. The advantage of the quantitative approach is that multiple viewpoints can be

assessed when evaluating the attributes of an organization's culture. When conducting a review of literature, often one finds research in which a quantitative approach is taken to assess organizational culture. However, there are few studies in which organizational culture is investigated in sport.

For this research, the Competing Values Framework was utilized as a means of diagnosing University Athletic Department organizational culture. Originally developed by Quinn and Rohrbaugh (1981) to investigate organizational culture in various organizational settings, the competing values framework (CVF) has been used to study organizational culture in business, education, and government, but has rarely been used in the sport industry (Choi et al., 2010). Coyler (2000) reported that the CVF may be useful in defining the organizational culture profile of sports organizations in order to improve organizational development. The CVF is advantageous in organizational culture studies because it provides quantitative data necessary for analysis and comparison of culture types within and between organizations (Coyler, 2000; Choi & Scott, 2009). Research findings of Cameron and Ettington (1988) show that cultural type is a good predictor of organizational effectiveness. According to Choi and Scott (2009), one of the most important applications of the CVF is as a guide for change. Based on the Competing Values Framework (CVF), the Organizational Culture Assessment Instrument (OCAI) was used to bring out the invisible, difficult to see culture of the athletic departments in the study. The OCAI allowed for the identification of important characteristics of a culture and a systematic way of measuring those characteristics.

Purpose of Study

The purpose of this study was to analyze the possible predictors in finishing position, as measured by total points earned, of the NCAA Division II schools in the Directors' Cup using the Organizational Culture Assessment Instrument. Specifically, the study addressed three primary objectives: (a) investigate the varying organizational cultures among NCAA Division II schools; (b) examine the relationship between identified organizational cultures and one's finish in the NCAA Division II Directors' Cup; and to (c) using a multiple mediator model, determine if culture type serves as a mediator between type of institution and budget on the Directors' Cup. In addition, a secondary objective of this study sought to fill a void in the research surrounding the influence of organizational culture on organizational effectiveness in NCAA Division II athletic departments.

When looking at the third objective more closely, the research makes the assumption that type of institution and an institution's annual allocated revenue operate through an organization's culture type causing an effect on the institution's Directors' Cup total points earned. Thus, a multiple mediation model is appropriate (see Figure 1). As previously mentioned, organizational culture is rarely studied in sport organizations. Even rarer is finding organizational culture research in which a mediation model is utilized. Using a parallel multiple mediation model, this study assumed institution type and institution budget had a direct effect on Directors' Cup total points earned. In addition, the model assumed institution type and institution annual allocated revenue indirectly effects Directors' Cup total points earned through culture type. Both assumptions

hold true the condition that no mediator among culture type causally influences another.

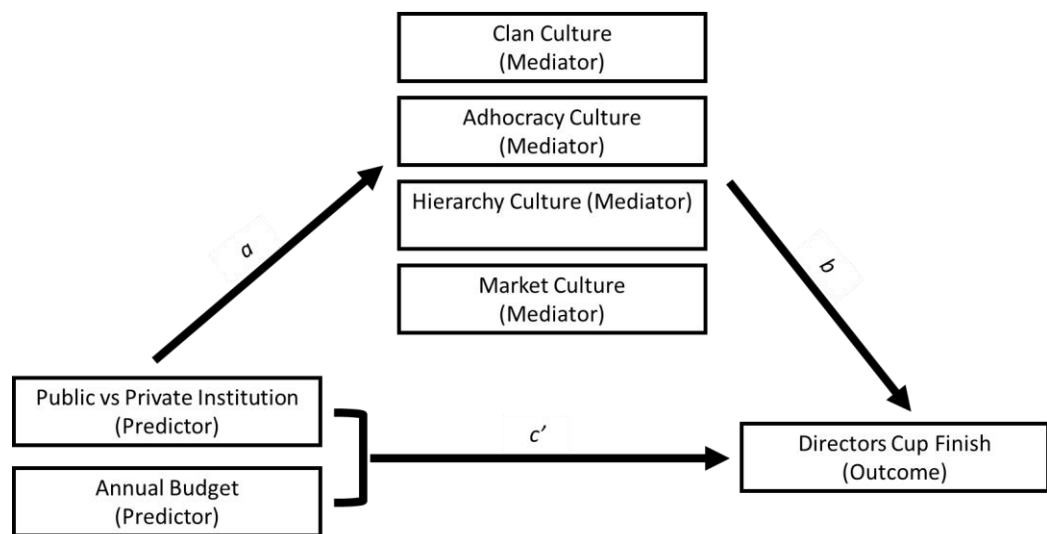


Figure 1: Multiple Mediation Model

This study investigated predictors of finishing position, measured by total points earned of NCAA Division II athletic programs in the Directors' Cup. In doing so, it was my hope that a practical application could be made for Athletic Administrators of NCAA Division II athletic programs in the way those programs are administered. Furthermore, the study was intended to fill a gap in the Sport Administration literature specific to organizational culture type in NCAA Division II athletic departments and in the use of mediation models in Sport Administration research.

Research Questions

Four specific research questions were posed for this study: (1) Which organizational culture type is most prevalent in NCAA Division II athletic departments? (2) Does one specific organizational culture type have a greater effect on an athletic department's Directors' Cup total points earned? (3) Does annual allocated revenue and institution type have a direct effect on Directors' Cup total points earned? (4) Does organizational culture have a mediating effect on annual budget and institution type resulting in an indirect effect on total points earned in the Directors' Cup? Since the definition of organizational culture includes phrases such as shared understandings, it was considered initially that at least fifty percent of athletic directors and head coaches at an institution needed to respond in order to increase confidence that the reported organizational culture was accurate. However, this approach was ultimately determined to severely limit the available data for analysis. Therefore, NCAA

Division II athletic departments that demonstrated a response rate from at least thirty-three percent of its members were sought for inclusion in the study.

Definition of Terms

With varying definitions of organizational culture and different ways in which the effectiveness of an organization may be defined and measured, a description of key terms specific to this study must be outlined. Quantitative studies, such as this one, operate more within the deductive model of fixed and set research objectives. Therefore, operational definitions were used and were written in specific language to this study rather than abstract, conceptual definitions (Criswell, 2013, p. 44). Thomas, Silverman, and Nelson (2015) define an operational definition as “some observable phenomena, as opposed to a synonym definition or dictionary definition (p. 63). The researchers state further, “an operational definition allows a researcher to test empirically whether or not the predicted outcomes can be supported” (p. 63). Operational definitions should be valid and reliable (Cohen & Morrison, 2013, p. 456) and explain exactly how the defined terms are used specific to the research (Thomas et al., 2015, p. 403). As such, defined terms in this research are operational and definitions are accepted in the research literature (Criswell, 2013, p. 44). This section is intended to clarify operational definitions of key terms used in this study.

1. *Competing Values Framework* – One possible approach to measuring organizational effectiveness, the competing values approach, operates on the premise that there is no one best criterion for measuring organizational effectiveness (Handa & Adas, 1996; Slack & Parent, 2006). Instead,

effectiveness is subjective and depends on researcher's value preferences. Having high levels of congruence with the way people in an organization think, their values and assumptions, and their thought processes, the competing values framework is a tool for diagnosing and implementing change in an organization (Cameron & Quinn, 2011.)

2. *Organizational Culture Assessment Instrument* – The organizational culture assessment instrument is based on the competing values framework and utilizes a variety of organizational effectiveness indicators to assess six dimensions of organizational culture (Cameron & Quinn, 2011).
3. *Organizational Culture* – The taken-for-granted values, beliefs, basic assumptions, expectations and shared understandings, and definitions present in an organization that provide the foundational basis for an organizations culture (Slack & Parent, 2006; Cameron & Quinn, 2011).
4. *Organizational Effectiveness* – The extent to which an organization achieves its goals (Slack & Parent, 2006), specifically total points earned in the Directors' Cup.
5. *Annual Allocated Revenue* – For the purposes of this study, annual allocated revenue refers to allocated revenue sources as reported by NCAA institutions to the NCAA. It does not include generated revenue sources, a statistic also reported by NCAA institutions to the NCAA.
6. *Total Points Earned* – The total points earned in the Directors' Cup determines an institutions finishing position. The more points earned, the

higher the finishing position. The institution earning the most points wins the Directors' Cup at the end of the competition year.

Limitations

Limitations of the current study exist. Specifically, one limitation of the study is a low response rate of athletic directors and head coaches resulting in a lack of available data for analysis. In order for an athletic department to be included in the study, a response rate of at least fifty percent of those surveyed within the athletic department is desired. While a response rate of fifty percent or higher is most desirable, in order to increase the likelihood of available data, a thirty-three percent response rate was initially determined for use. While specific measures were taken to control for this limitation, ultimately this study relied on responses of athletic directors and head coaches. Since this study asked respondents to complete a questionnaire during the academic year, efforts were made to maximize response rates but factors outside control of the researcher affected the number of responses.

Another limitation of the study is in the proposed multiple mediator model. In statistical analysis, OLS regression is often used when estimating a simple mediation model (Hayes, 2013). However, with a multiple mediator model, it is more common to find the use of Structural Equation Modeling (SEM). Using an SEM program, a researcher has more control over estimation and how variables are arranged in a model. Using an OLS approach to multiple mediation, the researcher is unable to estimate the exact model. Further, mediation analysis itself does not support the proposed causal ordering of variables (Hayes, 2013).

Delimitations

The current study is delimited to investigate NCAA Division II athletic programs. It is feasible to assume organizational cultures of NCAA Division II athletic programs may be different from other NCAA Divisions due to resources, organizational mission and vision, and organizational goals. Thus, the results of this study may not be generalizable to NCAA Division I or NCAA Division III schools.

Chapter 2

Review of Related Literature

This chapter provides a review of the literature relevant to the variables identified for this research. The review covers key components that are associated with successful organizations. Specifically, organizational culture will be defined, operationalized, and research specific to organizational culture in sport will be discussed. Organizational effectiveness will be defined and the connection between organizational culture and organizational effectiveness will be explored. In addition, the literature review will introduce and define the Competing Values Framework (CVF) and provide an in depth analysis of the Organizational Culture Assessment Instrument (OCAI), the measurement instrument often utilized in quantitative approaches to evaluating organizational culture. At the end of this chapter, the National Collegiate Athletic Association (NCAA) is also discussed.

Organizational Culture

According to Choi, Seo, Scott, and Martin (2010), in the past several years the concept of organizational culture has received much attention in the research literature as a contributing factor of organizational success. Cameron and Quinn (2011) suggested that organizational culture is a central concept influencing organizational effectiveness. The importance of understanding organizational culture lies in the management of creating and maintaining the optimum culture for overall organizational effectiveness (Scott, 1997). Choi et al. also point out the lack of consensus and precision regarding the definition of organizational

culture. Some researchers have defined organizational culture as the set of values, assumptions, leadership style, language and symbols, procedures and routines, and definitions of success that characterize an organization (Berrio, 2003; Cameron & Freeman, 1991). Weese (1995) defined organizational culture as the deep-rooted values, norms, and philosophies held and practiced by members of an organization. Similarly, another definition of organizational culture is the basic patterns of shared values and assumptions governing the way employees within an organization think about and act on problems and opportunities (McShane & Glinow, 2000; Schein, 1992). Champoux (1996) proposed that organizational culture can be defined as dynamic values and is the deep aspect of an organization that shapes human behavior (as cited in Choi et al., 2008). Wheatley (2006) stated that organizations are fractal in nature and the repeating patterns within the organization give rise to its culture. As pointed out by Slack and Parent (2006), in each definition the common threads in defining organizational culture are values, beliefs, basic assumptions, and shared understandings. Regardless of the definition, culture is an important piece of an organization in determining the organizations outcomes. Deal and Peterson (2009) report culture can provide leaders with an understanding of an organization's unwritten rules, traditions, norms, and expectations.

Schein (2010) reported that culture is a phenomenon visible to an observer on three levels. Those levels are artifacts, espoused beliefs and values, and basic underlying assumptions. According to Schein, "artifacts include the visible products of the group, such as the architecture of its physical

environment; its language; its technology and products; its artistic creations; its style; its myths and stories told about the organization; its published lists of values; and its observable rituals and ceremonies”. Cameron and Quinn (2011) identify culture as the core characteristic of an organization that is slow-to-change. The researchers also refer to culture as the indiscernible aspects of an organization that include core values and the interpretations of how things are in an organization.

Schein (2010) describes espoused beliefs and values as ideals, goals, and aspirations of an organization. The espoused beliefs and values serve as the “normative or moral function” for the members of the organization guiding them in dealing with situations the organization faces and training new members in how to behave in the organization.

Basic underlying assumptions are the beliefs and values that are taken for granted or are unconsciously part of an organization. According to Schein (2010), these assumptions determine behavior, perception, thought, and feeling. The assumptions define, for organizational members, the important parts of an organization, what things mean in an organization, how to react in an organization, and what actions to take within the organization in different situations.

Looking at sport organizations as cultures is concerned with the way an organization creates, shares, and maintains values (Slack & Parent, 2006). By definition, values are stable, long-lasting beliefs about what is important in the organization. The ways in which values manifest themselves include rituals,

ceremonies, stories, myths, symbols, and language. Rituals are daily routines of an organization that embellish the organizational culture. Rituals can include things like the way communication happens between employees and interactions between supervisor and employee. Ceremonies are more formal forms of rituals. Ceremonies are planned events that recognize employees in the organization for the benefit of the employees. Myths and stories in an organization have a powerful purpose socially. They convey the way things are done or are not done in the organization. In addition, myths and stories demonstrate that the objectives of an organization are attainable. Symbols hold meanings for employees in an organization and may not necessarily be physical objects. However, most easily identified symbols are tangible and easily attributable to an organization. Language in an organization conveys values through the use of phrases, metaphors, and special vocabulary.

When studying organizational culture, Schein (2010) reported that to understand culture, it is important to know what is happening in both the macro sense of the culture as well as the interplay of the various subcultures. When looking at the macroculture of an organization, one could expect to see a reflection of what is happening in the culture nationally. Subculture drills down to the functional tasks of individual parts of the organization, the work done by members in the organization, and the collective experiences of the members in the organization. The subculture of an organization operates within the context of the larger organization and has a set of shared assumptions. Microcultures within an organization represent small groups of organizational members who

have common tasks and histories. This culture with the larger organizational culture is characterized by a high degree of interdependency.

Also of importance in the study of organizational culture is the strength of the culture (Scott, 1997). Slack and Parent (2006) report sport organizations are striving to have strong cultures, also referred to as thick cultures. Schein (1992) reported that both the type and strength of organizational culture is an important factor in organizational effectiveness. Deal and Kennedy (1982) stated a strong culture has almost always been the driving force behind continuing success in American business and consistently high organizational performance is associated with strong culture. Coyle (2000) reported that in strong cultures, organizational members explicitly understand clearly articulated beliefs, values, and goals. Additionally, researchers in organizational culture have reported that a culture which is strong and congruent is more effective than when the culture is weak and incongruent (Cameron & Freeman, 1991; Cameron & Quinn, 2011; Deal & Kennedy, 1988; Lund, 2003; Pappalardo, 2003). This type of culture characterized by the agreement around certain values, their importance and their daily usage. A thick culture is one that works to hold an organization together. In a thick culture, there is frequent use of stories, rituals, and slogans. Opposite of a strong culture, is a culture that is characterized by a lack of common values. This culture, known as a thin culture, has organizational members concerned more with personal accomplishment than the organization's accomplishments.

Other scholars have associated strong culture with organizational excellence (Arnold & Capella, 1985; Ashforth, 1985). Researchers have

described strength of culture as fit among the cultures elements leading to smooth functioning and an absence of conflict, and to high effectiveness and excellence (Quinn & McGrath, 1984; Deal & Kennedy, 1982). Organizational culture studies have found that when an organization has a strong congruent culture, it is most effective (Cameron & Freeman, 1991; Cameron & Quinn, 2011; Deal & Kennedy, 1988, Lund, 2003; Papparone, 2003). Scott (1997) adds that people feel better in strong cultures and are more likely to work harder.

It is commonly accepted by sport management scholars that an understanding of organizational culture can lead to enhanced organizational performance and long-term success (Cameron & Freeman, 1991; Deal & Kennedy, 1982; Doherty & Chelladurai, 1999; Scott, 1997; Shilbury & Moore, 2006; Slack & Parent, 2006; Weese, 1995). Furthermore, organizational culture has been identified by researchers as predictor of organizational effectiveness (Amis & Slack, 2002; Cameron & Quinn, 2011; Colyer, 2000; Scott, 1997; Smith, 2004). Choi et al. (2010) report knowledge of organizational culture can aid in a shift to a culture that is more desirable. In addition, researchers have identified that organizational culture affects the ability of an organization to perform effectively and at a high level (Cameron & Freeman, 1991; Deal & Kennedy, 1982; Dennison & Spreitzer, 1991). Scott (1997) suggests that organizational culture is a concept that has distinct applications for sport organizations. Delobbe, Haccoun, and Vandenberghe (2000) reported that identifying and understanding organizational culture is an essential step in evaluating the organizational performance of sport organizations. Creating, managing, and

changing organizational culture within sport organizations may play a significant role in successfully dealing with internal and external challenges (Choi, Martin, & Park, 2008).

Frost et al. (1985) stated that organizational culture potentially holds the solution to overcoming problems within an organization that lead to its ineffectiveness. Cameron and Quinn (2011) report, “organizational culture has a powerful effect on the performance and long-term effectiveness of organizations” (p. 6). Colyer (2000) reported that the first step in measuring performance and effectiveness is analyzing organizational culture. In both the corporate and sport organizational settings, Scott (1997) reports that the bottom-line often determines the success of the organization. For athletic programs, the bottom line may be winning games, sellout crowds, increased media attention, increased sponsorships, and increased donations from supporters. While organizational culture has been identified as a meaningful variable in organizational effectiveness, few studies have attempted to explore the relationship in the sport setting (Choi et al., 2008; Coyler, 2000).

Organizational Culture Development and Change

Deal and Kennedy (1982) identified five elements that play a role in culture development. These are (a) business environment, (b) values, (c) heroes, (d) rites and rituals, and (e) cultural network. An organization that is concerned with the business environment is interested in long-term viability and growth. To reach these interests, the organization would establish itself as an organization that meets the needs of customers. Deal and Kennedy define

values as the important things an organization stands for. Specifically, values define success and the standards to achieve that success. Heroes in the organization serve as role models. A heroic figure is one that embodies organizational values and employees aspire to be like. Rites and rituals, according to Deal and Kennedy, are systematic, programmed routines in an organization. These routines often bring employees in the organization together. Finally, the cultural network is an informal network within the organization in which the organizations most important information is learned. Employees who are part of the informal network are important in carrying the organization's cultural values.

