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Adversity, Resilience, Mental Health, and Well-being in First-Year Student-Athletes: A
Mixed Methods Intervention Study

Parker Leap, M.Ed.

A Dissertation Proposal Submitted to the Graduate Faculty of
James Madison University

In

Partial Fulfillment of the Requirements

for the Degree of

Doctor of Psychology

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ABSTRACT

Research indicates that student-athletes face unique stressors as they transition to college. Resilience programming has been shown to have mental health benefits with the general college student population; however, few studies have examined efficacy of resilience programming with college-student athletes during their transition to college. The purpose of this study was to examine the effects of a novel, culturally-resonant, NCAA grant-funded resilience course on scores of resilience, student athlete mental health, and sport well-being. This study also sought to assess the feasibility of this course and explore participants' subjective experiences. A mixed methods intervention research design was utilized and included various quantitative and qualitative measures to evaluate research questions. Fifteen incoming first-year NCAA Division I football student-athletes participated in the intervention. The results provided initial evidence that this course may contribute to deepened relationships and enhanced coping skills with male-identified athletes during the transition to college athletics. This study has implications for how practitioners, coaches, and athletics administration staff incorporate culturally-resonant interventions to enhance student-athlete mental health and well-being. Future studies should seek to examine the effectiveness of this course on sport-specific markers of mental health and well-being within a larger sample. The results also indicated a need to develop sport-specific measures of individual resilience as well as further explore unique factors underlying the transition to college experience for student-athletes.

CHAPTER 1

INTRODUCTION

Adolescents face unique stressors as they transition from high school to college. During this period, students are expected to balance increased academic demands, novel social interactions, individuating from parents, and identity development while maintaining mental health and well-being (Gayles & Baker, 2015; Kadison & DiGeronimo, 2004). Recent data suggests that the rate of mental ill-being symptoms have steadily grown among college students in the past ten years (Duffy, Twenge, & Joiner, 2019), with roughly 15.6% of undergraduate students meeting the criteria for Major Depressive Disorder and/or Generalized Anxiety Disorder (Auerbach et al., 2018). Absent in these studies are students who meet the subclinical threshold for psychological disorders, which was captured by a report by the American College Health Association (2019). The ACHA report (2019) found that 86.5% of college students feel overwhelmed, 63.1% feel lonely, and 60.9% struggle to manage their anxiety symptoms.

Collegiate student athletes, which comprise roughly 4% of the overall college student population (NCAA, 2019), face unique physical and mental demands during their transition to college (Carodine et al., 2001; Martens et al., 2006). Along with managing the normal academic and individuation stressors that accompany this transitional period, first-year athletes must juggle enhanced performance expectations, altered support networks, and extensive training, travel, and performance schedules (Chandler et al., 2020, Wylleman & Lavallee, 2004). Notably, as a result of their time-intensive demands associated with sport, these athletes experience fewer interactions with faculty members and peers, as well as lessened involvement in campus life activities than the general

student population (Gayles & Hu, 2009). Regarding the breakdown of time demands for student-athletes, the NCAA (2015) found that these persons spend roughly 40 hours per week immersed in sport-based activities, suggesting that athletes spend 80 hours combined on their athletic and academic endeavors.

Theoretically, this excess of physical, emotional, psychological, and academic demands would predispose college student-athletes to greater risk for the development of mental health problems. However, the literature regarding the prevalence of mental health problems within the college student-athlete population is inconsistent. While some studies have found that depressive and anxiety-related symptoms are more prevalent for collegiate student-athletes than the general population (Li et al., 2017; Neal et al., 2014), another study (Proctor and Boan-Lenzo, 2010) has reported that students participating in college athletics had lower rates of depression-based symptoms than their non-athletic-peers.

Nonetheless, it is known that collegiate student-athletes less frequently use counseling services than the general college student population (Etzel, Ferrante, & Pickney, 2002). Moreover, there are racial differences in the utilization of mental health services across college campuses (Hunt, Eisenberg, Lu, & Gathright, 2015). Specifically, Black student-athletes are less likely to use mental health resources on college campuses due to socioeconomic and cultural factors (Pieterse, Todd, Neville, & Carter, 2012). In addition, sport cultures, especially hypermasculine sports like football or wrestling, often stigmatize help-seeking behaviors for physical, mental, and emotional difficulties (Steinfeldt & Steinfeldt, 2012).