According to Doherty and Chelladurai (1999), organizational culture is not easily changed. However, knowledge of an organization's culture can help an organization shift focus and place emphasis on the values identified by cultural type (Choi et al., 2010). Through the analysis of organizational culture, sport managers may uncover important information about changing existing organizational culture and implementing a new organizational culture (Slack & Parent, 2006).

As Slack and Parent (2006) point out, little or no work in sport management has been done using the culture approach to understanding sport organizations, in spite of its great potential. Choi et al. (2010) report that the lack of consensus and precision in terms of a definition of organizational culture, "it is questionable how organizational culture should be observed, measured, or how different methods can be used to inform routine administration or organizational

change” (p.171). Still, organizational culture has been considered an essential predictor in investigating overall organizational effectiveness (Choi et al., 2008). However, because it is difficult to account for every part of organizational culture, the identification and use of specific dimensions of an organization’s culture is necessary (Choi et al., 2010).

Organizational Effectiveness

One of the most critical dependent variables in organizational studies is organizational effectiveness (Chelladurai, 1987; Chelladurai & Haggerty, 1991; Price, 1972). Organizational effectiveness by itself is difficult to define. Put simply, organizational effectiveness can be defined as the extent to which an organization reaches its goals (Slack & Parent, 2006). Andreadis (2009) defined organizational effectiveness as the extent to which an organization develops and adapts systems, processes and behavior in order to reach an organizations performance goals. Andreadis also points out that the effective organization is one that can achieve results no matter what is happening in the environment around the organization.

Researchers in organizational effectiveness (Andreadis, 2009; Hossein et al., 2011; Shilbury & Moore, 2006) point out; no universal agreement exists on the precise definition of organizational effectiveness as it means different things to different groups of people. Shilbury and Moore (2006) describe organizational effectiveness as a paradox. Because of its uniqueness, studying organizational effectiveness in sport organizations is sometimes difficult. Handa and Adas (1996) identified the measurement of organizational effectiveness as an

important step in improving an organization. According to Quinn and Rohrbaugh (1983), organizational effectiveness is an abstract notion carried out in the head of organizational theorists. Furthermore, organizational effectiveness is a complex social construct, not a concept. Ridley and Mendoza (1993) add in order to study organizational effectiveness, the organizations complexity must be simplified in order to identify the elements of the organization that contribute to its effective functioning.

The measurement of organizational effectiveness has been described as problematic in the field of organizational theory (Steers, 1975; Zammuto, 1982). While no consensus may exist on the definition of organizational effectiveness, Shilbury and Moore (2006) report a common finding in the research literature identifying “measuring multiple criteria and the evaluation of different organizational functions using different characteristics” when evaluating organizational effectiveness (p. 8). In addition, the measurement of organizational effectiveness should include the means and ends of organizational function.

A study of organizational effectiveness research reveals a variety of models that may be utilized when measuring organizational effectiveness (Cameron & Whetten, 1983; Lewin & Minton, 1986). Many of the models for measuring organizational effectiveness overlap (Handa & Adas, 1996). Originally, organizational effectiveness was evaluated in four basic ways: goal attainment, systems resources, internal process, and strategic constituencies (Cameron, 1980; Shilbury & Moore, 2006; Slack & Parent, 2006). Later, the

competing values framework was added as a fifth evaluation of organizational culture (Quinn & Rohrbaugh, 1981; 1983; Slack & Parent, 2006). Regardless, research in organizational culture has revealed that culture has an effect on performance and effectiveness (Cameron & Freeman, 1991; Cameron & Quinn, 2011; Dennison & Spreitzer, 1991). No matter which framework is selected, the most appropriate framework should be based on empirical evidence, accurately capture the realities of the organization, and should integrate and organize as many dimensions of organizational culture as possible (Cameron & Quinn, 2011; Choi et al., 2010; Delobbe, Haccoun, & Vandenberghe, 2000; Slack & Parent, 2006; Zammuto & Krakower, 1991).

According to Slack and Parent (2006), the goal attainment approach to measuring organizational effectiveness has been the most often utilized measurement tool in measuring the effectiveness of sport organizations. Furthermore, this approach tended to use win-loss records when measuring organizational effectiveness (Frisby, 1986). In the goal attainment approach, the degree to which an organization achieves its goals determines the organization's effectiveness (Handa & Adas, 1996; Price, 1972). The goal attainment approach is characterized by the identification of a specific set of goals and effectiveness is based on the organization progress toward those goals or the achievement of those goals (Slack & Parent, 2006). The goals themselves must be clearly defined, measurable, and must be measures within a pre-determined time period (Cameron, 1984). Goals should be identified, measurable, and time bound (Shilbury & Moore, 2006).

The goal attainment approach is not without its issues. Specifically, Slack and Parent (2006) identified four problems with the goal attainment approach to measuring organizational effectiveness. First, when multiple goals are present in an organization, some of those goals will compete and may not be compatible with each other. Kanter and Brinkerhoff (1981) referred to these goals as contradictory. This leads to an inability to accurately determine organizational effectiveness based on one goal alone. Related to the first issue with the goal attainment approach, the second problem is the identification of goals, what those goals measure, and the extent to which the goals measure what they say they measure. This leads to problems of coherence of goals (Kanter & Brinkerhoff, 1981). Third, a problem with the goal attainment approach to measuring organizational effectiveness is with the time frame in which goals are expected to be reached. Goals may be short term, long term, or a combination of both leading to a question of return on investment. In sport organizations, while organizations may operate and compete within the same specific market and with similar goals, the desired return on investment of those goals may be significantly different from competing organizations. The fourth issue with the goal attainment approach is surrounding which group within an organization is the group whose goals matter and should count in the measurement of organizational effectiveness. Typically, the dominant group within an organization, that is, the group with the most power will have the most influence in determining which goals matter most.

Systems resource approach to measurement of organizational effectiveness is based on open systems theory and focuses on inputs, transformation, and outputs (Handa & Adas, 1996; Slack & Parent, 2006). Proposed by Yuchtman and Seashore (1967), this approach to measuring organizational effectiveness is driven by an organizations ability to gain hard to come by and valuable resources from its environment. Simply stated, the effectiveness of an organization is evaluated on the organizations ability to gain resources from its environment (Molnar & Rogers, 1976). Handa and Adas (1996) defined effectiveness in the systems resource model as “as the ability of the organization as a system to exploit its environments” (p.342). Those resources are not only financial resources, but also include physical resources, reputation, power, and knowledge of the organization itself and the members within the organization (Gamson, 1966; Yuchtman & Seashore, 1967). Furthermore, the systems resource approach to measuring organizational effectiveness is related to the goal attainment approach to measuring organizational effectiveness. As pointed out by Hall (as cited in Slack & Parent, 2006), when an organization attempts to reach its goals, they will acquire resources. In addition, Frisby (1986) found a positive correlation between measures of goal attainment and the acquisition of resources.

Similar to the goal attainment approach to measuring organizational effectiveness, the systems resource approach to measuring organizational effectiveness has issues. First, Goodman and Pennings (1977) report that the systems resource approach to studying organizational effectiveness has

produced “no coherent line of research” (as cited in Slack & Parent, 2006).

Second, according to Slack and Parent (2006), there are concerns surrounding the identification of inputs and outputs. The researchers continue by questioning the applicability of the system resource approach to measuring organizational effectiveness in sport organizations of the public sector type due to high percentages of guaranteed funding from higher-level sources. If, for example, an organization receives a large percentage of funding from a government entity, then it is not appropriate to utilize the acquisition of financial resources as a measure because those resources are guaranteed, thus the systems resource approach cannot be legitimately utilized (Chelladurai, 1985). However, if financial resources are obtained from corporate sponsorships or other donations, then financial resources may be utilized because those acquisitions are non-guaranteed. Lastly, Cameron (1980) points out organizations who do not have a competitive advantage and are unsuccessful in acquiring resources may still be successful.

Internal process approach is focused on transformational processes found within an organization (Slack & Parent, 2006). This approach is focused on smooth, efficient internal operations (Handa & Adas, 1996) with organizational members who are integrated into a system where information flows freely (Cameron, 1980). In this approach, the dynamic between the organizational member and the organization is a measure of organizational effectiveness (Shilbury & Moore, 2006). The internal process model is largely based on an organizations ability to convert the organizations inputs to desired outputs (as

cited in Chelladurai, 1987). The internal process approach to studying organizational effectiveness has been linked to human resources practices by Argyris (1964) and Likert (1967) (as cited in Slack & Parent, 2006). Such practices include organizational members engaging in meaningful work, the sharing of information within the organization between members, and concern by the organization for member happiness and welfare (Chelladurai & Haggerty, 1991). Effectiveness in the internal process model is based on the ability of an organization to meet internal and external challenges (Handa & Adas, 1996).

As with the goal attainment approach and systems resource approach to studying organizational effectiveness, the internal process approach has several limitations. First, human resource variables are extremely difficult to measure in a valid and reliable way (Slack & Parent, 2006). Secondly, without a focus on organizational outputs, the internal process approach to evaluating organizational effectiveness provides a limited view of the organization. Third, according to Hrebiniak and Joyce (1985), the internal process approach does not allow for the idea that organizations may reach similar outcomes in different ways. Lastly, the internal process approach does not include the possibility that an organization may be successful even when human resource components such as low member morale, poor communication, and conflict are present. Additionally, if the internal process approach is to be utilized in measuring organizational effectiveness, the processes within the organization must be identified and clearly linked to organizational performance (Chelladurai, 1987).

The strategic constituencies approach is concerned with satisfying specific groups who provide an organization with resources and support (Slack & Parent, 2006). In this approach to studying organizational effectiveness, the effective organization would be one that satisfies the constituents in the environment whom provides the support for the organizations existence (Handa & Adas, 1996). This approach to measuring organizational effectiveness is heavily based on human resources (Shilbury & Moore, 2006). According to Connolly (1980), within an organization, different groups of individuals make different effectiveness statements about the organization and each group's perspective is legitimate and should be considered. Chelladurai (1987) reports, when each group of individuals' perspective is legitimized, the complexity of measuring organizational effectiveness increases. In the strategic constituencies approach, the measurement of how well an organization satisfies each group determines the effectiveness of the organization. Each groups actions and their perception of effectiveness is critical in the strategic constituencies approach (Shilbury & Moore, 2006). As pointed out by Slack and Parent (2006), the groups making up the organizations constituents may be internal or external to the organization. Lenskyj (2000) and Pound (2004) report satisfying the constituent groups is largely political because the organization must respond to the vested interest of the constituents (as cited in Slack & Parent, 2006). This notion is different from research conducted by Slack (1991) who reported that sport organizations are apolitical. Regardless, this approach to measuring organizational effectiveness requires an examination of both the internal factors in an organization as well as

the factors external to the organization. This creates a complex, multidimensional construct (Slack & Parent, 2006).

The strategic constituencies approach has some limitations in its use of measuring organizational effectiveness. First, the identification of specific constituents and their relationship to the importance of an organization is often difficult (Slack & Parent, 2006). Adding to the first problem, organizational members often view constituencies differently with regard to their importance to the organization. The third limitation of the strategic constituencies approach to measuring organizational effectiveness is that constituencies change over time. An important constituency for an organization one year may not be an important constituency the following year. Finally, it is difficult to identify expectations of constituencies for an organization and to measure those expectations correctly. Even with these limitations, the strategic constituencies approach offers a holistic approach to measuring organizational effectiveness (Slack & Parent, 2006).

The competing values approach (CVA) to measuring organizational effectiveness utilizes a list of effectiveness indicators divided into three sets of values each focused on a specific part of an organization. Emanating from the strategic constituencies approach (Shilbury & Moore, 2006), this approach to evaluating organizational effectiveness acknowledges the paradoxical nature of measuring organizational effectiveness (Slack & Parent, 2006). Specifically, without considering contradictions among organizational members, effectiveness can only be considered in a limited way (Cameron, 1986). Because the CVA is an extension of the strategic constituencies approach, organizational

effectiveness is measured in four quadrants that account for multiple performance criteria while incorporating the various groups within the organization (Shilbury & Moore, 2006). In addition, the competing values approach to measuring organizational effectiveness acknowledges organizational members each have different sets of criteria for evaluating the effectiveness of an organization and the set of criteria used changes with time. This approach to measuring organizational effectiveness accounts for the views of constituents and the need for those views to be satisfied, which Shilbury and Moore (2006) point out is an “important characteristic given sport’s capacity to bring together people from diverse communities and its potential social impact on these communities” (p. 16). The competing values approach is the chosen method for measuring the organizational culture of NCAA Division II athletic departments and is examined in the next section of this literature review.

Competing Values Approach

Developed as a tool for explaining differences in values underlying organizational effectiveness (Shilbury & Moore, 2006), Buenger, Daft, Conlon, and Austin (1996) define the CVA as multiple performance criteria organized in four values sets that, when satisfied, determine the effectiveness of an organization. The competing values framework (CVF) is the framework from which the CVA is constructed. Originally proposed by Quinn and Rohrbaugh (1981, 1983), the competing values approach to measuring organizational effectiveness is based on the idea that within an organization competing values exist and drive the organization. This concept has been discussed in the

research literature by multiple researchers (Lewin & Minton, 1986; Cameron, 1986; Quinn, 1988; Robbins, 1990; Maloney & Federle, 1991). While the CVF has been used in business, education, and government to investigate organizational culture, its use in the sport industry has been limited (Choi et al., 2010).

The CVF was developed on the idea that there is no one best criterion for measuring and evaluating effectiveness (Handa & Adas, 1996). According to Cameron and Quinn (2011), the CVF “has been found to have a high degree of congruence with well-known and well-accepted categorical schemes that organize the way people think, their value assumptions, and the ways they process information” (p.37). Based on statistical analyses of a comprehensive list of effectiveness indicators, Quinn and Rohrbaugh (1983) discovered two contradictory value dimensions underlying conceptions of effectiveness.

When looking at these contradictory value dimensions, the CVF emerges (Quinn & Rohrbaugh, 1983). The first dimension differentiates organizational preference for structure and represents the contrast between stability and control as well as flexibility and discretion. In this dimension, flexibility values innovation, adaptation and change, while control values stability, order and predictability (Handa & Adas, 1996). In this dimension, an organization is determined to be effective if it has the ability to change or adapt. Other organizations are said to be effective if they are stable, predictable, and mechanistic (Cameron & Quinn, 2011). The continuum which makes up the first dimension recognizes an

organization as versatile and pliable on one end and steady and durable on the other end.

The second dimension is related to organizational focus, from an internal emphasis on the well-being and development of people in the organization to an external focus on the well-being and development of the organization itself. In the second dimension, an organization may be considered effective if organization has an internal orientation and is viewed cohesively. If, on the other hand, the organization is focused externally, the organization is viewed as independent and may also be viewed as effective. The continuum, which makes up the second dimension ranges from an organization that is cohesive and consonant on one end to an organization that is independent and has organizational separation on the other end.

A third dimension which focuses on means versus ends is also present in the research literature (Handa & Adas, 1996). In the third dimension, an organizational focus on means stresses internal processes and long-term outcomes while the ends part of the dimension stresses short-term and final outcomes.

Together the three dimensions' form four quadrants, made up of vertical and horizontal axes, each representing a distinct set of organizational effectiveness indicators. The vertical axis is specific to the organizations structure and pairs stability and control against flexibility and discretion. The horizontal axis is specific to organizational focus and pairs internal focus and integration against stability and control. Each quadrant of the framework

represents one of four major models of organization and management theory. Using structural equation modeling, Kalliath, Bluedorn, & Gillespie (1999) found support for the CVF and added that the four major models comprising the CVF may be used individually or together as dimensions of effectiveness. The four models of the CVF are the human relations model, the open systems model, the internal process model, and the rational goal model.

The human relations model, referred to as clan culture, is focused on flexibility and internal focus. This model stresses cohesion, morale and human resource development as criteria for effectiveness. Cameron and Quinn (2011) report the work environment in the clan culture is described as a friendly place to work where employees share a lot of themselves and is similar to a family-type organization. This culture is like an extended family where leadership acts like mentors. Within the clan culture, characteristics of teamwork, employee involvement, and organizational commitment by members is present. The organization is held together by employee loyalty, tradition, and commitment is high. Success according to the clan culture type is defined by concern for people and the organization places a premium on teamwork, participation, and consensus.

Cameron and Quinn (2011) identified the basic assumptions of clan culture as an environment that is managed through teamwork and employee development, where customers are partners, the organization maintains a humane workplace environment, and leadership within the organization empowers employees through facilitation of participation, commitment, and

loyalty. Most highly valued effectiveness criteria in the clan culture are cohesion, employee morale and satisfaction, human resource development, and teamwork.

The open systems model, referred to as adhocracy culture, is concerned with flexibility and external focus. This model is characterized by readiness, growth, resource acquisition, and external support. These characteristics make the adhocracy culture the best-suited culture to respond in environments in which conditions change often. The adhocracy culture is a dynamic and creative place to work (Cameron & Quinn, 2011). Risk taking is a normal part of the adhocracy culture and leaders in this type of organization are termed as innovators. Commitment to the organization acts as glue holding the organization together and individual initiative and freedom is encouraged. In the adhocracy culture, long-term emphasis is on growth and the acquisition of new resources. Success in an organization characterized by adhocracy culture is achieved through the gaining of new products or services.

In the adhocracy culture, adaptability, flexibility, and creativity are evident. Cameron and Quinn (2011) reported that no centralized authority exists in an adhocracy. Instead, the power in an adhocracy flows from person to person or team to team depending on the unique set of circumstances. With an emphasis on individuality, risk taking, and looking to the future, adhocracies are dynamic and can change rapidly when the need arises. Effectiveness criteria most valued in the adhocracy culture include new products, creative solutions, cutting-edge ideas, and growth in new markets.

The focus of the rational goal model, referred to as market culture, is on control and external positioning to be both competitive and productive. In the rational goal model planning, goal setting, productivity and efficiency are effectiveness indicators. Cameron and Quinn (2011) report market culture is results-oriented and is concerned with getting the job done. Employees are goal oriented and competitive with an organizational emphasis on winning, which serves as the glue of the organization. The leaders in a market culture are hard drivers, producers, and competitor where an emphasis on winning holds the organization together. Success is defined in terms of market share.

In a market culture, an organization prescribes to the idea that a clear purpose and aggressive strategy lead to productivity. Cameron and Quinn (2011) identified the basic assumptions of market culture as existing in an external culture that is hostile to the organization, the customers the organization are trying to reach are interested in value, the organization itself is interested in its competitive position and thus the management of the organization will drive the organization to productivity, results, and profits. Achieving goals, outpacing competition, increasing market share, and obtaining high levels of financial return are all effectiveness criteria in the market culture.

The internal process model, referred to as hierarchy culture, is concerned with control and an internal focus. This model stresses the role of information management, communication, stability and control. Very formalized and a structured place to work, an organization with a hierarchy culture is characterized by rules and policies, which hold the organization together (Cameron & Quinn,

2011). Leaders are coordinators and organizers who are efficient and provide employees with secure, predictable, employment. In the hierarchy culture, authority over decision-making, rules and procedures, and control are all valued as keys to success. In addition, Cameron and Quinn (2011) identified efficient, reliable, fast, and smooth operations as key values in the hierarchy culture. Overall, success in a hierarchy culture is defined by the organizations dependability, smooth operation, and low cost. Effectiveness criteria in the hierarchy culture include efficiency, timeliness, smooth functioning, and predictability.

This framework is termed competing values because of the opposing dimensions that define the framework (Coyler, 2000). That is, people versus organization, stability and control versus flexibility and change, and means versus ends (see Figure 2 for a detailed figure of the CVF). The CVF displays the complexity that exists in the measurement of organizational effectiveness and according to Coyler (2000), the CVF also accounts for conflicts and tensions in the organization. Using the CVF a researcher can make comparisons between individuals and sub-groups within the organization. This is a benefit over the traditionally used qualitative studies in organizational culture. The CVF also accounts for the heterogeneous nature of organizational culture, difference in values among organizational members, and the organizational values present in the organization (Coyler, 2000). Cameron and Quinn (2011) reported that culture is not identified by a single culture type. Instead, there are many subunits, which make up an organization and each subunit has a different culture. It is well

documented in the research literature that organizations typically contain the characteristics of more than one type of culture (Cameron & Freeman, 1991; Colyer, 2000; Deal & Kennedy, 1988; Dennison & Spreitzer, 1991; Lund, 2004).

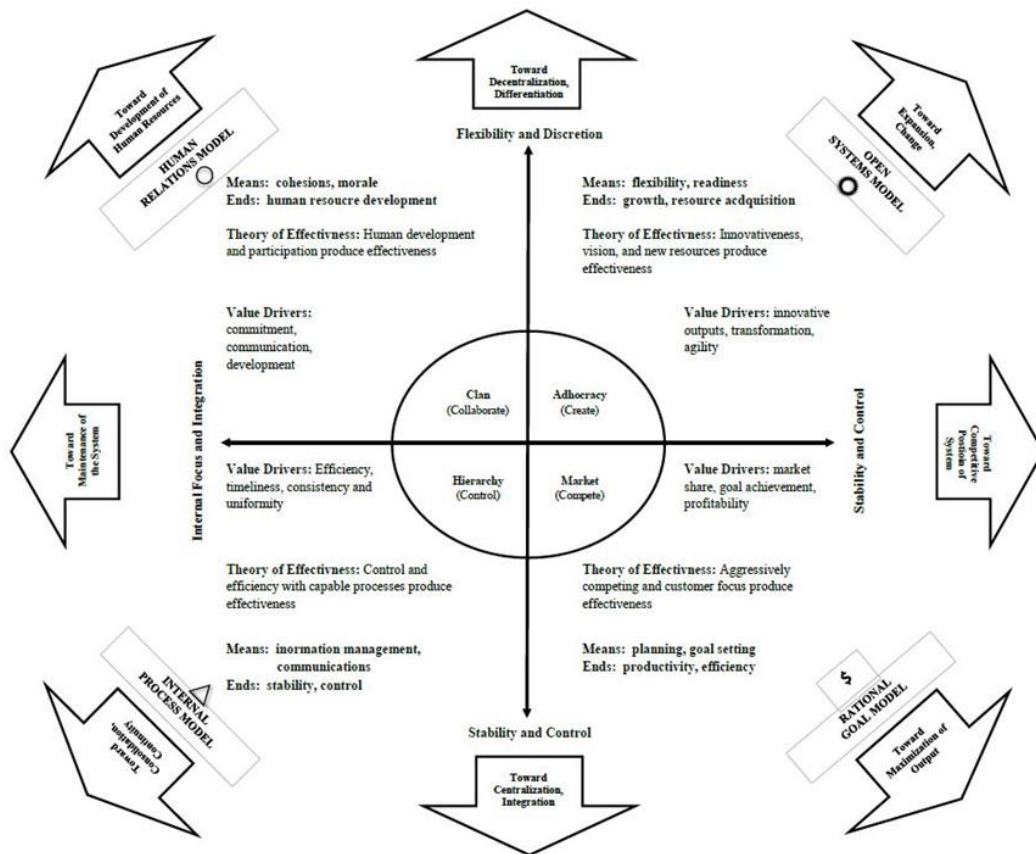


Figure 2: Detailed Figure of the Competing Values Framework

Cameron and Quinn (2011) report the CVF has been used in organizational research to identify the types of organizational cultures as well as the congruence and strength of a culture based on values, assumptions, and interpretations. According to Colyer (2000), the CVF can be used to define what the culture of an organization is and can aid in the development of the organization. It has also been reported in the research literature that the CVF can be used as a tool in order to study and change organizational culture (Kwan & Walker, 2004). Choi et al. (2010) reports assessing and facilitating the changing organizational culture is possible through the use of the CVF. Shilbury and Moore (2006) note that effectiveness is a subjective evaluation, which the CVF recognizes, and that the constituents of the organizations view of an effective organization is important to the organizations operation.

In a study on organizational effectiveness on national Olympic sporting organizations, Shilbury and Moore (2006) attempted to operationalize the CVF as a useful instrument in measuring the effectiveness of national Olympic sporting organizations. The researchers' results yielded several findings. First, the results of the study reinforced the idea that organizational effectiveness is a multidimensional construct. Second, the rational goal quadrant was found to be a key determinant of effectiveness. Also of importance in determining effectiveness, planning, flexibility, and stability were found to be important measures of productivity. Third, researchers report the facilitation of conversation among constituents in an organization as one of the CVF's major purposes. That facilitated discussion serves as a tool to organizational diagnosis leading to

changes in work practices, policy, and strategies when perceptions do not match up with actual practice.

The CVF is not without limitation. It is often difficult to determine which groups within the organization are important and to measure the criteria those groups value in determining effectiveness. However, the CVF has been used in the study of organizational change (Quinn & McGrath, 1982) as well as in the study of organizational culture (Coyler, 2000; Quinn & Spreitzer, 1991; Zammuto & Krakower, 1991).

Organizational Culture Assessment Instrument

There appears to be little agreement among researchers about which theoretical model is best suited for studying organizational culture (Howard, 1998; Schein 1996; Smith, 2004). Four major questionnaires have been utilized in the study of organizational culture (Choi et al, 2010; Quinn & Spreitzer, 1991; Schein, 1996; Xenikou & Furnham, 1996). Those four questionnaires are the organizational culture profile (O'Reilly, Chatman, & Caldwell, 1991), the organizational culture index (Liwin & Stringer, 1968; Wallach, 1983), the organizational culture inventory (Cooke & Lafferty, 1989), and the competing values framework (Cameron & Quinn, 2011; Cameron & Spreitzer, 1991). Since culture is defined by values, assumptions, and interpretations of organizational members (Cameron & Freeman, 1991), a measurement instrument which assesses the different culture types, should be used in examining an organization's culture. The organizational culture assessment instrument

(OCAI), which is based on the CVF, was modified and reintroduced to organizational studies by Cameron and Quinn (2011).

If organizational culture is a multi-layer construct in which deep levels of values are testable by social consensus and the deepest level of basic assumptions, which are invisible and taken for granted (Schein, 1992), then the use of an instrument which measures organizational culture and relationships within that culture is warranted. Such an instrument would incorporate variables and measures in one model that measures multiple domains of effectiveness (Cameron & Whetten, 1983; Cameron, 1986). The Organizational Culture Assessment Instrument (OCAI) is based on the competing values framework (Cameron & Quinn, 2011). The OCAI measures the manifestations of organizational culture in six dimensions and is useful in interpreting organizational phenomena. Basic assumptions comprise the first two dimensions and includes dominant characteristics and organizational glue. The third and fourth dimensions can be classified as interaction patterns and include leadership and management of employees. Finally, the OCAI assess strategic emphases and criteria of success, which can be classified as organizational direction. Cameron and Ettington (1988) identify all six dimensions as fundamentals of culture.

National Collegiate Athletic Association

Composed of three divisions, the National Collegiate Athletic Association's basic purpose states, "Competitive athletics programs of member institutions are designed to be a vital part of the educational system. A basic purpose of this

Association is to maintain intercollegiate athletics as an integral part of the educational program and the athlete as an integral part of the student body and, by doing so, retain a clear line of demarcation between intercollegiate athletics and professional sports” (p. 1, NCAA, 2016). In addition, the NCAA has a core purpose of “governing competition in a fair, safe, equitable and sportsmanlike manner, and to integrate intercollegiate athletics into higher education so that the educational experience of the student-athlete is paramount” (p.3, NCAA, 2004). Appendix A provides a deeper understanding of the nine specific purposes of the NCAA.

Each of the three NCAA divisions membership is composed of colleges and universities, which share similar philosophy, competition, and opportunity (Our Three Divisions, 2016). While the overall basic purpose of the NCAA applies to all three divisions, there are some defining characteristics at each level. For example, NCAA Division I schools have the largest athletics budgets. NCAA Division II schools provide more opportunity for athletes to participate in championships. NCAA Division III schools have the highest graduation rate among athletes. Appendix B provides a comparison of some characteristics of the three NCAA divisions.

NCAA schools making up each of the three divisions develop and approve legislation specific to their division. Therefore, in addition to the purposes stated by the NCAA in general, both the NCAA Division II and NCAA Division III levels have developed philosophy statements differentiating each level. Common to both the NCAA Division II and NCAA Division III levels, is a priority placed upon a

student-athlete's educational experience and well-being, as well as their academic success. Both divisions recognize and promote an inclusive culture and value cultural diversity as well as gender equity.

NCAA Division I athletic departments are funded separately from the institution of higher learning itself and student athletes are afforded financial aid in the form of scholarship that must meet the minimum requirements of the division. NCAA Division II member institutions must sponsor at least five sports for men and five sports for women or four sports for men and six sports for women with two team sports for each gender, and representation by each gender each playing season. Funding for NCAA Division II athletic departments is through the institutions budget in the same manner as with other academic departments. Student athletes at the NCAA Division II level finance their education through a combination of scholarship money, grants, student loans, and employment earnings. Institutions have a maximum amount of financial aid award that may not be exceeded. To maintain membership at the NCAA Division III level, member institutions must five sports for men and five sports for women with two team sports for each gender, and representation by each gender each playing season. NCAA Division III athletic departments are funded like any other department at the institution. Student athletes may not receive any financial aid award for athletic ability and instead pay for their education through a combination of other means including academic scholarships, grants, and student loans.

NCAA Division II distinguishes itself from NCAA Division I and NCAA Division III through several developed principles. First, member institutions operate their athletics programs according to the rules developed by member conferences in addition to already established NCAA rules. These rules, which govern programs, are monitored by NCAA Division II member institutions through institutional control, which serves as a fundamental principle of in support of the institutions educational mission. Second, NCAA Division II member institutions fund their athletic programs in alignment with the institutions budget and educational mission. In doing so, student-athletes may receive partial scholarships in addition to merit-based aid and academic scholarships. This further separates NCAA Division II institutions from both NCAA Division I institutions and NCAA Division III institutions. Finally, NCAA Division II promotes a balanced approach to the college experience integrating athletics into a student-athletes academic pursuit. In addition, student-athletes are encouraged to participate in other campus and community activities.

Summary

NCAA Division I, Division II, and Division III schools are all unique in terms of their outcomes for student-athletes. NCAA Division I schools have large athletics budgets, the highest number of athletics programs, the highest ratio of students to student-athletes, and the highest number of student-athletes on athletic scholarships. NCAA Division II schools incorporate their athletics budgets into the institution's budget according to the institutions academic mission resulting in much smaller athletic budgets. At the Division II level, there are

fewer athletic programs and the ratio of students to student-athletes is lower than that of NCAA Division I institutions but higher than that of NCAA Division III institutions. Also at the NCAA Division II level, student-athletes are eligible to receive partial scholarships consisting of both athletic scholarship and academic scholarship. NCAA Division III schools have the smallest athletic budgets of the three divisions. In NCAA Division III institutions, financing for athletics is handled the same as any other academic department within the institution. On Average, NCAA Division III institutions have fewer athletic programs than Division I institutions, but have more athletic programs than Division II institutions. Finally, NCAA Division III institutions have the lowest ratio of students to student-athletes among the three divisions and NCAA Division III student-athletes do not receive athletic scholarships.

Due to the unique nature of NCAA Division II institutions, studying the organizational culture of NCAA Division II Athletic departments is specific to culture is warranted. While financing inevitably plays a role in the success of an athletic department, with smaller athletic budgets and a different athletic scholarship structure, it can be argued that NCAA Division II athletic departments' primary driver of success is its organizational culture. Therefore, a premium should be placed on the measurement and examination of the taken-for-granted values, beliefs, basic assumptions, expectations and shared understandings, and definitions present in an organization that provide the foundational basis for an organizations culture (Slack & Parent, 2006; Cameron & Quinn, 2011). This foundational basis is key in effectiveness of an

organizational and can be the catalyst for continued success and change. Knowing that there are multiple factors that may lead to the success of an NCAA Division II athletic department, the proposed study will look at two specific factors, annual allocated revenue and type of institution (public vs private), as casual agents in organizational effectiveness, both directly and operating through organizational culture type as a mediator.

Chapter 3

Methodology

This section of the study outlines the methodological procedures used for assessing NCAA Division II athletic departments. Specifically, the procedures described were utilized to examine the culture type of individual athletic departments, the effect of culture type on an athletic department's total points earned in the Directors' Cup, athletic department annual allocated revenue and type of institution, and if culture type has a mediating effect on Directors' Cup total points earned. In total, there are five sections in this chapter: (a) research design, (b) selection of sample, (c) study variables, (d) data collection procedures, and (e) data analysis procedures.

Research Design

Since the purpose of the present study was to analyze the possible predictors in finishing position of the NCAA Division II schools in the Directors' Cup using the Organizational Culture Assessment Instrument to correlate those results to finishing position, and to determine if culture type has a mediating effect, a quantitative research approach was best suited.

This study sought to describe the degree to which two or more variables are related and whether or not one specific set of variables has a mediating effect on other variables, therefore correlational research was chosen for the purposes of this study.

Correlational research is utilized to examine relationships between certain variables (Slack & Parent, 2006). This type of research cannot presume a cause

and effect relationship, rather this type of research establishes whether or not an association is present or is not present. Correlational research does not involve manipulation of variables or the application of experimental treatments (Thomas et al., 2011). Instead, conducting correlational research is necessary to explain human behavior (Fraenkel & Wallen, 2000). According to Thomas et al. (2011), “the basic design of correlational research is the collection of data on two or more variables on the same people and to determine the relationships among the variables” (p. 303). It is important to note that relationships discovered among variables may be used in prediction, however assuming that because variables are related, one causes the other, is a major pitfall of correlational research (Thomas et al., 2011).

Because important data was collected from NCAA Division II Athletic Departments, which encompass a large geographic area, a questionnaire was utilized to obtain responses. Questionnaires are particularly useful in collecting a large amount of data from a population. This study specifically used the questionnaire to obtain information from participants that would offer demographic information and personal perceptions about behavior specific to organizational culture. In addition to questionnaire data, the study also utilized archived data as explained in the next section.

Archived Data. Archived data are preexisting records of information that include public documents, official records, private documents, mass media, physical, nonverbal materials, and social science data archives (Singleton & Straits, 1999). According to Singleton and Straits (1999), there are many

advantages to using archived data. Those advantages include nonreactive measurement, analyzing social structure, studying and understanding the past, understanding social change, studying problems cross-culturally, improving knowledge through replication and sample size, and savings on research costs.

The current study sought to capitalize on three advantages reported through the utilization of archived data. First, the use of archived data allows the researcher to investigate the past through a relevant record. Specifically, data concerning total points earned in the Directors' Cup for the 2016-2017 competition year serves as a useful historic record. Second, in a study that utilizes a large number of responses from multiple institutions, the archived data is important for increasing available data. This increased available archived data allows for a larger sample size creating increased confidence in study results. Finally, the cost associated with a large-scale research project is diminished greatly with archived data because available data will require less effort in searching for relevant information.

Alternatively, Singleton and Straits (1999) identified several disadvantages to the use of available data in research. First, the use of archived data may be viewed by some as searching for and obtaining available data. This problem is more of a question about a researcher finding relevant information and gaining permission to use that information. Second, archived data may pose problems in terms of fit with measurement concepts. Available data may not be suited to the purposes of the research at hand. Third, because the researcher is not part of the collection of the data at the time it is produced, the validity, reliability, how

authentic the data is, and accurateness of the data must be evaluated. Finally, the researcher must assess the completeness of the data available to determine if the data is incomplete, thus hurting the purposes of the research.

The current study overcomes any disadvantages to the use of archived data because of the stated research purpose. Focusing on NCAA Division II athletics and total points earned in the Directors' Cup leads to relevant sources of available data. Additionally, using sources such as Learfield Sports-NACDA Directors' Cup results by the National Association of Collegiate Directors of Athletics and various reports by the NCAA, problems of data quality are overcome. In addition, the stated sources of archived data are complete and representative of the population being studied due to the professional nature of the organization collecting the data. It can be concluded that the archived data available are representative of the variables in this study.

Survey and Questionnaire. Cameron and Quinn (2011) reported that there are three ways in which culture can be measured and analyzed. The first is a holistic approach involving immersion in the culture in order to conduct in-depth observations of participants. The second approach is metaphorical and involves the use of language patterns in documents, reports, stories, and conversations to uncover cultural patterns. The final approach is a quantitative approach using questionnaires or interviews to assess specific dimensions of culture. This approach allows the researcher the opportunity to examine multiple viewpoints and attributes of an organization's culture. Because the third approach provides the most promise in conducting comparisons among multiple cultures, the

Organizational Culture Assessment Instrument (OCAI, Cameron & Quinn, 2011) was used to measure the organizational culture of each organization.