To these ends, it is important that sport organization, coaches, and mental health professionals seek to incorporate unique programming within their systems to foster student-athlete mental health and wellbeing. Resilience programming is an effective way to assist first-year student athletes in managing their academic, athletic, social, and individual demands during their transition to college experience. Along these lines, numerous studies have demonstrated positive outcomes from resilience training with college students. Specifically, the following benefits of resilience training with college students have been found: 1) reduced depressive symptoms (Hartley, 2011); 2) improved coping strategies (Steinhardt & Dolbier, 2008); and 3) lessened perceptions of stress (Houston et al., 2017). However, the resilience programming literature is less established within the college-student athlete population. To date, it appears that only two studies have examined the implementation of resilience-based programming for incoming first-year student-athletes (Chandler et al., 2020; Pierce et al., 2021). In Pierce and colleagues' (2021) study of a newly constructed resilience program implemented with 173 first-year student-athletes during their transition to college, it was found that participants reported enjoyment and enhanced short-term psychological benefits (i.e., increased internal locus of control, improved stress perceptions/responses, enhanced resilience) as a result of program participation. Similarly, Chandler and colleagues' (2020) study with a sample of 56 incoming first-year student-athletes found that their novel resilience-based programming contributed to improved decision-making, lower perceived stress, and increased resilience.

Purpose of Current Study

This study sought to extend the literature by using a mixed methods intervention design to examine the effects of the novel, culturally resonant, Changing Minds Changing Lives (CMCL) resilience program on sport-specific measures of student-athlete mental health well-being, as well as resilience, while accounting for adversity experienced. This course is specifically designed to enhance resilience through its theoretical foundation and targeted interventions. It incorporates aspects of strengths-based and trauma-informed approaches with mindfulness, psychoeducation, expressive writing, and reflections.

In collaboration with relevant athletic personnel and coaches, this investigator purposefully recruited a diverse sample of incoming first-year student athletes from a mid-Atlantic NCAA Division 1 university. This investigator administered multiple quantitative measures at three different time points – immediately prior to course initiation, immediately following course completion, and three months after completion of course. This investigator gathered qualitative data during and after course completion to assess course feasibility and explore subjective experiences of the course. This author investigator hoped that this study would have important implications for coaches, athletic administration personnel, applied practitioners, and researchers on how to implement unique interventions to foster student-athlete mental health and well-being during their transition to college experience.

CHAPTER 2

LITERATURE REVIEW

The emphasis on student-athlete mental health is growing among professional sport bodies. Recently, prominent sport-based organizations, such as the National Collegiate Athletic Association, International Olympic Committee, and International Society of Sport Psychology and European Federation of Sport Psychology, have released documents calling for greater identification and treatment of mental health issues within sport environments (NCAA, 2020; Henriksen et al., 2019; Moesch et al., 2018, Reardon et al., 2019). In addition, interest regarding resilience within sport performers has blossomed within the past decade or so (Fletcher, 2021). Particular attention has been given to understanding the subjective experience and development of resilience within athletes, teams, and sport organizations (Bryan et al., 2018; Fletcher & Sarkar, 2016; Galli & Gonzalez, 2015), as well as the measuring resilience within sport performers (Sarkar & Fletcher, 2013).

The following literature review will provide insight into the concepts of athlete mental health (i.e., well-being and psychological strain and distress) and psychological resilience within athletic populations. The section on well-being will provide broad definitions based on prominent conceptualizations represented within the literature, review the current status of assessment and measurement of well-being with athletes, and discuss studies that investigate well-being with the college student-athlete population. The section on psychological strain and distress will identify and describe typical stressors and pressures experienced by athletes as well as briefly examine the mental ill-being literature within the college student-athlete population. The section on resilience

will outline approaches to conceptualizing resilience within athletic populations and address the measurement of resilience.