Members of an organization make sense of the culture around them by the interpreting information they receive and organizing it in their minds (Cameron & Quinn, 2011). Known as a psychological archetype, the framework created in the minds of an organization's members provides clues into the dimensions that can be used to understand an organization's cultural values. The use of the OCAI to assess organizational culture allowed the researcher to analyze the framework members of an organization use to obtain, interpret, and draw conclusions about information around them. The manner in which information is interpreted is congruent with the CVF (Cameron & Quinn, 2011; Mason & Mitroff, 1973) and allows the researcher to identify the features of an organization reflecting key values and assumptions. The OCAI measures four major cultural types (clan, market, adhocracy, and hierarchical). The four culture types are represented on the questionnaire through 24 items creating four subscales (Appendix C). Within those four subscales, six dimensions representing fundamental cultural values and assumptions about the way an organization functions make up the survey instrument. The six dimensions, while not comprehensive, include the dominant characteristics of the organization, organizational leadership, management of employees, organizational glue, strategic emphases, and criteria of success.

Reliability of the OCAI. It must be reasonably assumed that the OCAI measures the important aspects of organizational culture and that the

measurement has a relationship to the organizations performance. Therefore, the reliability of the OCAI must be well tested. In a study conducted by Quinn and Spreitzer (1991), the researchers computed Cronbach's alpha coefficients for each of the four cultural types assessed in the OCAI using a Likert response scale. The researchers found each coefficient to be statistically significant (clan culture = .74, adhocracy culture = .79, hierarchy culture = .73, market culture = .71) when compared to normal standards of reliability. In similar studies using the OCAI and a Likert response scale, Choi et al (2008) reported Cronbach's alpha reliability coefficients ranging from .76 to .85 for the four cultural types, while Choi and Scott (2009) reported Cronbach's alpha reliability coefficients ranging from .77 to .84 for the four cultural types.

Validity of the OCAI. Also reported in research literature, validity of the OCAI has been produced. In a study conducted by Quinn and Spreitzer (1991), two types of validity were reported. First, convergent validity was supported when the researchers examined diagonal correlation coefficients and found all results to be statistically different from zero ($p < .001$) with a moderate level of correlation (range between .212 and .515). Second, discriminant validity was reported through three tests using the multitrait-multimethod procedure. In the first test, scales in the same culture quadrant were found to correlate more strongly with each other than with scales from different culture quadrants when measured using different assessment methods (Likert scaling versus Ipsative scaling). In the second test, scales in the same culture quadrant were found to correlate more strongly with each other than with scales from different culture

quadrants when measured using the same assessment method. In the third test Kendall's coefficient of concordance was calculated, .764 (<.001), which indicated interrelationships existed within and between each of the independent methods. Choi et al (2008) also reported validity of the OCAI survey using factor analysis.

Demographic information was collected for comparative feedback purposes (Appendix D). The questionnaire included items to identify the participant's position in the organization, sex, age, work location, number of subordinates, individual performance perception, organizational performance perception, whether or not the institution sponsors football or not, and allocated revenue sources. NCAA Division II institutions report their finances to the NCAA Financial Reporting System yearly to include generated revenue sources, allocated revenue sources, and total expenses (Archives of NCAA). Generated revenue sources include ticket sales, NCAA and conference distribution, and contributions from alumni and others. Additional revenue streams such as third party support, broadcast rights, concessions, sports camps, and endowments and investment income. Allocated revenue sources tend to be stable streams of revenue and include student activity fees, direct government support, direct institutional support, and indirect institutional support. Generated revenue sources may fluctuate from year-to-year; therefore, allocated revenue was sought for comparison.

Potential Issues. The use of the OCAI is not without potential problems (Cameron & Quinn, 2011). First, the inability of researchers to agree on a

precise definition of organizational culture leads to definitional issues. Next, how to best measure organizational culture has led to measurement issues. Finally, dimensional issues exist concerning which key dimensions should characterize organizational culture.

When looking specifically at definitional issues, two common thoughts emerge (Cameron & Quinn, 2011). The first is the anthropological foundation view which states organizations are cultures. The second is the sociological foundation view which states organizations have cultures. The best way to approach this issue for the purposes of the current study is to view organizational culture as a predictor of organizational outcomes. Furthermore, attributes of culture should be looked at as characteristics of an organization and its members. It is also important to measure the attributes of the organization rather than the climate. This is accomplished through the use of the CVF.

In order to overcome measurement issues, terminology must be very specific. For example, the use of organizational culture is important to separate personal culture from societal culture (Cameron & Quinn, 2011). In addition, the way the culture is measured is very important. Three strategies are available for measuring and analyzing organizational culture. First, the holistic approach involves the researcher becoming immersed in the culture of the organization and use in-depth observations as the primary measurement tool. Second, the metaphorical approach involves the researcher using language patterns in documents, reports, stories, and conversations to uncover cultural patterns. Finally, the quantitative approach involves the use of questionnaires or interviews

to assess specific dimensions of culture. This final method allows multiple viewpoints to be considered when evaluating the attributes of an organization's culture and thus has been selected for use here.

Organizational culture is incredibly broad with many dimensions making organizational culture difficult to properly measure. Specifically, the content dimension and pattern dimension are of interest here. Content dimension is specific to parts of an organizations culture that individuals draw from when determining the values of the organizations culture. The pattern dimension emerges from the scoring of a cultural assessment instrument and reveals a cultural profile. The OCAI was chosen due to its ability to identify specific dimensions and develop an overall cultural profile of an organization. This organizational profile makes it easier for the researcher to determine what type of culture is dominant in the organization.

Population and Sample

The NCAA is the organization that provides the most commonly known classification system for athletic competition purposes at the collegiate level. The differences in the multidivisional classification of the NCAA can be summed up by the number of sports offered by an institution, the amount of financial aid awarded to student athletes, and the manner in which athletic programs are funded. At the NCAA Division I level, member institutions must sponsor at least seven sports for men and seven sports for women or six sports for men and eight sports for women with at least two team sports for each gender, and representation by each gender each playing season (NCAA, n.d.).

The study investigated predictors of finishing position, by total points earned, of NCAA Division II athletic programs in the Directors' Cup. Therefore, head coaches and athletic directors of the 307 active member schools at the NCAA Division II level made up the study population.

Alpha, Sample Size, Statistical Power, and Effect Size. Sample size is simply defined by Thomas et al. (2011) as the “number of participants in the study being evaluated or planned” (p. 120). In the social sciences where sample sizes are typically small, there is more concern with statistical power and effect size (Sirkin, 2006). Typically, in sociology, the problems surrounding statistical power and effect size are smaller because of larger sample size. It has been suggested that in order to reduce statistical problems and obtain better results, a larger sample size should be utilized (Won, 2004). Indeed, one method of increasing power is by obtaining more participants (Slack & Parent, 2006). However, Dillman (2000) points out that obtaining large sample sizes is often difficult because of financial problems and temporal constraints. Thomas et al. (2011) report that more important questions in determining sample size for statistical power are “how large a difference is important in theory or practice” and “how many participants are needed to declare an important difference as significant” (p. 118)?

One possible solution to the question of sample size was suggested by Dillman (2000) who provided several guidelines for the selection of a sample size. According to Dillman, sample size should be based on (a) tolerance for sampling error, (b) the population size from which the sample will be taken, (c)

the homogeneity of the population, and (d) the confidence level chosen by the researcher. By increasing the sample size, a researcher decreases the sampling error due to less variation around the mean from a random sample to the next (Ary et al., 2002). This increase in sample size and decrease in variation around means can lead to two means being declared significantly different (Thomas et al., 2011). As population size increases, more responses are required in order for a researcher to make inferences. The inverse is true, smaller population sizes require fewer responses in order to make inferences. In a heterogeneous populations, varied samples are more likely to be produced than in a homogeneous population, which are more likely to provide true population means (Ary et al., 2002). Therefore, homogeneous populations require a smaller sample size while a heterogeneous population requires a larger sample size. Finally, in order to set a high confidence level, a researcher needs a larger sample size.

Statistical power has been defined as the probability of rejecting the null hypothesis when the null hypothesis is false (Thomas et al., 2011). In other words, statistical power is the probability of making a correct decision. Neyman and Person (1933) report statistical power as the sensitivity of a null-hypothesis test to detect an effect when an effect is present. Sirkin (2006) defined statistical power as the likelihood that a test would reject the null hypothesis when, in fact H_1 , is actually true. Sirkin further defined statistical power as equaling one minus beta (Power = $1 - \beta$). It should be pointed out that beta is the probability that the null hypothesis is really false, H_1 is really true, but the obtained statistical value is

too low to reject the null hypothesis, even though it should be. Beta is typically set at 4 x alpha (Thomas et al., 2011). Therefore, if alpha is .05, then beta is .20 (4 x .05 = .20). Since statistical power is calculated as 1 – β , in this case statistical power is .80 (1 - .20 = .80) which is considered reasonable (Cohen, 1977; 1990).

Effect size is the outcome of a study typically expressed in standard deviation units (Thomas et al., 2011). Effect size reports the practical significance of an effect or the relationship and is important in addition to reporting the significance of findings in research findings. Also called delta (Cohen, 1977), effect size is the difference between two means divided by the standard deviation. Therefore, effect size is $ES = (M_1 - M_2)/SD$ where M_1 is the mean of group one, M_2 is the mean of group two, and SD is the standard deviation. Effect sizes are reported as either small effects, medium effects, or large effects (Cohen, 1977; Sirkin, 2006; Thomas et al., 2011). Small effect sizes are differences between means of two groups less than 0.2. Medium effect sizes are differences between means of two groups around 0.5. Large effect sizes are difference between means of two groups greater than 0.8. According to Sirkin (2006), effect size has a larger impact on statistical power than an increase in sample size.

As indicated in Chapter 1, because culture is defined through shared understandings, it was originally considered preferable that the dominant organizational culture be expressed by at least fifty percent of respondents from an individual organization. Obtaining a fifty percent participation rate from

individual institutions proved to be difficult. Therefore, for the purposes of gaining more insights into perceived culture, the sample selected for analyses included responding athletic departments that had at least thirty-three percent of its head coaches as respondents. Sample size was determined using the traditional method in statistics for calculating sample size at the 95% confidence level.

The calculated estimated sample size was computed to 384.16, which was rounded up to 385. Since estimated sample size of 385 is larger than the population size of 307, the formula correction for finite population was also used to determine the final sample size. In using the estimated sample size with the formula correction for finite population, the new sample size was calculated to be 171.11, which was rounded up to 172. The estimated sample size, for finite population, is the desired sample size for the ordinary least squares (OLS) regression model chosen in conjunction with the PROCESS Macro for making statistical inferences. Therefore, 172 NCAA Division II Athletic Departments with at least thirty-three percent of its head coaches participating was desired for this study.

Measurement Model

The effect of one variable on a second variable is not as simple as variable *a* causes variable *b*. Rather, other pathways may exist with additional variables that drive the effect variable *a* has on variable *b*. Mediation analysis is a statistical method designed to answer how one variable leads to an effect on a second variable, through the mechanism of a third variable, thus transmitting the effect of the first variable onto the second variable. In a basic mediation model,

three variables exist. Those variables include the independent variable, a single mediator, and the dependent variable. In this three variable model, the independent variable is said to cause the mediator, which in turn, causes the dependent variable (MacKinnon, 2008). According to Hayes (2013), once the independent variable exerts its effect on the mediator, then the mediators causal influence on the dependent variable produces the variation in the dependent variable.

Baron and Kenny (1986) identified four conditions that must be met in order to establish mediation. First, the independent variable must be shown to have an effect on the dependent variable when the mediator is not included in the analysis. Second, the independent variable must be shown to have an effect on the mediator. Third, the mediator must be shown to have an effect on the dependent variable, independently of the independent variable. Finally, the effect of the independent variable on the dependent variable must be non-significant when the mediator is included in the analysis.

In a single mediator model, a researcher is not able to investigate multiple mechanisms an independent variable may operate through at once. In addition to this limitation, Hayes (2013) identified several additional reasons why the single mediator model is limiting. First, most effects and phenomena researchers study operate through multiple mechanisms at once. Hayes suggests that if a researcher believes that an independent variable is operating through multiple mechanisms at one time, then a model which better allows for this is necessary. Second, a researcher may propose that a simple mediation model is itself

mediated. In other words, according to Hayes, an independent variables effect on the dependent variable, operating through one mediator included in the model, may be influenced by other mechanisms also at work but not modeled. If this is the case, the inclusion of at least one additional mediator is necessary. Third, it is possible that the mediator in the model is related to the dependent variable due to the mediator being correlated to another variable in the model thus causally influencing the outcome. Finally, as suggested by Hayes, when a researcher includes multiple mediators in the model between the independent and dependent variable, the researcher can compare the different mechanisms through which the effect is transmitted against each other. Because organizational culture is divided into four distinct culture types, a multiple mediator model was chosen for the current study. Specifically, the parallel multiple mediator model was utilized.

In the parallel multiple mediator model, the independent variable is modeled as influencing the dependent variable directly as well as indirectly through two or more mediators (Hayes, 2013). The parallel multiple mediator model operates under the assumption that no mediator in the model influences one or more of the other mediators in the model. The mediators are not independent, in fact, in the parallel multiple mediator model the mediators are believed to correlate, but not causally influence another mediator. As reported by Hayes (2013), an advantage to the parallel multiple mediator is that with multiple mediators in the model, a boost in power may result for tests of indirect effects if each mediator is correlated with the dependent variable. This gives the

researcher the ability to compare the sizes of indirect effects through different mediators.

In a parallel multiple mediator model, the effect of the independent variable on the dependent variable can be modeled in two different ways. First, the direct effect of the independent variable (X) on the dependent variable (Y) without passing through a given mediator (M_i) can be calculated. Second, the indirect effect of the independent variable (X) on the dependent variable (Y) through a specific mediator (M_i) can also be calculated. The indirect effect of the independent variable (X) on the dependent variable (Y) through any of the mediators (M_i) is quantified in the parallel multiple mediator model as the product of paths linking the independent variable (X) to the dependent variable (Y) through the mediator (M_i) (Hayes, 2013). Therefore, two paths exist for each mediator in a parallel multiple mediator model when calculating indirect effects. The first path is the effect the independent variable (X) to the mediator (M_i). The second path is from the mediator (M_i) to the dependent variable (Y). When multiplied together, the regression coefficients of each path give the specific indirect effect of the independent variable (X) on the dependent variable (Y) through the mediator (M_i) specific to that path. The total indirect effect of the independent variable (X) on the dependent variable (Y) is the sum of all indirect effects. The total effect is the sum of the direct effect and the indirect effect of the dependent variable (X). Figure 3 provides a conceptual diagram of a parallel multiple mediator model.

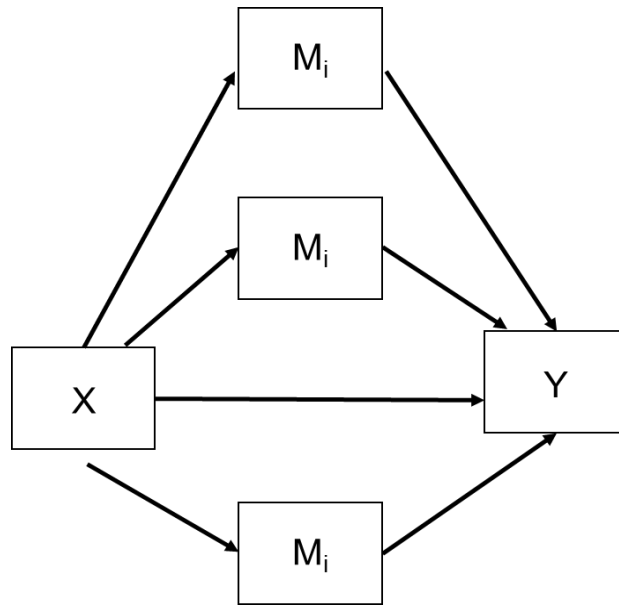


Figure 3: Conceptual Diagram of a Parallel Multiple Mediator Model

Study Variables

Because of the multiple mediation model utilized in the current study, in addition to the traditional independent variables and dependent variables, mediating variables are also present. Sirkin (2006) reports the independent variable is the variable doing the causing or explaining. Simply stated, the independent variable is cause of a change in the dependent variable. For the purposes of this study, the independent variable was referred to as the predictor. The dependent variable is the effect of the independent variable (Thomas et al., 2011) or the variable being caused or explained (Sirkin, 2006). Changes in the dependent variable depend directly on changes in the independent variable. For the purposes of this study, the dependent variable was referred to as the outcome. Mediating variables are variables that partially account for the relationship between the dependent variables and the independent variables (Cohen, Cohen, West, & Aiken, 2013). Fritz and MacKinnon (2007) describe mediating variables as variables, which intervene in the effect of the independent variable on the dependent variable.

Independent Variables. The independent variables in the current study were (a) type of institution and (b) annual allocated revenue. Type of institution refers to whether or not the institution is a public institution, receiving public dollars for financing the institution, or private, in which case dollars for financing the institution are from private donors and tuition paid by its students. Annual allocated revenue refers to the amount of money budgeted per year for the institutions athletic department to operate. Budget sources may include, but are

not limited to, department budget amount from the institution itself and outside monetary sources including donations from alumni and boosters are well as fundraising events.

Dependent Variable. Slack and Parent (2006) report that all sport organizations exist for a purpose, which is one of the two goals for sport organizations. The second goal for sport organizations is to provide guidelines for organizational members in areas such as decision-making, performance appraisal, reduction in uncertainty, direction and motivation of organizational members, and the legitimacy of the organization itself. The researchers also suggest effectiveness is “the extent to which an organization achieves its goals” (p. 41). While effectiveness may be measured in economic terms, in the world of collegiate athletics, effectiveness can be measured on individual and team athletic success. The dependent variable for this study was finishing position, determined by total points earned, in the Directors’ Cup.

Mediating Variables. The current study had four mediating variables. These mediating variables were the four culture types described by Cameron and Quinn (2011) which include (a) hierarchy culture, (b) market culture, (c) clan culture, and (d) adhocracy culture. Each culture has its own criteria of effectiveness. A hierarchy culture is characterized by control and efficiency with a focus on processes that produce effectiveness. Market culture is characterized by aggressiveness in competition and a focus on customers in order to produce effectiveness. Clan culture is characterized by human development and participation in order to produce effectiveness. Finally, adhocracy culture is

characterized by innovation, vision, and new resources in order to produce effectiveness. It should be noted that in the chosen model, it is assumed that, no mediator is modeled as influencing another mediator in the model (Hayes, 2013). This assumption is validated by the competing assumptions each culture type represents. It should also be noted that while this assumption is held true, it is more likely that mediators are correlated and cannot be assumed to be independent (Hayes, 2013).

Data Collection Procedures

Data used for analysis in this study were collected in two primary ways. First, data regarding total points earned in the Directors' Cup was obtained from NACDA on-line for the 2016-2017 competition year. Standings are published on-line three times per year with the final standings being published during the summer months immediately following the conclusion of the competition year. All information published on-line is accessible to the public. Next, questionnaire data and data from the OCAI was collected through survey monkey. All 307 NCAA Division II institutions making up the study population are included in the study. Head coaches and athletic directors were emailed a URL link to the questionnaire on Survey Monkey asking them to rate the extent to which they agree with each statement, using a six-point Likert-type scale ranging from 1 ("strongly disagree") to 6 ("strongly agree"). While the use of a Likert scale may result in less differentiation than the use of an Ipsative scale, each response using a Likert scale can be assumed independent of each other (Cameron & Quinn, 2011) and has been used as a standard statistical practice in previous

research (Quinn & Spreitzer, 1991, & Yeung, Brockbank, and Ulrich 1991). The email containing the survey monkey link had instructions for athletic directors and head coaches. Specifically, athletic directors and head coaches were asked to complete the survey consisting of questions specific to their job function in the institution and the OCAI.

Data Analysis

Data analysis consisted of the initial analysis of descriptive statistics and the main analysis of the OCAI and the Parallel Multiple Mediator Model. The initial data analysis reports the basic descriptive statistics in terms of mean, standard deviation, and distribution frequency. Initial data analysis was also conducted on demographic information, annual allocated revenue, and reported culture type.

Statistical Package for the Social Sciences (SPSS) version 25.0 was used to analyze the data in terms of descriptive statistics (mean, median, standard deviation, variance, range, and frequencies). SPSS was also used to assess any issues with multicollinearity and the reliability of the mediating variables, which are all easily performed by SPSS. All tests of statistical significance were performed at alpha level .05. The parallel multiple mediator model requires additional calculations of statistics and inferential procedures, which cannot be performed by SPSS (Hayes, 2012). In order to conduct these additional calculations the PROCESS Macro, a versatile modeling tool for SPSS, was used. In SPSS, the PROCESS Macro estimates the model and provides output relevant to statistical inference. PROCESS automatically detects the number of

variables listed and estimates a parallel multiple mediator model. Additional Macros built into PROCESS, conduct tests of differences between indirect effects and generates the total effect from estimating Y from X alone.

When making statistical inferences, the OLS regression procedures built into SPSS as well as the PROCESS Macro specifically conducted tests for the direct effect, specific indirect effects, pairwise comparisons between specific indirect effects, and the total indirect effect. When making an inference about the direct effect, SPSS conducted a test of the null hypothesis. In addition, a confidence interval was constructed automatically by the PROCESS Macro. Inferences about specific indirect effects were made based on bootstrap confidence intervals, which is the best approach to inference when the original data are available for analysis (Hayes, 2013). Using this method, no assumptions about the shape of the sampling distribution are made. According to Hayes (2013), bootstrap confidence intervals tend to be more powerful than competing methods. Bootstrapping allows the researcher to empirically estimate the sampling distribution of the indirect effect and generate a confidence interval for estimation and hypothesis testing. To find a bootstrap confidence interval for a specific indirect effect, a random sample of size n is taken from the sample with replacement, estimating each specific indirect effect in the resulting data, and repeating the resampling and estimation at least 1,000 times. The distribution of the indirect effect over multiple resamples as an approximation of the sampling distribution of the indirect effect is then used. The PROCESS Macro can generate bias-corrected bootstrap confidence intervals, which respect the

irregularity of the sampling distribution of the indirect effect and provide an inference that is higher in power than the normal approach (Hayes, 2013).

Also of interest in a multiple mediator model is to test whether or not one indirect effect is statistically different from another (Hayes, 2013). This test can be accomplished by pairwise comparisons between specific indirect effects. The normal theory method is present in the INDIRECT procedure in SPSS. The PROCESS Macro does not support this; however, the PROCESS Macro does offer bootstrap confidence intervals for pairwise comparisons between indirect effects when an additional Macro is added to the PROCESS Macro. PROCESS conducts pairwise comparisons of each of the specific indirect effects.

Finally, the total indirect effect of the parallel multiple mediator model was estimated. However, according to Hayes (2013), the total indirect effect of a multiple mediator model is often not of much interest. Still, the total indirect effect can be estimated using the bootstrap confidence interval provided by the PROCESS Macro.

The PROCESS Macro is not without limitations (Hayes, 2012). First, PROCESS is limited to the analysis of dependent variables that are properly modeled with OLS regression. Second, the measurement error in predictors and outcomes found in linear models are present because estimation procedures in PROCESS are based on observed variables. Even with these limitations, the use of OLS regression and the PROCESS Macro has been chosen for the proposed research. This is mainly due to the researcher's familiarity with and use of SPSS. The PROCESS Macro as a data analysis tool allows the use of an

already familiar program to estimate the various effects of a multiple mediator model.

Hayes (2013) reported any differences observed between the OLS regression and SEM programs is specific to the SEM program itself. In addition, the “algorithms for estimation and iteration used by the favored program, convergence criteria set as defaults, how the covariance matrix is calculated, the number of decimal places of accuracy used when inputting data as a covariance matrix rather than using individual data, and so forth” (p. 160) all result in OLS regression and SEM differences.

Chapter 4

Results

This chapter reports the results of the data analysis based upon the methodology described in the previous chapter. In addition, this chapter explains the results of statistical analysis in the study.

Descriptive Analysis

Data were collected by survey questionnaire via Survey Monkey. Collected data included gender, age, university, position in the athletic department, sport coached, view of organizational performance, view of athletic department performance, as well as OCAI related information. Participants who reported holding the role of athletic administrator were also asked whether or not the university fielded a football team, the total number of athletic programs at the university, and the athletic departments annual revenue. A total of 3,931 participants were invited to participate in the study. In total, 285 NCAA Division II athletic departments were represented by the 1,143 respondents. Of the 1,143 participants who responded to the survey invitation, 847 surveys were complete and included for data analysis.

When looking specifically at characteristics of institutions from which responses were received (see Table 4.1), more than half of the responses received came from private institutions (N=475, 56.1%). Remaining responses came from state-supported public institutions (N=372, 43.9%). Of the 847 survey responses included for data analysis, the overwhelming majority of respondents identified as a head coach (N=759, 89.6%). The remaining 88 respondents

identified as an administrator (N=74, 8.7%) or as an administrator and coach (N=14, 1.7%).

	Institution Type	Organizational Position	Football Program	Number of Programs	Allocated Revenue
N	847	847	88	88	88
Mean	1.56	1.93	1.56	15.35	
Median	2.00	2.00	2.00	15.00	\$3,600,001 - \$4,800,000
Std. Deviation	0.497	0.315	0.500	3.421	3.673
Range (min. - max.)	1	2	1	11	\$0 - \$1,200,00 to more than \$20,400,001
Frequencies	1: Public = 372 2: Private = 475	1: Administrator = 74 2: Head Coach = 759 3: Administrator & Head coach = 14	1: Yes = 39 2: No = 49	1: 1 Program = 0 2: 2 Programs = 0 3: 3 Programs = 0 4: 4 Programs = 0 5: 5 Programs = 0 6: 6 Programs = 0 7: 7 Programs = 0 8: 8 Programs = 0 9: 9 Programs = 1 10: 10 Programs = 7 11: 11 Programs = 6 12: 12 Programs = 8 13: 13 Programs = 8 14: 14 Programs = 8 15: 15 Programs = 9 16: 16 Programs = 6 17: 17 Programs = 9 18: 18 Programs = 4 19: 19 Programs = 2 20: 20+ Programs = 20	

Table 4.1: Descriptive Statistics of Institutional Characteristics

Only respondents identifying as an administrator or as an administrator and coach (N=88, 10.4%) were asked to respond to questions of whether or not the institution sponsored a football team. Of the 88 respondents, 39 institutions sponsored a football team (44%) while 49 institutions do not sponsor a football team (56%). Also reported by these 88 respondents, the mean number of athletic programs at the institution was 15.35 (S.D.=3.421) with the reported minimum number of athletic programs being 9 and the maximum number of athletic programs reported as 20 or more. The median annual allocated revenue reported by administrators was \$3,600,001 - \$4,800,000, with a range of \$0 - \$1,200,000 to more than \$20,400,001.

When examining data collected from the OCAI, multiple observations can be made about the six dimensions (dominant characteristics, organizational leadership, management of employees, organizational glue, strategic emphases, and criteria of success) making up the four major cultural types, as well as the cultural types themselves. Specifically, descriptive statistics were generated for each of the four value statements in each of the six dimensions (see Table 4.2). The Likert response scale ranged from one to six and represented statements of strongly disagree to strongly agree respectively. The values of three and four represent statements of somewhat disagree and somewhat agree respectively.

Dominant Characteristics				Organizational Leadership			
	Mean	Std. Deviation	Variance		Mean	Std. Deviation	Variance
The Organization is a very personal place. It is like an extended family. People seem to share a lot of themselves.	4.19	1.307	1.708	The leadership in the organization is generally considered to exemplify mentoring, facilitating, or nurturing.	3.90	1.406	1.976
The organization is a dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.	3.48	1.302	1.694	The leadership in the organization is generally considered to exemplify entrepreneurship, innovation, or risk taking	3.53	1.325	1.755
The organization is very results oriented. A major concern is with getting the job done. People are very competitive and achievement oriented.	3.79	1.273	1.621	The leadership in the organization is generally considered to exemplify a no-nonsense, aggressive, result	3.25	1.298	1.686
The organization is a very controlled and structured place. Formal procedures generally govern what people do.	3.62	1.294	1.674	The leadership in the organization is generally considered to exemplify coordinating, organizing, or smooth-running efficiency.	3.87	1.305	1.703
Management of Employees				Organizational Glue			
	Mean	Std. Deviation	Variance		Mean	Std. Deviation	Variance
The management style in the organization is characterized by teamwork, consensus, and participation.	4.11	1.327	1.760	The glue that holds the organization together is loyalty and mutual trust. Commitment to this organization runs high.	4.07	1.389	1.930
The management style in the organization is characterized by individual risk taking, innovation, freedom, and uniqueness.	3.61	1.231	1.516	The glue that holds the organization together is commitment to innovation and development. There is an emphasis on being on the cutting edge.	3.26	1.289	1.660
The management style in the organization is characterized by hard-driving competitiveness, high demands, and achievement.	3.49	1.320	1.742	The glue that holds the organization together is the emphasis on achievement and goal accomplishment.	3.74	1.233	1.520
The management style in the organization is characterized by security of employment, conformity, predictability, and stability in relationships.	3.79	1.246	1.552	The glue that holds the organization together is formal rules and policies. Maintaining a smoothly running organization is important.	3.74	1.207	1.457
Strategic Emphases				Criteria of Success			
	Mean	Std. Deviation	Variance		Mean	Std. Deviation	Variance
The organization emphasizes human development. High trust, openness, and participation persist.	3.98	1.347	1.814	The organization defines success on the basis of the development of human resources, teamwork, employee commitment, and concern for people.	4.09	1.309	1.714
The organization emphasizes acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued.	3.59	1.299	1.687	The organization defines success on the basis of having unique or the newest products. It is a product leader and innovator.	3.02	1.263	1.594
The organization emphasizes competitive actions and achievement. Hitting stretch targets and winning in the marketplace are dominant.	3.53	1.275	1.625	The organization defines success on the basis of winning in the marketplace and outpacing the competition. Competitive market leadership is key.	3.57	1.336	1.784
The organization emphasizes permanence and stability. Efficiency, control, and smooth operations are important.	3.93	1.139	1.297	The organization defines success on the basis of efficiency. Dependable delivery, smooth scheduling, and low-cost production are critical.	3.92	1.124	1.264

Table 4.2: Descriptive Statistics for the Six Dimensions of Organizational Culture

In the dominant characteristics dimension, respondents somewhat agree (M=4.19, SD=1.307) that their organizations are “very personal places” where it feels like an “extended family”. The other three statements in the dominant characteristics dimension reported similar means ranging from 3.48 to 3.79 indicating respondents are somewhere between somewhat disagree and somewhat agree when rating their organization as “entrepreneurial”, “results oriented”, and “controlled and structured”.

Concerning the organizational leadership dimension, it appears that respondents (N=847) feel their organization “exemplifies mentoring, facilitating, or nurturing” (M=3.90, SD=1.406) slightly more than an organization that “exemplifies coordinating, organizing, or smooth running efficiency” (M=3.87, SD=1.305). However, this is not conclusive as both means are relatively close in value. The remaining two value statements “exemplifies entrepreneurship, innovation, or risk taking” and “exemplifies a no-nonsense, aggressive, result” had means, 3.53 and 3.25 respectively, closer to the scale statement somewhat disagree.

In the management of employees dimension, respondents more clearly chose “teamwork, consensus, and participation” as the management style of the organization (M=4.11, SD=1.327) followed by an organization “characterized by security or employment, conformity, predictability, and stability in relationships (M=3.79, SD=1.246). However, it is clear from the means of these two statements that participants in this study believe their organizations to be more of a team with participation and consensus being important.

Similarly, to the management of employees' dimension, the organizational glue dimension appeared to have a definitive way in which the organization is held together. Analysis of the data showed respondents (N=847) believe their organization is held together by "loyalty and mutual trust" and that "commitment runs high" in the organization (M=4.07, SD=1.389). Both "achievement and goal accomplishment" (M=3.74, SD=1.233) and "formal rules and policies" (M=3.74, SD=1.207) reported the next highest means in the organizational glue dimension.

In the strategic emphases dimension it was more difficult to decipher which statement best represented the emphasis of the organizations represented. With relatively close means, an emphasis on "human development" (M=3.98, SD=1.347) and an emphasis on "permanence and stability" (M=3.93, SD=1.139) were reported in the data. Both statements represent respondents somewhat agree with the statements in this dimension.

Finally, in the criteria of success dimension, organizations that "define success on the basis of the development of human resources, teamwork, employee commitment, and concern for people" reported the highest mean score (M=4.07, SD=1.309). The next highest mean score in this dimension was success defined "on the basis of efficiency" (M=3.92, SD=1.124).

When compiling the four value statements for the six dimensions into one of the four culture types, clan culture reported the highest mean (M=4.06, SD=1.163) of the four culture types (see Table 4.3). This indicates respondents believe their organizations culture to be similar to a family or tribe collaboration is valued. The next highest reported mean was for hierarchy culture (M=3.81,

SD=0.896) followed by market culture (M=3.56, SD=1.068) and adhocracy culture (M=3.42, SD=1.068).

	Clan Culture	Adhocracy Culture	Market Culture	Hierarchy Culture
Mean	4.06	3.42	3.56	3.81
Std. Deviation	1.163	1.081	1.068	0.896
Variance	1.352	1.168	1.140	0.803
Range	5.000	5.000	5.000	5.000

Table 4.3: Descriptive Statistics for Culture Type

When looking at athletic information specific to individual institutions (see Table 4.4), the number of male respondents (N=612, 72.3%) were three times higher than that of female respondents (N=235, 27.7%). The median age of respondents was 41 – 45 years of age with a range of 7 years. Since respondents included administrators, head coaches, and administrators who are also head coaches, the number of administrators only (N=74) was subtracted from the total number of respondents (N=847) when analyzing the data specific to gender coached and sport coached. Of the remaining respondents (N=773), nearly half of respondents coached women's sports (N=360, 46.6%). The next largest number of coaches consisted of men's sports coaches (N=244, 31.6%) followed by coaches of both men's and women's sports (N=169, 21.9%). The five sports reported as coached at the highest frequency were volleyball (N=95, 12.3%), basketball (N=88, 11.4%), soccer (N=86, 11.1%), cross-country and track (N=79, 10.2 %), and softball (N=73, 9.4%).

	Gender	Age	Org Position	Gender Coached	Sport Coached
N	847	847	847	773	773
Mean	1.72	4.37	1.93	1.90	16.93
Median	2.00	4.00	2.00	2.00	20.00
Std. Deviation	0.448	2.235	0.315	0.725	9.585
Range (min. - max.)	1	7	2	2	32
Frequencies	1: Female = 235 2: Male = 612	1: 30 and under = 100 2: 31 - 35 = 111 3: 36 - 40 = 120 4: 41 - 45 = 131 5: 46 - 50 = 101 6: 51 - 55 = 93 7: 56 - 60 = 93 8: 61 and over = 98	1: Administrator = 74 2: Head Coach = 759 3: Administrator and Head Coach = 14	1: Men's = 244 2: Women's = 360 3: Both Men's and Women's = 169	1: Baseball = 64 2: Basketball = 88 3: Bowling = 7 4: Boxing = 0 5: Cross Country = 8 6: Cycling = 0 7: Equestrian = 1 8: Fencing = 0 9: Field Hockey = 10 10: Football = 28 11: Golf = 49 12: Gymnastics = 1 13: Ice Hockey = 1 14: Lacrosse = 47 15: Rifle = 2 16: Rodeo = 0 17: Rowing = 3 18: Rugby = 1 19: Skiing = 0 20: Soccer = 86 21: Softball = 73 22: Swimming = 39 23: Tennis = 51 24: Track & Field = 11 25: Triathlon = 1 26: Volleyball = 95 27: Water Polo = 2 28: Wrestling = 18 29: Cross Country and Track & Field = 79 30: Basketball and Softball = 2 31: Basketball and Golf = 1 32: Golf and Skiing = 1 33: Cross Country and Bowling = 1

Table 4.4: Descriptive Statistics for Individual Characteristics in Institutions

Specific to how the organized performed athletically (see Table 4.5) three measures were recorded. First, Directors' Cup scores were retrieved from archived data for the 2016-2017 academic year. The mean score for Directors' Cup points earned was 174.67 (S.D.=170.82) and points earned ranged from 0 to 1020 points. Of the 285 NCAA Division II institutions surveyed, 43 athletic departments (15.1%) failed to earn a point.

	Ov All Perf	Comp Perf	Cup Points
N	847	847	285
Mean	4.43	2.87	174.67
Median	4.00	3.00	125.00
Std. Deviation	1.294	1.147	170.82
Range (min. - max.)	6	4	0 - 1,020

Table 4.5: Descriptive Statistics of Organizational Performance, All Responses

Second, derived from the Psychometric Analyses of the Management Skills Assessment Instrument (Cameron & Quinn, 2011), participants of the survey rated the overall performance of the organization as compared to the same point in time from the previous year using a Likert response scale. The mean score for overall performance of the organization was 4.43 (S.D.=1.294) indicating respondents perceive their organizations overall performance compared to the previous year at the same point in time as 'about the same'. In fact, this rating was selected by 34.2% of respondents (N=290). Respondents selected 'slightly higher' when responding to the same question at the next highest frequency (N=216, 25.5%).