Well-being

The well-being literature within psychology has developed and expanded during the past two decades. Historically, the literature was rooted in exploring the etiological underpinnings of psychopathology and elucidating effective treatment of adverse symptoms (e.g., depression, anxiety). However, during the early 2000's, the literature broadened its scope to include an examination of well-being in addition to ill-being. The World Health Organization's (WHO) call in 2004 for an increased emphasis on well-being within the conceptualization of mental health was a pivotal step in this widening view of mental health. Specifically, the WHO defined mental health as, "a state of well-being in which the individual realizes his or her abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community" (WHO, 2004, p. 12). Additionally, the rise of positive psychology within the field of psychology, as pioneered by Seligman and Csikszentmihalyi (2000), greatly influenced the shift from examining psychological ill-being solely to exploring personal strengths, happiness and flourishing as a part of a holistic mental health continuum (Lundqvist, 2021).

Two Philosophic Approaches to Well-being

Despite its growing emphasis within the literature, well-being is difficult to define as there remains an absence of a universally accepted definition. Most often, terms like satisfaction, happiness, well-being, and flourishing are used in synonymous fashion (Lundqvist, 2021). Unfortunately, the present conceptual and theoretical ambiguity poses

considerable challenges for research and assessment of well-being (Giles, 2020). Despite the rampant investigation of proxy indicators, like those previously mentioned, the well-being literature nonetheless can be traced back to two main philosophical traditions – hedonism and eudaimonism.

The *hedonic perspective* positions well-being within the context of pleasure or happiness. Hedonism asserts that life's guiding force is to maximize pleasure and that happiness is the summation of pleasurable moments in one's life (Ryan and Deci, 2001). To achieve happiness, hedonists believe that humans engage in pleasure-seeking behaviors, pursue rewards in alignment with individual goals, and strive toward events which maximize positive affect (Lundquist, 2011). Essentially, the extent to which one "feels good" positively correlates with one's well-being (Giles, 2020).

The hedonic philosophic tradition is represented by what is known as "subjective well-being." With its earliest roots tracing back to Diener (1984)'s model, subjective well-being consists of both cognitive and affective components (Giles, 2020). The cognitive component entails a subjective evaluative process in which a person assesses the discrepancy between one's actual life and one's ideal life on global and temporal levels. This discrepancy constitutes the term *life satisfaction*. Subjective well-being's affective component, or *happiness*, involves the experiences of moods and emotions, and is indicated by the presence of positive affect and limited negative affect (Lundqvist, 2011). Taken together, subjective well-being is comprised of life satisfaction and happiness.

Somewhat conversely, the *eudemonic tradition* deemphasizes the importance of "feeling good," or being happy, to well-being. In this view, pleasure-filled moments do

not necessarily yield well-being. Rather, eudaimonia asserts that “living in accordance with one’s daimon, or true self” is the essence of well-being (Waterman, 1993, as referenced by Ryan and Deci, 2001, p. 146). It stems from the process of experiencing moments that foster growth and development toward the fulfillment of the self (Ryan & Deci, 2001). Essentially, the process of “doing well” is most important to well-being (Giles, 2020).

Within the eudemonic philosophic tradition, the well-being literature is primarily delineated into two multidimensional constructs known as psychological and social well-being. Emerging from a call for more theory-driven constructs, Ryff (1989; Ryff & Keyes, 1995) conceptualized psychological well-being as consisting of six distinct components which are involved in psychological growth and effective daily functioning. These components include: self-acceptance, personal growth, purpose in life, positive relations with others, environmental mastery, and autonomy. The literature predominantly supports these components as distinctive; however, some studies have questioned the extent to which the components differ (Lundqvist, 2011).

While psychological well-being defines intrapersonal factors related to psychological thriving, social well-being delineates factors associated with positive functioning and thriving in one’s social life (Keyes, 1998). These factors include social acceptance, social actualization, social contribution, social coherence, and social integration. *Social acceptance* is the tendency to construe others in a favorable manner. *Social actualization* refers to one’s growth and development within a social context. *Social contribution* is the evaluation of one’s social value. *Social coherence* refers to a sense of coherence and meaningfulness in one’s life. *Social integration* is the extent to

which one believes one has things in common with others. Overall, these definitions of well-being, steeped in the eudemonic tradition, account for the growth toward self-fulfillment and thriving within an individual's personal and social lives (Keyes, 1995).