Finally, also derived from Analyses of the Management Skills Assessment Instrument (Cameron & Quinn, 2011), participants of the survey rated how well they believe the organization has performed compared to the toughest competition over the past year. The mean score for this measure was 2.87 (S.D.=1.147). Respondents perceive their organizations performance compared to the toughest competition over the last year to be 'about the same' (N=263, 31.1%). However, finding is not overwhelming. Both 'somewhat worse' (N=204, 24.1%) and 'somewhat better' (N=199, 23.5%) were selected by respondents at a similar frequency.

Normality

Univariate skewness and kurtosis were calculated for the independent, dependent, and mediating variables to examine the normality of the data (see Table 4.6). Test statistics for skewness and kurtosis would indicate if problems

of normality exist and if there are any outliers. SPSS calculates both skewness and kurtosis as well as standard error for both statistics. Dividing either score by its standard error will suggest whether or not the data are normal. After dividing either statistic by its standard error, if the result is greater than ± 1.96 , data are considered to not be normal for that statistic (Rose, Spinks, & Canhoto, 2014). For large sample sizes such as this study, the threshold for normal distribution can be pushed to ± 2.58 . Applying this method for calculating normality of the data, institution type was calculated as extreme for skewness (-2.917) and kurtosis (-11.571), annual allocated revenue was calculated as extreme for skewness (-3.106) and kurtosis (28.761), and Directors' Cup points was calculated as extreme for skewness (9.118) and kurtosis (6.688).

	Skewness	Kurtosis
Institution Type	-0.245	-1.944
Allocated Revenue	-2.609	4.832
Directors Cup Points	1.313	1.926
Clan Culture	-0.674	-0.027
Adhocracy Culture	-0.241	-0.553
Market Culture	-0.201	-0.385
Hierarchy Culture	-0.503	0.212

Table 4.6: Skewness and Kurtosis of Variables

These extreme values for skewness and kurtosis indicate the possibility of outliers. Schumaker and Lomax (1996) report five possible reasons for outliers in the data. First, a recording or data entry error may have caused outliers. Data was re-checked for accuracy and no errors in data entry were found to be present. Second, an error in observation may cause outliers to exist in the data. Data were collected through survey instrument and therefore no relevant issues were found to exist with respect to observation. Third, an improper administration of an instrument and fourth, an improper function of an instrument are causes of outliers. In addition to survey collection of data, Directors' Cup points were collected from available data, thus eliminating the possibility of improper administration of an instrument and improper function of an instrument. Through the elimination of the first four reasons for outliers, the fifth and final reason, the existence of a true outlier as an issue for non-normality remains.

It is within the realm of possibility that true outliers exist. Specifically, when looking at annual allocated revenue, the range was quite large (\$0 - \$1,200,000 to more than \$20,400,001) with a median annual allocated revenue of \$3,600,001 - \$4,800,000. In addition, the mean score for Directors' Cup points scored was 174.67 with 43 out of 285 athletic departments scoring no points and one athletic department scoring 1020 points. Further, the observed number of public institutions was 372 while the observed number of private institutions was 475 institutions. Each of these outliers are accurate observations in the data, and therefore should be included for analysis (Schumacker & Lomax, 1996).

Multicollinearity

The use of ordinary least squares (OLS) regression and the PROCESS Macro to test for mediation of the independent variables necessitated the need to check for multicollinearity. Multicollinearity occurs when independent variables are highly correlated with other independent variables in a regression equation (Cohen et al., 2013). When this occurs, the estimate of the regression coefficient is unreliable resulting in a very large standard of error. As independent variables become more highly correlated, it becomes more difficult to determine which, if any, independent variable effects the dependent variable. To test for multicollinearity a two-step procedure was utilized (Hair, Black, Babin, & Anderson, 2009). First, using SPSS, condition indices were computed and compared to the commonly used threshold value of 15 to 30. No condition index (see Table 4.7) in this study was greater than 7.08 indicating no support for the existence of multicollinearity. Having passed the first step of the two-step process, there is no need to continue to the second step (Hair et al, 2009). Only condition indices which exceed the standard threshold value would need to have its proportion of variance evaluated and compared to the standard substantial proportion of variance (.90 or higher).

Model		Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	Institution Type	Allocated Revenue
1	1	2.672	1.000	0.01	0.01	0.04
	2	0.274	3.120	0.05	0.05	0.96
	3	0.053	7.080	0.93	0.93	0.00

a. Dependent Variable: Cup Points Earned

Table 4.7: Collinearity Diagnostics

Reliability

Ary et al. (2002) define reliability as “the degree of consistency with which it measures whatever it is measuring”. Since Cronbach’s alpha is a measure of internal consistency, this statistic was calculated to determine if the OCAI was reliable specific to this study. The alpha coefficients (see Table 4.8) for clan culture (6 items; $\alpha = .931$), adhocracy culture (6 items; $\alpha = .917$), market culture (6 items; $\alpha = .908$), and hierarchy culture (6 items; $\alpha = .829$) are all relatively high with respect to generally accepted reliability where scores close to 1.0 indicate high levels of reliability (Cohen et al., 2013).

Culture Type	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Clan Culture	0.931	0.931	6
Adhocracy Culture	0.917	0.917	6
Market Culture	0.908	0.908	6
Hierarchy Culture	0.829	0.832	6

Table 4.8: Reliability of Mediating Variables

Sample Selection

For the purposes of this study, only completed responses (N=847) were considered for correlation analysis and mediation analysis since missing values can be problematic. In addition, as previously stated, organizational culture is the taken-for-granted values, beliefs, basic assumptions, expectations and shared understandings, and definitions present in an organization that provide the foundational basis for an organizations culture (Slack & Parent, 2006; Cameron & Quinn, 2011). Based on this definition, it is reasonable to assume that perceptions of the culture from a simple majority or at least fifty percent of responses would be needed from athletic department participants to more accurately estimate the culture type of the organization. However, knowing the potential difficulty of obtaining a response rate of fifty percent for multiple institutions, a thirty-three percent response rate was targeted for an institution to be included in mediation analysis.

When analyzing the data, of the 285 institutions with one or more responses, only 41 of the 285 institutions provided a response rate of thirty-three percent or more. That number computes to only fourteen percent of the 285 respondents. In addition, six of the 41 institutions with thirty-three percent or higher response rates scored no points in the Directors' Cup in the 2016-2017 competition year. In order to increase the sample for mediation analysis, an alternative selection method was employed.

In statistical analysis, the third quartile is the median of the upper half of the data set. This means about seventy-five percent of the numbers in the data

set lie below the third quartile and twenty-five percent lie above the third quartile. When looking at the data set, the cutoff for the third quartile of the data set includes schools that responded at a frequency of twenty-five percent or higher (see Appendix F). Using the upper fence and outliers of the data set equates to 79 out of 285 institutions. After subtracting, the schools that failed to score any points in the Directors' Cup, 67 schools and 337 respondents with usable data for the correlation analysis and mediation analysis remained.

Correlation of Mediators to Number of Cup Points Earned

To test whether there is a statistically significant linear relationship between the different culture types and the number of points earned in the Directors' Cup, bivariate Pearson Correlation was performed using SPSS. A Pearson's r value close to 1 indicates a strong relationship between variables in the measurement, while a Pearson's r value close to 0 indicates a weak relationship between variables in the measurement. If the Pearson r value is positive, as one variable in the relationship increases, the second variable also increases in value. Conversely, if the Pearson r value is negative, as one variable in the relationship decreases, the second variable will also decrease.

Results of the SPSS output can be found in Table 4.9.

Results of the bivariate correlation analysis indicate clan culture and cup points earned are correlated, $r(335) = .115$, $p = .035$. This correlation, while positive, is relatively weak indicating the correlation is not very strong. The results of the bivariate correlation analysis also indicate a weak, positive correlation between adhocracy culture and cup points earned, $r(335) = .134$, $p =$

.014. Bivariate correlation analysis indicates no correlation exists between hierarchy culture and cup points earned, $r(335) = .074$, $p = .176$. The strongest, positive correlation exists between market culture and cup points earned, $r(335) = .250$, $p < .001$. While this correlation was positive and the strongest among statistically significant correlations, it is still relatively weak by definition.

		Cup Points Earned
Clan Culture	Pearson Correlation	.115*
	Sig. (2-tailed)	0.035
	N	337
Adhocracy Culture	Pearson Correlation	.134*
	Sig. (2-tailed)	0.014
	N	337
Market Culture	Pearson Correlation	.250**
	Sig. (2-tailed)	0.000
	N	337
Hierarchy Culture	Pearson Correlation	0.074
	Sig. (2-tailed)	0.176
	N	337

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.9: Correlations between Culture Type and Directors' Cup Points Earned

Measurement Model

Mediation analysis is a statistical method designed to answer how one variable leads to an effect on a second variable, through the mechanism of a third variable, thus transmitting the effect of the first variable onto the second variable. Simply put, mediation analysis is used to demonstrate how a causal agent transmits its effect on an outcome. Simple mediation analysis involves a causal antecedent variable linked to a single consequent variable through a single intermediary variable known as a mediator (Hayes, 2013). Multiple mediation analysis allows for the investigation of a causal antecedent to transmit its effects on an outcome through multiple intermediary variables. This study chose organizational culture types as possible mediators in determining the success in NCAA Division II athletic departments; therefore, the multiple mediator analysis model was appropriate.

While many multiple mediation models exist, Hayes (2013) discussed at length the principles of two specific models that can be used in multiple mediation analysis. First, the serial multiple mediator model links together mediating variables in a causal chain. The second model, parallel multiple mediator model, allows mediators to correlate but not causally influence another mediator in the model. It is assumed that the mediators selected for this study are independent of each other; not causally influencing one another, therefore the parallel multiple mediator model was selected. To evaluate the parallel multiple mediator measurement model for this study, SPSS with the added PROCESS Macro was utilized. The PROCESS Macro when executed provides

statistical output for estimating the direct effects of the independent variable (X), the indirect effects of the independent variable (X) through a mediator (M), pairwise comparisons between specific indirect effects of the independent variable (X) through a mediator (M), and the total indirect effect indirect effects of the independent variable (X) through a mediator (M).

The PROCESS Macro allows for the inclusion of multiple mediators as well as the inclusion of multiple independent variables (X). However, according to Hayes (2013), the possibility of highly correlated X variables increases the risk that each other's effects will be cancelled out. In addition, including two X variables that may be highly correlated to the mediation analysis may lead to competition among the X variables if they are also correlated with mediating variables (M) or the dependent variable (Y). Because of the potential for problems with competition among variables and the cancelling out of effects by independent variables (X's), a single X variable was used in the model when running the PROCESS Macro. In doing so, each X exerted a direct and/or indirect effect on Y through M. The first independent variable (X) tested in the parallel multiple mediator model was institution type, followed by annual allocated revenue.

Direct Effect of X on Y. Hayes (2013) simply defines the direct effect of X on Y as the interpretation of the direct effect that two cases differ by one unit on X but are equal on M are estimated to differ by c' units on Y. When first looking at the direct effect of the independent variable (X) institution type on the dependent variable (Y) points scored in the Directors' Cup, institution type has no

direct effect on the number of Directors' Cup points an athletic department scores in the Directors' Cup ($c'=35.396$, $t(335)=1.894$, $p=.059$). Further, with 95% confidence, the constructed confidence interval supports the lack of a statistically significant finding for a direct effect of institution type on the number of Directors' Cup points earned (-0.108, 72.150).

The direct effect of the second independent variable (X) annual allocated revenue on the dependent variable (Y) points scored in the Directors' Cup yielded similar results. Specifically, annual allocated revenue has no direct effect on the number of Directors' Cup points an athletic department scores in the Directors' Cup ($c'=.290$, $t(335)=1.433$, $p=.153$). Further, with 95% confidence, the constructed confidence interval supports the lack of a statistically significant finding for a direct effect of institution type on the number of Directors' Cup points earned (-0.108, 0.699). Statistics for the direct effect of the independent variables on the dependent variable are summarized in Table 4.10.

<u>Direct effect of Institution Type on Directors Cup Points Earned</u>					
Effect	SE	t	p	LLCI	ULCI
35.3957	18.6842	1.8944	0.059	-0.1083	72.1504
<u>Direct effect of Annual Allocated Revenue on Directors Cup Points Earned</u>					
Effect	SE	t	p	LLCI	ULCI
0.2904	0.2027	1.4328	0.1529	-0.1083	0.69892

Table 4.10: Statistics for Direct Effects of X on Y

Specific Indirect Effects. The product of a and b is the indirect effect of X on Y through M . Specifically, “ a quantifies how much two cases that differ by one unit on X are estimated to differ on M ” (Hayes, 2013). When making inferences about the indirect effect X on Y through M , the PROCESS Macro uses bootstrap confidence intervals. Bootstrapping allows for the empirical estimation of the sampling distribution of the indirect effect and the generation of confidence intervals for estimation and hypothesis testing. According to Hayes (2013), bootstrap confidence intervals tend to be more powerful than the typically used normal theory when hypothesis testing for indirect effects and is the preferred inferential method for testing indirect effects. In addition, bootstrap confidence intervals make no assumptions about the shape of the sampling distribution. When constructing bootstrap confidence intervals for s specific indirect effect, the PROCESS Macro takes a random sample with a replacement size of n from the sample, estimating each indirect effect in the resulting data, and repeating this resampling and estimation many times. Hayes (2013) recommends resampling and estimation at least 5,000 times. The PROCESS Macro gives the option of resampling and estimation 50,000 times, which was chosen for the testing of specific indirect effects of X on Y through M in this study.

Biased corrected bootstrap confidence intervals were calculated using the PROCESS Macro to make inferences about the indirect effect of institution type (X) through culture type (M) on the number of direct cup points earned (Y). When zero is outside of the confidence interval, evidence exists that M influences Y indirectly. When the confidence interval includes zero, insufficient evidence

exists that X effects Y through M. Concerning analysis of institution type in the current study, the bootstrap confidence intervals indicate with 95% confidence, that insufficient evidence exists for institution type influencing the number of Directors' Cup points earned indirectly through clan culture (-3.847, 10.516), adhocracy culture (-5.689, 9.920), market culture (-17.552, 12.094), and hierarchy culture (-11.468, 4.762).

With regard to annual allocated revenue, the bootstrap confidence intervals indicate with 95% confidence, that insufficient evidence exists for annual allocated revenue influencing the number of Directors' Cup points earned indirectly through clan culture (-0.300, 0.036), adhocracy culture (-0.114, 0.343), and hierarchy culture (-0.005, 0.201). However, results of the bootstrap confidence interval calculation indicate evidence exists that annual allocated revenue effects the number of Directors' Cup points earned through market culture (-0.437, -0.058). Statistics for the indirect effect of the independent variables through mediating variables on the dependent variable are summarized in Table 4.11.

<u>Indirect effect of Institution Type on Directors Cup Points Earned through Cutlure Types</u>				
Culture Type	Effect	Boot SE	BootLLCI	BootULCI
Clan	0.6003	3.2145	-3.8474	10.5161
Adhocracy	0.2649	3.5146	-5.6893	9.9200
Market	-2.7763	7.3179	-17.5519	12.0937
Hierarchy	-0.9026	3.7058	-11.4681	4.7619
<u>Indirect effect of Annual Allocated Revenue on Directors Cup Points Earned through Cutlure Types</u>				
Culture Type	Effect	Boot SE	BootLLCI	BootULCI
Clan	-0.0951	0.0830	-0.2997	0.0360
Adhocracy	0.0925	0.1145	-0.1139	0.3435
Market	-0.1997	0.0926	-0.4369	-0.0577
Hierarchy	0.0554	0.0480	-0.0045	0.2014

Table 4.11: Indirect Effects of X on Y through M

Pairwise Comparisons between Specific Indirect Effects. Whether one indirect effect is statistically different from another is of interest in multiple mediator models (Hayes, 2013). Similar to tests of specific indirect effects, bootstrap confidence intervals can be used to make pairwise comparisons without having to make the assumption that the sampling distribution is normal. The bootstrap confidence interval is calculated from the estimation of differences between specific indirect effects over repeated sampling and model estimation. Also as with specific indirect effects, a bootstrap confidence interval of pairwise comparisons that does not contain zero provides evidence that the two indirect effects are statistically different. Alternatively, if the bootstrap confidence interval contains zero, there is evidence for no difference between the specific indirect effects.

Analysis of pairwise comparisons of the indirect effects of institution type on cup points earned through culture type indicates, with 95% confidence, that the indirect effects are not statistically different from each other. Specifically, the pairwise comparisons for clan culture and adhocracy culture (-11.124, 14.962), clan culture and market culture (-10.074, 16.598), clan culture and hierarchy culture (-7.978, 18.483), adhocracy culture and market culture (-16.310, 24.269), adhocracy culture and hierarchy culture (-6.213, 10.707), and market culture and hierarchy culture (-20.828, 19.323) all contain zero in the interval. From these results, three statements can be made. First, the indirect effect of institution type through clan culture is no different than the indirect effect of institution type through adhocracy, market, and hierarchy culture. Next, the indirect effect of

institution type through adhocracy culture is no different than the indirect effect of institution type through market or hierarchy culture. Finally, the indirect effect of institution type through market culture is no different than the indirect effect of institution type through hierarchy culture.

Pairwise comparisons of indirect effects of annual allocated revenue on cup points earned through culture type indicates, with 95% confidence, that the indirect effects are not statistically different from each other with respect to four pairwise comparisons. Specifically, the pairwise comparisons for clan culture and adhocracy culture (-0.578, 0.114), clan culture and market culture (-0.088, 0.354), clan culture and hierarchy culture (-0.454, 0.015), and adhocracy culture and hierarchy culture (-0.202, 0.273) all contain zero in the interval indicating no difference exists between the pairs. However, with respect to adhocracy culture and market culture (0.002, 0.730) and market culture and hierarchy culture (-0.565, -0.070), with 95% confidence, a statistical difference does exist between pairs. Again, three observations can be made. First, the indirect effect of annual allocated revenue through clan culture is no different from the indirect effect of annual allocated revenue through adhocracy, market, and hierarchy culture. Second, the indirect effect of annual allocated revenue through adhocracy culture is no different from the indirect effect of annual allocated revenue through hierarchy culture. Finally, the indirect effect of annual allocated revenue through market culture is different from the indirect effect of annual allocated revenue through adhocracy culture and hierarchy culture. Statistics for pairwise comparisons of specific indirect effects are summarized in Table 4.12.

Pairwise Comparisons of Indirect Effects of Institution Type on Directors Cup Points Earned Through Culture Types				
Pair	Effect	Boot SE	BootLLCI	BootULCI
Clan and Adhocracy	0.3354	6.0606	-11.1241	14.9618
Clan and Market	3.3766	6.6179	-10.0735	16.5977
Clan and Hierarchy	1.5029	6.1168	-7.9776	18.4827
Adhocracy and Market	3.0412	9.7395	-16.3095	24.2688
Adhocracy and Hierarchy	1.1675	4.1017	-6.2125	10.7074
Market and Hierarchy	-1.8737	9.8538	-20.8284	19.3232
Pairwise Comparisons of Indirect Effects of Annual Allocated Revenue on Directors Cup Points Earned Through Culture Types				
Pair	Effect	Boot SE	BootLLCI	BootULCI
Clan and Adhocracy	-0.1876	0.1742	-0.5781	0.1143
Clan and Market	0.1046	0.1098	-0.0876	0.3544
Clan and Hierarchy	-0.1505	0.1140	-0.4539	0.0149
Adhocracy and Market	0.2922	0.1808	0.0022	0.7297
Adhocracy and Hierarchy	0.0371	0.1184	-0.2015	0.2731
Market and Hierarchy	-0.2551	0.1212	-0.5651	-0.0688

Table 4.12: Pairwise Comparisons of Specific Indirect Effects

Total Indirect Effect. According to Hayes (2013), the total indirect effect in a multiple mediator model is not of much interest. This statistic is the sum of all specific indirect effects and can be calculated using the normal theory approach, a bootstrap confidence interval, or a Monte Carlo confidence interval. Since the PROCESS Macro provides a bootstrap confidence interval, that was the chosen method for analysis in this study. As with previous bootstrap confidence intervals, if the confidence interval contains zero, insufficient evidence exists that X effects Y through M_i . If the confidence interval does not contain zero, evidence exists that X effects Y through all possible mediators.

The bootstrap interval for the total indirect effect of institution through culture type on the number of Directors' Cup points earned indicates, with 95% confidence, that the total indirect effect is somewhere between -14.150 and 8.646. This finding supports the claim that insufficient evidence exists for institution type influencing the number of Directors' Cup points earned, through all mediators.

Concerning, the bootstrap interval for the total indirect effect of annual allocated revenue through culture type on the number of Directors' Cup points earned indicates, with 95% confidence, that the total indirect effect is somewhere between -0.319 and 0.006. Similar to findings when analyzing institution type, this finding supports the claim that insufficient evidence exists for annual allocated revenue influencing the number of Directors' Cup points earned, through all mediators. Statistics for the total indirect effect are summarized in Table 4.13.

<u>Total Indirect effect of Institution Type on Directors Cup Points Earned through Cutlure Types</u>				
	Effect	Boot SE	BootLLCI	BootULCI
Total	-2.8137	5.7584	-14.1499	8.6457
<u>Total Indirect effect of Annual Allocated Revenue on Directors Cup Points Earned through Cutlure Types</u>				
	Effect	Boot SE	BootLLCI	BootULCI
Total	-0.1468	0.0820	-0.3193	0.0064

Table 4.13: Total Indirect Effects

Effect Size of Direct and Indirect Effects. The relationships observed in the mediation model, specific to direct and indirect effects, do not tell the size of the effects. In fact, statistical significance testing only provides information about whether a relationship exists or does not exist between variables (Cohen et al., 2013). In addition, according to Hayes (2013) effect sizes can be made arbitrarily large or small by multiplying or dividing X or Y by a constant. Yet, the direct effects and indirect effects may not be unmeaningful.

According to Hayes (2013), a meaningful effect size results from a meaningful metric. However, meaningful metrics are not always the norm in measurement models because constructs are often quantified on arbitrary scales. When this happens the interpretation of effect size of direct and indirect effects are ambiguous in interpretation. Further, depending on the context, an effect size considered small by one investigator may be a large effect size for another investigator. Hayes (2013) also reports that the quantification of effect size in mediation analysis is an evolving area of research. While many measures of effect size exist in mediation analysis, the PROCESS Macro produces one such measure, the partially standardized effect size that was selected for use in this study.

The partially standardized effect size is a transformation of an effect that expresses the effect relative to the standard deviation of Y rather than the original metric of Y placing the effect size relative to variability in the outcome (Hayes, 2013 & MacKinnon, 2008). Mathematically, the formulas for calculation

of the partially standardized effect size of direct and indirect effects is simple.

For the partially standardized direct effect:

$$c'_{ps} = \frac{c'}{SD_Y}$$

For the partially standardized indirect effect:

$$ab_{ps} = \frac{ab}{SD_Y}$$

While the partially standardized direct effect is not present in the statistical output, the PROCESS Macro produces the partially standardized indirect effects.

Mediation analysis indicated only one interaction among variables in this study were statistically significant. Specifically, evidence exists that annual allocated revenue effects the number of Directors' Cup points earned through market culture (-0.437, -0.058). Therefore, the only effect size worth reporting is the partially standardized indirect effect size of market culture. The PROCESS Macro reported the partially standardized indirect effect size of market culture specific to annual allocated revenue and number of Directors' Cup points earned to be -0.001. These statistics can be interpreted as meaning two institutions that differ by one unit in annual allocated revenue differ by about one-thousandth of a standard deviation in the number of Directors' Cup points earned, when market culture is mediating the interaction.

Since the confidence interval for the indirect effect of annual allocated revenue on the number of Directors' Cup points earned through market culture (-0.437, -0.058) does not include zero, Hayes (2013) reports that the confidence interval for the partially standardized effect size also should not contain zero.

When looking at the output from the PROCESS Macro, the confidence interval calculated for the partially standardized indirect effect size of market culture does not contain zero (-0.002, -0.0003).

Chapter 5

Discussion

This chapter includes a summary of the current study, discussion of the results, limitations and recommendations for future research, and final thoughts.

Summary of the Current Study

Slack and Parent (2006) identified the main role of sport administrators as creating a successful organization. Organizations can be measured in many different ways, but ultimately how successful an organization is determines its effectiveness. Some organizations measure organizational effectiveness in terms of goal attainment, however being a complex social construct (Rohrbaugh & Quinn, 1983), defining organizational effectiveness and measuring this construct is difficult. However, there is agreement among both sport management scholars (Doherty & Chelladurai, 1999; Scott, 1997; Shilbury & Moore, 2006; Slack & Parent, 2006; Weese, 1995) and organizational management scholars (Cameron & Freeman, 1991; Deal & Kennedy, 1982) that organizational culture can lead to enhanced organizational performance and long-term success. Scott (1997) adds organizational culture has distinct applications for sport organizations. Coyler (2000) reported that while sport organizational culture may provide insights into the organizations success, very little exploration of sport organizational culture has occurred.

One such measure of organizational effectiveness available to athletic administrators of NCAA Division II athletic departments is the Directors' Cup. Currently, limited research exists concerning the Directors' Cup as an indicator of

effectiveness and how an institution can best position itself for success, in terms of points earned. Research that is available is focused on financial resources at NCAA Division I institutions and the allocation of those financial resources in order to improve finishing position in the Directors' Cup.

This study was interested in the potential predictors of organizational effectiveness in NCAA Division II athletic departments in the Directors' Cup. Specifically, this study explored whether institution type (public vs private) and annual allocated revenue had a direct effect on the number of points an athletic department earned. Using the CVF developed by Quinn and Rohrbaugh (1981) and the OCAI developed by Cameron and Quinn (2011), which based on the CVF, this study attempted to identify important characteristics of culture in NCAA Division II athletic departments. Additionally, this study investigated if culture type (clan, adhocracy, market, and hierarchy) had a mediating effect on institution type and annual allocated revenue.

The purpose of this study was to analyze whether institution type (private vs public) and annual allocated revenue were predictors of total points earned in the Directors' Cup. This study also set out to determine if organizational culture type effects total points earned in the Directors' Cup, and to determine if culture type serves as a mediator between institution type and annual allocated revenue on the Directors' Cup total points earned. This study also sought to fill in some of the gaps related to sport administration and culture types at the collegiate level, specifically at the NCAA Division II level.

There were four research questions this study sought to answer: (1) Which organizational culture type is most prevalent in NCAA Division II athletic departments? (2) Does one specific organizational culture type have a greater effect on an athletic department's Directors' Cup total points earned? (3) Does annual allocated revenue and institution type have a direct effect on Directors' Cup total points earned? (4) Does organizational culture have a mediating effect on annual budget and institution type resulting in an indirect effect on total points earned in the Directors' Cup? The variables involved in this study included predictor variables (institution type and annual allocated revenue), mediating variables (clan culture, adhocracy culture, market culture, and hierarchy culture), and an outcome variable (number of points scored in the Directors' Cup).

The current study utilized archived records and survey methodology to collect data. Data collected from archived records was readily available for download from the internet and included NCAA Division II institution type (private or public) and the number of Directors' Cup points every NCAA Division II institution scored for the 2016-2017 competition year. Also collected from archived data were the number of NCAA Division II Institutions, the number of cup scoring programs at each institution, and email addresses for each institutions athletic director and head coaches. The collected email addresses were used to collect survey data for analysis. The information collected through the survey included each participant's gender, age range, university of college employed at, position within the athletic department (administrator, head coach, or administrator and head coach), view on overall performance of the

organization, using a Likert scale, and the organizational culture assessment instrument, also using a Likert scale. In addition, athletic administrators were asked if the institution had a football team, how many athletic programs total the institution had, and what the annual allocated revenue range was for the institution. Those participants who identified as being a head coach were also asked which gender team they coached (men's, women's, or both) and which sport they coached.

SPSS version 25.0 and the PROCESS Macro were used to analyze data. Analysis included descriptive statistics (mean, median, standard deviation, variance, range, and frequencies). In terms of the mediating variables, SPSS was also used to assess potential issues with multicollinearity and reliability. In addition, bivariate correlation of predictor variables to the number of points scored in the Directors' Cup was calculated. The PROCESS Macro was used to test the parallel multiple mediator model by performing calculations of statistics and inferential procedures SPSS alone is unable to produce. The PROCESS Macro produced inferential statistics for analysis of the parallel multiple mediator model including the direct effects of predictor variables on the outcome variable, specific indirect effects of predictor variables on the outcome variable when operating through specific mediating variables, pairwise comparisons of indirect effects of predictor variables on the outcome variable when operating through specific mediating variables, and the total indirect effect.

Discussion of Results

A total of 285 NCAA Division II athletic departments out of 307 were represented via survey methodology resulting in 847 complete surveys. All 847 survey results were included when examining culture type and attempting to answer the first research question as to which culture type is most prevalent in NCAA division II institutions. Of the four culture types, clan culture had the highest mean score ($M=4.06$, $SD=1.163$) indicating the respondents believe that clan culture type is most like the culture type of their institution. Interestingly, Cameron and Quinn (2011) reported research on hundreds of organizations having shown clan culture appearing more frequently.

In a clan culture, success is defined in terms of concern for people (Cameron & Quinn, 2011), therefore NCAA Division II athletic departments with clan culture type display concern for its institutional membership over success measures such as the number of points earned in the Directors' Cup. In addition to concern for its members, a family feel in the organization characterizes clan culture and its membership shares a lot of themselves (Cameron & Quinn, 2011). The leaders in a clan culture are often times viewed as mentors and commitment is high in an organization characterized by clan culture. Loyalty and tradition hold an organization together when clan culture is dominant and teamwork, participation, and consensus are all important within the organization. NCAA Division II athletics departments are typically smaller than NCAA Division I athletics departments, operate on smaller budgets, and have coaches that earn less money. One could make the argument that in the absence of large budgets,

salaries, and athletic programs, culture would be the primary driver of success. It would make sense then, to draw the conclusion that NCAA Division II athletic departments would be of the clan culture type where loyalty, tradition, and teamwork are valued.

In order to answer the remaining three research questions, the original responding 285 institution totaling 847 responses needed to be reduced to fit with the definition of organizational culture. Organizational culture is often difficult to define, but has been treated as the set of values, beliefs, and assumptions that characterize organizations and their members (Cameron & Quinn, 2011). If the definition of organizational culture is a collective of individuals in an organization, then it is reasonable to expect the culture of an organization is best measured with at least half of its membership participating in the measurement. However, as discussed previously, a thirty-three percent response rate was sought in order to increase the sample size.

Unfortunately, a large enough sample size was not obtained from NCAA Division II athletic departments with response rates of at least thirty-three percent of its members. Therefore, an alternative approach was used to select data for inclusion in the bivariate correlation analysis and mediation analysis. Using a box and whisker plot for the percentage of responses (see Appendix F), it was determined that the third quartile would be the cut-off for the inclusion of data. By employing this method for selection of usable data, institutions with a response rate of twenty-five percent or higher were selected bringing the total number of institutions utilized to 67 and the total number of responses to 337.

Bivariate correlation analysis was conducted to determine if one specific culture type had a greater effect on an athletic departments earned point total in the Directors' Cup. Results of the correlation analysis were statistically significant between clan culture and Directors' Cup points earned $r(335) = .115$, $p = .035$, adhocracy culture and Directors' Cup points earned $r(335) = .134$, $p = .014$, and market culture and Directors' Cup points earned $r(335) = .250$, $p < .001$. The correlation between market culture and the number of Directors' Cup points earned was the strongest of three correlations, but only considered moderate in social sciences research (Cohen, 1977).

In terms of an organizations culture profile, the strongest correlation, market culture and the number of Directors' Cup points earned makes sense. An organization with a market culture is one, which is results oriented and is concerned with getting the job done (Cameron & Quinn, 2011). In this type of culture, members of the organization are competitive and goal oriented. The organization is held together by an emphasis on winning. Based on this description of market culture, one could reasonably assume that an NCAA Division II athletic department that sets a goal of scoring points in the Directors' Cup in order to improve finishing position would fit nicely into a market culture.

Unexpectedly, institution type (private vs public) and annual allocated revenue were found to have no effect on the number of Directors' Cup points earned. This finding is somewhat surprising as previous research found a strong relationship between an athletic department's resources and its attainment of its goals (Won, 2004; Lawrence et al., 2012). No research connecting the type of

institution to the number of Directors' Cup points earned is currently available. One could make the case that depending on the type of institution, financial resources may be more readily available. However, this study did not investigate that claim as it was not part of the original set of research questions and even if it had been, there was no evidence for annual allocated revenue affecting the number of Directors' Cup points earned directly.

One explanation for the disconnect between the current study and previous studies, specific to annual allocated revenue, may be found between the levels being studied. Previous research has focused on the NCAA Division I level, while this study focused on the NCAA Division II level. It is common knowledge that NCAA Division I institutions have the largest athletic budgets that are often times not connected to the academic mission of the institution. On the contrary, NCAA Division II institutions incorporate the athletics budget into the institutions budget according to the academic mission of the institution. This, in itself, may negate any possible interaction of statistical significance between annual allocated revenue and the number of cup points earned as NCAA Division II athletic departments have smaller budgets tied directly to the institutions academic mission.

The results of the mediation analysis only revealed one statistically significant finding. Results of the bootstrap confidence interval indicate that evidence exists for annual allocated revenue effecting the number of Directors' Cup points earned when operating through market culture (-0.437 to -0.058). In other words, results of this study found that market culture acts as a mediator

between annual allocated revenue and the number of Directors' Cup points an institution earns. Absent of this mediation, annual allocated revenue would not have an effect on the number of Directors' Cup points earned by an institution.

The size of this effect is difficult to determine because the measurement scale used in this study involved responses to rating scales aggregated over multiple questions. This issue was resolved by using the partially standardized indirect effect method for effect size analysis. In doing so, the indirect effect of annual allocated revenue on the number of Directors' Cup points earned through market culture was indexed relative to the variability among responses by the PROCESS Macro. The calculated partially standardized indirect effect size of -0.001 is relatively small in terms of variation in Directors' Cup points earned. However, the small effect size may be a function of a small sample size. Hayes (2013) reports through simulation research, sample sizes must be quite large before having any faith in measures of effect size specific to mediation analysis.

Limitations and Recommendations for Further Research

Limitations of the current study exist. First, the current study had a lower response rate of athletic directors and head coaches than desired. The target response rate was set at thirty-three percent in order to increase the likelihood of available data for analysis. An increase in the number of usable responses would have helped in making inferences. Unfortunately, the target response rate was still too high and additional measures had to be taken to increase the quantity of usable data for analysis in the mediation model. A larger sample size

with response rates of fifty percent of an institutions athletic department membership may more accurately describe the interaction among variables leading to more reliable results.

Second, the finding of clan culture being the most prevalent among participants in the study led to the discovery of an additional limitation. Because an organization that possesses clan culture is held together by loyalty and tradition, it may have been of interest to ask participants about their length of service at the institution and whether or not they are alumni of the organization. Knowing the length of time a participant has been at the institution may also help when making judgements about whether or not the perceived culture is the real culture of the institution. If a participant is new to the organization, they may not be able to accurately read and report the culture of the organization because they have yet to experience and come to understand the organization's values, beliefs, basic assumptions, expectations and shared understandings, and definitions present in the organization.

Next, as previously acknowledged, the use of OLS regression in estimating the mediation model limited the exactness to which the mediation model could be estimated. Using SPSS and the PROCESS Macro made data analysis simple but also forced the variables in this study into a specific pre-programmed model. Therefore, it would be wise to use an SEM program to arrange the model how the researcher wants and increase control of estimation, thus improving upon exactness of the model.

Finally, the lack of statistically significant findings leads one to believe other interactions are occurring between variables in the current research and variables that were not accounted for in the mediation model. One possible explanation is the existence of one or more moderators. Stated simply, in a moderated mediation interaction, the magnitude of an effect depends on a third variable known as a moderator. If this were the case, the indirect effects of the independent variables (type of institution and annual allocated revenue) on the dependent variable (number of Directors' Cup points scored) through the mediating variables (culture type) could be modeled as functions of a moderator. In addition, the direct effects of independent variables on dependent variable could also be the function of the moderator. In either case, the effect is referred to as conditioned.

A simple conceptual model of moderated mediation is found in Appendix G. In the model, the size or magnitude of the indirect effect of the independent variable (X) on the dependent variable (Y) through the mediator (M_i) depends on a moderator (W). Also in the model, the size or magnitude of the direct effect of the independent variable (X) on the dependent variable (Y) depends on the moderator (W). Statistical tools such as the PROCESS Macro could make estimation and interpretation of a moderated mediation model fairly simple (Hayes, 2013). Therefore, further exploration of a moderated mediation model is recommended.

Final Thoughts

It remains likely that organizational culture is the most important factor in the performance and effectiveness of an organization. Cameron and Quinn (2011) reported the most distinguishing feature for the top performing companies was organizational culture. In fact, organizational culture was the most important competitive advantage and most powerful factor in determining success. Based on the importance of organizational culture, it makes sense then to exert a considerable amount of effort in studying culture in order to improve upon this success driver. However, three specific themes emerged as a result of this study illustrating the difficulty in organizational culture research.