Measurement and Assessment of Well-Being

As mentioned previously, well-being has been exceedingly difficult to assess reliably and validly due to the conceptual and theoretical incoherence within the literature. While different measures have been readily used, scholars seem to unanimously agree with the notion that both hedonic and eudaimonia perspectives should be assessed when measuring well-being (Giles, 2020). Historically, most measures were rooted in the hedonic philosophy tradition, with many targeting the cognitive and affective components associated with Diener's (1984) conceptualization of subjective well-being. Along these lines, some commonly utilized measures were the Satisfaction with Life Scale (Diener et al., 1985) and the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988). In recent years, comprehensive measures have been developed to capture both the positive emotions associated with hedonism and psychosocial components represented within eudaimonism. One prominent example that seeks to join these two traditions is Keyes et al.'s (2008) Mental Health Continuum-Short Form.

The development of sport-specific well-being measures remains in its infancy. While scholars increasingly aim to delineate theory-informed components of well-being that represent sport performers and their experiences, it is clear that item development, measuring and scoring issues still exist (Lundqvist, 2011). Moreover, the determination of a theoretical basis for well-being within sport will benefit psychometrics properties of

the research as it could eliminate unfounded representations of the construct and boost content and construct validity. In the absence of sport-specific well-being measures, sport psychology researchers largely have resorted to utilizing general well-being measures or implementing measures that loosely tap into indicators of well-being with athletes. For example, numerous studies have included the PANAS (Watson et al., 1988) to capture the emotional affective state of elite performers (Podlog et al., 2010; Solberg & Halvari, 2009; Vansteenkiste et al., 2010) while other studies have emphasized the importance of self-esteem as a central marker of well-being (Adie et al., 2008; Amorose et al., 2009). Overall, these studies are bonded by their emphasis on a hedonic perspective of well-being that fails to assess the domains of psychological and social well-being.

Despite the dearth of integrated sport-specific well-being measures, there are scales which assess basic elements of well-being within athletes. Commonly used scales include Behavioral Regulation in Sport Questionnaire (Lonsdale et al., 2008), Basic Needs Satisfaction in Sport Scale (Ng et al., 2011) and Psychological Need Thwarting Scale (Bartholomew et al., 2011). Notably, the only scale within the literature that assesses both hedonistic and eudemonic well-being within athletes is the Sport Mental Health Continuum-Short Form (Sport MHC-SF; Foster & Chow, 2019). It is a version of the Mental Health Continuum-Short Form (Keyes et al., 2008) that has been modified specifically for athletes.

Psychological Strain and Distress

Sport participation entails unique stressors that may predispose college athletes to developing mental health issues – or ill-being. These stressors include physical injury,

performance demands, and being subjected to intense evaluation, isolation from peers and professors, and difficulties with transitioning away from sport (Brown et al., 2021). How athletes cope with these stressors directly influences their mental health status and sport performance. Ubiquitous within sport participation, physical exercise has been found to reduce mental ill-being symptoms in most cases (Rice et al., 2021). However, excessive physical exercise, which is common in elite college athletes and other sport performers, can actually contribute to the development of mental ill-being (Brown et al., 2021). In response to excessive exercise, some athletes employ debilitating coping strategies such as substance use or other risky behaviors that further psychological distress (Rice et al., 2021).

A construct that captures how mental health symptoms manifest in athletes is psychological strain. Psychological strain is characterized by two main components – perceived stress and difficulty coping – and is represented by a combination of an individual's current level of emotional fatigue and perceived ability to cope with stressors present (Boswell, Olson-Buchanan, & Lepine, 2004). Typically, it emerges in the presence of high levels of perceived stress and a low belief in one's abilities to cope. For athletes, psychological strain could develop in response to felt pressures to skillfully navigate sport, academic, and social domains of functioning. The personal struggles athletes endure may be unapparent due to the fact that many athletes have been socialized to be stoic and avoid disclosure of personal issues (Breslin et al., 2017). Furthermore, athletes may experience significant distress, but not meet the criteria for psychological disorder according to the DSM-5, which allows them to function as a subclinical population that does not necessarily need treatment (Doherty et al., 2016). In these

situations, absent receiving assistance, psychological strain may manifest as decrements in athletic performance, social engagement, as well as mood and impulse-related difficulties (Glaesmer et al., 2015). More specifically, significant distress may present as anger and irritability, issues with motivation, and increases in substance use (Fava et al., 2010; Gillian et al., 2016; Lai et al., 2015; Möller-Leimkühler & Yücel, 2010).