First, studying organizational culture using a quantitative methodology approach proved to be more difficult than originally thought. Specifically, this research sought to investigate organizational culture in NCAA Division II athletic departments quantitatively using survey methodology. In terms of scale, this undertaking was quite large involving a large quantity of organizations and individuals within those organizations. With such a large study, data collection and organization for analysis became time consuming and somewhat difficult to manage. Further, low response rates and uncertainty around individual's length of service made it difficult to draw conclusions about NCAA Division II institutions.

In order to appropriately measure organizational culture, the use of a qualitative or mixed methods approach with single institutions at a time may yield better results, which could be more generalizable. Spending time immersed in

an organization's culture, along with a quantitative method of identifying the organization's culture would provide a much clearer picture of what is happening with the organization in terms of culture. In addition, instead of using a Likert response scale, an ipsative scale would be the preferable choice for measuring organizational culture. This type of scale highlights and differentiates the cultural uniqueness that exists in an organization more clearly (Cameron & Quinn, 2011) than a Likert scale. When using an ipsative scale, respondents must more thoroughly think about and identify the trade-offs occurring in the organization, with a Likert scale respondents can rate all quadrants high or low.

The second theme, which emerged, was the lack of statistically significant findings or findings that may prove to be useful to NCAA Division II athletic departments. Three out of the four culture types were correlated with the number of Directors' Cup points earned. While one specific correlation was stronger than the other two, the strength of the relationship did not rise to a level, which would give confidence in making any judgements about which culture type an organization may pursue. If a recommendation were to be made to NCAA Division II athletic departments, in terms of success, avoiding hierarchy culture would be wise.

Additionally, there was only one statistically significant finding in the mediation analysis. That result, market culture acting as a mediator between annual allocated revenue and the number of Directors' Cup points, may be of use. While market culture may be the key to success in terms of annual

allocated revenue, there are most likely other factors at play in the interaction making extrapolation of this finding difficult at best.

Finally, the complexity of mediation models, especially in the quantitative study of organizational culture, became apparent during the course of this study. If mediation analysis builds on regression analysis by adding a third variable to the equation, one could simply assume that the mediating variable enhances the effect of the dependent variable on the independent variable. However, based on the lack of statistically significant findings, it appears mediation analysis is much more complex than one variable enhancing the effects of another variable on an outcome. In fact, mediation analysis can be quite complex and can include moderators in the mediation model. Hayes (2013) has 76 pre-programmed models available for version two of the PROCESS Macro, which illustrates the complexities of mediation models and mediation analysis.

Appendix A

Specific Purposes of the National Association of Collegiate Athletics

- (a) To initiate, stimulate and improve intercollegiate athletics programs for student-athletes and to promote and develop educational leadership, physical fitness, athletics excellence and athletics participation as a recreational pursuit;
- (b) To uphold the principle of institutional control of, and responsibility for, all intercollegiate sports in conformity with the constitution and bylaws of this Association;
- (c) To encourage its members to adopt eligibility rules to comply with satisfactory standards of scholarship, sportsmanship and amateurism;
- (d) To formulate, copyright and publish rules of play governing intercollegiate athletics;
- (e) To preserve intercollegiate athletics records;
- (f) To supervise the conduct of, and to establish eligibility standards for, regional and national athletics events under the auspices of this Association;
- (g) To cooperate with other amateur athletics organizations in promoting and conducting national and international athletics events;
- (h) To legislate, through bylaws or by resolutions of a Convention, upon any subject of general concern to the members related to the administration of intercollegiate athletics; and
- (i) To study in general all phases of competitive intercollegiate athletics and establish standards whereby the colleges and universities of the United States can maintain their athletics programs on a high level

Appendix B

Comparison of the NCAA's Three Divisions

Division I	Division II	Division III
346	307	439
Schoools		
↓		
Mean Undergraduate Enrollment		
9,970	2,524	1,790
↓		
Students Who Are Athletes		
1 in 25	1 in 13	1 in 6
↓		
Average Number of Teams Per School		
19	15	18
↓		
Percentage of NCAA Student-Athletes in Division		
37%	24%	39%
↓		
Athletics Scholarships		
Multiyear, cost-of-attendance athletics scholarships available; 53% of athletes receive athletics aid	Partial athletics scholarship model; 56% of athletes receive athletics aid	No athletics scholarships; 75% of athletes receive non-athletics aid

Appendix C

The Organizational Culture Assessment Instrument

- 1 = Strongly Disagree
 2 = Disagree
 3 = Somewhat Disagree
 4 = Somewhat Agree
 5 = Agree
 6 = Strongly Agree

<i>1. Dominant Characteristics</i>							
A	The Organization is a very personal place. It is like an extended family. People seem to share a lot of themselves.	1	2	3	4	5	6
B	The organization is a dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.	1	2	3	4	5	6
C	The organization is very results oriented. A major concern is with getting the job done. People are very competitive and achievement oriented.	1	2	3	4	5	6
D	The organization is a very controlled and structured place. Formal procedures generally govern what people do.	1	2	3	4	5	6

<i>2. Organizational Leadership</i>							
A	The leadership in the organization is generally considered to exemplify mentoring, facilitating, or nurturing.	1	2	3	4	5	6
B	The leadership in the organization is generally considered to exemplify entrepreneurship, innovation, or risk taking.	1	2	3	4	5	6
C	The leadership in the organization is generally considered to exemplify a no-nonsense, aggressive, results-oriented focus.	1	2	3	4	5	6
D	The leadership in the organization is generally considered to exemplify coordinating, organizing, or smooth-running efficiency.	1	2	3	4	5	6

<i>3. Management of Employees</i>							
A	The management style in the organization is characterized by teamwork, consensus, and participation.	1	2	3	4	5	6
B	The management style in the organization is characterized by individual risk taking, innovation, freedom, and uniqueness.	1	2	3	4	5	6
C	The management style in the organization is characterized by hard-driving competitiveness, high demands, and achievement.	1	2	3	4	5	6

D	The management style in the organization is characterized by security of employment, conformity, predictability, and stability in relationships.	1	2	3	4	5	6
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<i>4. Organization Glue</i>							
A	The glue that holds the organization together is loyalty and mutual trust. Commitment to this organization runs high.	1	2	3	4	5	6
B	The glue that holds the organization together is commitment to innovation and development. There is an emphasis on being on the cutting edge.	1	2	3	4	5	6
C	The glue that holds the organization together is the emphasis on achievement and goal accomplishment.	1	2	3	4	5	6
D	The glue that holds the organization together is formal rules and policies. Maintaining a smoothly running organization is important.	1	2	3	4	5	6

<i>5. Strategic Emphases</i>							
A	The organization emphasizes human development. High trust, openness, and participation persist.	1	2	3	4	5	6
B	The organization emphasizes acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued.	1	2	3	4	5	6
C	The organization emphasizes competitive actions and achievement. Hitting stretch targets and winning in the marketplace are dominant.	1	2	3	4	5	6
D	The organization emphasizes permanence and stability. Efficiency, control, and smooth operations are important.	1	2	3	4	5	6

<i>6. Criteria of Success</i>							
A	The organization defines success on the basis of the development of human resources, teamwork, employee commitment, and concern for people.	1	2	3	4	5	6
B	The organization defines success on the basis of having unique or the newest products. It is a product leader and innovator.	1	2	3	4	5	6
C	The organization defines success on the basis of winning in the marketplace and outpacing the competition. Competitive market leadership is key.	1	2	3	4	5	6
D	The organization defines success on the basis of efficiency. Dependable delivery, smooth scheduling, and low-cost production are critical.	1	2	3	4	5	6

Appendix D

Demographic and Background Information

Background Information

1. _____ What is your position in the organization?
 - (1) Upper Leadership (AD, Associate AD, Assistant AD)
 - (2) Head Coach
 - (3) Both Upper Leadership and Head Coach

2. _____ Sex
 - (1) Female
 - (2) Male

3. _____ Age
 - (1) 30 or under
 - (2) 31-35
 - (3) 36-40
 - (4) 41-45
 - (5) 46-50
 - (6) 51-55
 - (7) 56-60
 - (8) 61 or over

4. _____ Which University or School are you located at?

5. _____ Compared to last year at this same time, how would you rate the overall performance of your organizational unit?
 - (1) Much Lower
 - (2) Lower
 - (3) Slightly Lower
 - (4) About the Same
 - (5) Slightly Higher
 - (6) Higher
 - (7) Much Higher

6. _____ Compared to your best competition, how has your unit performed this past year?
 - (1) Substantially Worse
 - (2) Somewhat Worse
 - (3) About the Same
 - (4) Somewhat Better
 - (5) Substantially Better

7. _____ Do you have a football team?

- (1) Yes
- (2) No

8. What is your annual allocated revenue? (revenue sources as reported by NCAA institutions to the NCAA, do not include generated revenue)

- (1) \$0 to \$1,200,000
- (2) \$1,200,001 to \$2,400,000
- (3) \$2,400,001 to \$3,600,000
- (4) \$3,600,001 to \$4,800,000
- (5) \$4,800,001 to \$6,000,000
- (6) \$6,000,001 to \$7,200,000
- (7) \$7,200,001 to \$8,400,000
- (8) \$8,400,001 to \$9,600,000
- (9) \$9,600,001 to \$10,800,000
- (10) \$10,800,001 to \$12,000,000
- (11) \$12,000,001 to \$13,200,000
- (12) \$13,200,001 to \$14,400,000
- (13) \$14,400,001 to \$15,600,000
- (14) \$15,600,001 to \$16,800,000
- (15) \$16,800,001 to \$18,000,000
- (16) \$18,000,001 to \$19,200,000
- (17) \$19,200,001 to \$20,400,000
- (18) > \$20,400,001

Appendix E

Director's Cup Bracket and Non-Bracket Sports Scoring

Non-Bracket Sports										Bracket Sports	
64-Team		48-Team		32-Team		16-Team		12-Team		64-Team	
Place	Points	Place	Points	Place	Points	Place	Points	Place	Points	Place	Points
1	100	1	100	1	100	1	100	1	100	1	100
2	90	2	90	2	90	2	90	2	90	2	90
3	85	3	85	3	85	3	85	3	85	3-4	83
4	80	4	80	4	80	4	80	4	80	5-8	73
5	75	5	75	5	75	5	70	5	73	9-16	64
6	73.5	6	73.5	6	72	6	63	6	64	17-32	50
7	72	7	72	7	69	7	56	7	55	33-64	25
8	70.5	8	70.5	8	66	8	49	8	46		
9	69	9	69	9	63	9	38	9	37		
10	67.5	10	67.5	10	60	10	34	10	28		
11	66	11	66	11	57	11	30	11	19		
12	64.5	12	64.5	12	54	12	26	12	10		
13	63	13	63	13	51	13	22				
14	61.5	14	61.5	14	48	14	18				
15	60	15	60	15	45	15	14				
16	58.5	16	58.5	16	42	16	10				
17	57	17	57	17	40						
18	56	18	56	18	38						
19	55	19	55	19	36						
20	54	20	54	20	34						
21	53	21	53	21	32						
22	52	22	52	22	30						
23	51	23	51	23	28						
24	50	24	50	24	26						
25	49	25	49	25	24						
26	48	26	48	26	22						
27	47	27	47	27	20						
28	46	28	46	28	18						
29	45	29	45	29	16						
30	44	30	44	30	14						
31	43	31	43	31	12						
32	42	32	42	32	10						
33	41	33	40								
34	40	34	38								
35	39	35	36								
36	38	36	34								
37	37	37	32								
38	36	38	30								
39	35	39	28								
40	34	40	26								
41	33	41	24								
42	32	42	22								
43	31	43	20								
44	30	44	18								
45	29	45	16								
46	28	46	14								
47	27	47	12								
48	26	48	10								
49	25										
50	24										
51	23										
52	22										
53	21										
54	20										
55	19										
56	18										
57	17										
58	16										
59	15										
60	14										
61	13										
62	12										
63	11										
64	10										
65	5										

64-Team		48-Team		32-Team		16-Team		12-Team	
Place	Points	Place	Points	Place	Points	Place	Points	Place	Points
1	100	1	100	1	100	1	100	1	100
2	90	2	90	2	90	2	90	2	90
3-4	83	3-4	83	3-4	83	3-4	83	3-4	83
5-8	73	5-8	73	5-8	73	5-8	73	5-8	73
9-16	64	9-16	64	9-16	64	9-16	64	9-16	64
17-32	50	17-32	50	17-32	50	17-32	50	17-32	50
33-64	25	33-64	25	33-64	25	33-64	25	33-64	25

48-Team		32-Team		16-Team	
Place	Points	Place	Points	Place	Points
1	100	1	100	1	100
2	90	2	90	2	90
3-4	83	3-4	83	3-4	83
5-8	73	5-8	73	5-8	73
9-16	64	9-16	64	9-16	64
17-32	50	17-32	50	17-32	50
33-48	25				

32-Team		16-Team	
Place	Points	Place	Points
1	100	1	100
2	90	2	90
3-4	83	3-4	83
5-8	70	5-8	60
9-16	53	9-16	25
17-32	25		

12-Team		8-Team	
Place	Points	Place	Points
1	100	1	100
2	90	2	90
3-4	83	3-4	55
5-8	60	5-8	25
9-12	25		

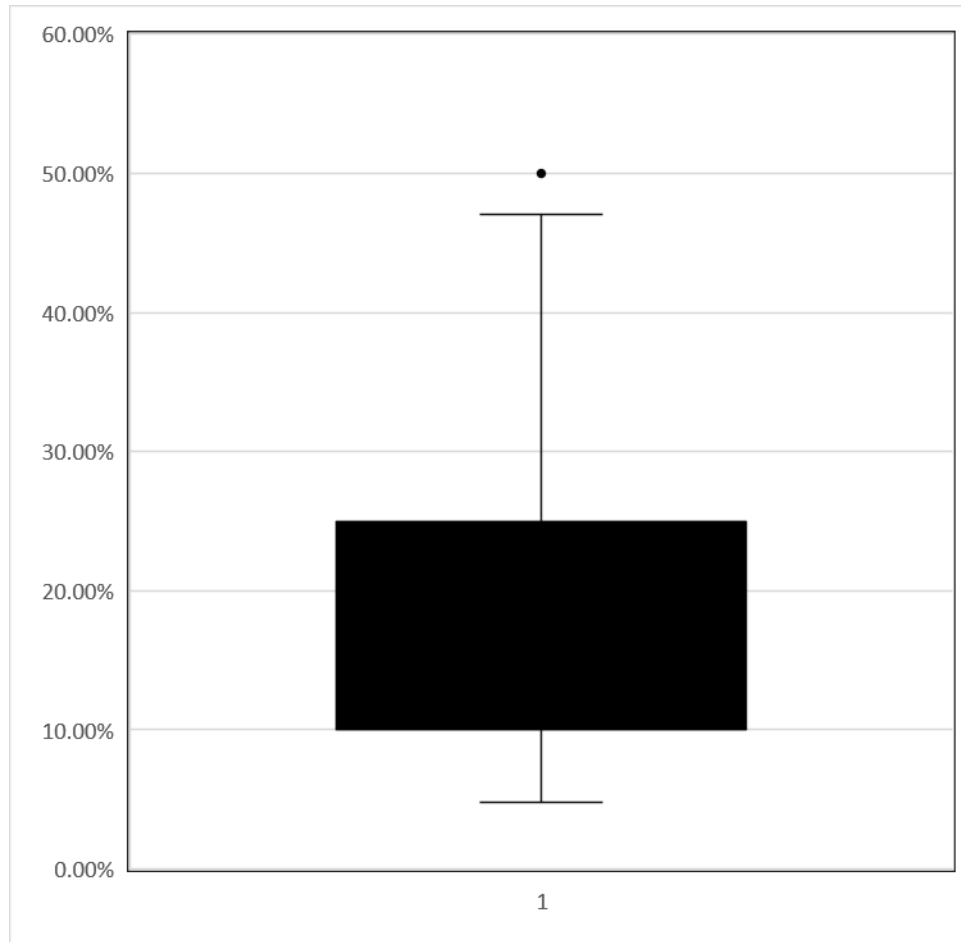
4-Team	
Place	Points
1	100
2	70
3-4	25

Misc. Scoring Updates					
If 3rd place game/match is played - add together points for 2 and 3/4 place / 2					
BSB Scoring		SFB Scoring		Women's Water Polo	
64-Team		64-Team		64-Team	
Place	Points	Place	Points	Place	Points
1	100	1	100	1	100
2	90	2	90	2	90
3-4	83	3	72.5	3	72.5
5-6	78	4	55	4	55
7-8	73	5	46	5	46
9-16	64	6	37	6	37
17-32	50	7	28	7	28
33-64	25	8	25	8	25

2012-13 Scoring Update -	
For NCAA Divisions I, II and III, the cross country scoring will be adjusted to award points from NCAA Regional meets to the institutions that finished 1-5, but did not advance to the National Championship.	

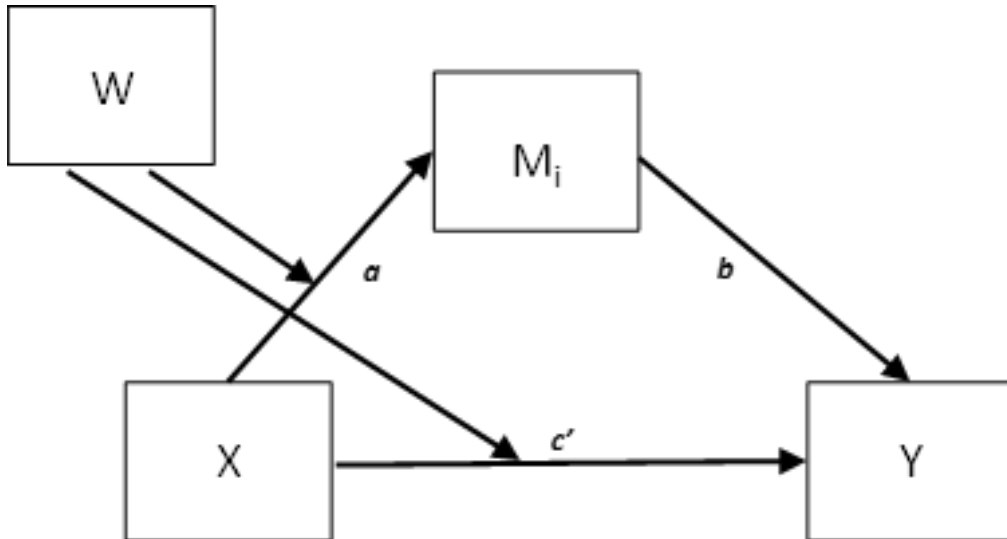
Appendix F

Box and Whisker Plot for Percentage of Responses



Appendix G

Conceptual Diagrams of Moderated Mediation



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