Measurement and Assessment of Psychological Strain and Distress

The measurement and assessment of mental health issues for athletes is a growing area of interest within the sport psychology literature (Donohue et al., 2019). As student-athletes face extremely intense demands associated with sport, school, and social domains of functioning, early identification of mental health symptoms is critical to ensuring helpful treatment (Rice et al., 2020). Currently, within the field, a combination of athlete-specific mental health measures and general measures of distress are being used to assess the ill-being of student athletes. In terms of athlete-specific measures, these have historically tended to be lengthy, which has precluded mental health providers from regularly using them to assess athletes. Common examples include the Recovery Stress Questionnaire (Kellman & Kallus, 2001; Kallus & Kellman, 2016) and the Profile of Mood States (Grove & Prapavessis, 1992; McNair, 1971; Terry et al., 1999).

While other non-sport-specific measures are less extensive, they tend to focus on internalization symptoms. For instance, some common assessments target psychological distress (e.g., K-10; Kessler et al., 2002), depression (PHQ-9; Kroenke et al., 2001) or anxiety (GAD-7; Spitzer et al., 2006). What these measures fail to account for are the athlete-specific ways of exhibiting distress. In response, recent efforts have been made to develop measures that assess the unique presentations of athletes with particular

consideration given to the influences of sport culture. One such measure is the Athlete Psychological Strain Questionnaire (Rice et al., 2020) which seeks to broadly assess and detect early indicators of mental ill-being in athletes. Specifically, it gauges externalization symptoms relating to substance use and risk-taking, as well as performance difficulties and issues with self-regulation (Rice et al., 2021).

Resilience

Over the past three decades, researchers have sought to understand the ways in which people manage stress and respond to adversity (Estrada et al., 2016). Resilience is a salient construct that emerges within this line of inquiry. Within the resilience literature, myriad definitions have been proposed and researched (Fletcher & Sarkar, 2013). What results is conceptual ambiguity within the field, which is further muddled by the fact that similar terms like “grit” or “mental toughness” are used interchangeably with resilience (Bryan et al., 2019). Despite the lack of consensus on a specific conceptualization of resilience, most definitions of resilience entail two main components: exposure to adversity and positive adaptation. These components were introduced by Luthar (2006) and have been widely accepted as factors of resilience. According to Luthar and Cicchetti (2000), adversity refers to “...negative life circumstances that are known to be statistically associated with adjustment difficulties” such as parental divorce or death of a loved one (p. 858). Positive adaptation refers to a response which “...is substantially better than what would be expected given exposure to the risk circumstance being studied” (Luthar & Zelazo, 2003, p. 515).

While there is general agreement regarding the importance of these two components, the resilience literature is fractured about the etiological underpinnings of

resilience. That is, resilience tends to be perceived as either a static trait or a dynamic process (Fletcher & Sarkar, 2012). The trait perspective views resilience as a combination of individual characteristics that allows one to manage and positively adapt to adverse circumstances (Bryan & MacIntyre, 2019; Connor & Davidson, 2003). Most of the trait literature on resilience within sport has been gleaned from investigations into personality features associated with elite performers (Gould, Dieffenbach, & Moffett, 2002; Mummery, Schofield, & Perry, 2004; Rutter, 2000). Alternatively, the process conceptualization of resilience asserts that the interaction between person and environment ultimately shapes an ability to positively adapt to adversity (Egeland, Carlson, & Stroufe, 1993). From this lens, the positive adaptive qualities associated with resilience can be defined, taught, and learned (Houston et al., 2017, Rutter, 2012). Specifically, the utilization of environmental factors, such as psycho-social, cultural, and physical resources, is deemed essential for dealing with and responding to adversity (Ungar et al., 2013).

A recent definition of resilience proposed by Fletcher and Sarkar (2012) addresses the definitional ambiguities apparent in the literature. In their qualitative inquiry into Olympics champions, these researchers used a grounded theoretical approach to ascertain characteristics that comprise “psychological resilience.” They defined psychological resilience as “the role of mental processes and behavior in promoting personal assets and protecting an individual from the potential negative effect of stressors” (Fletcher & Sarkar, 2012, p. 675). This definition provides conceptual clarity in a few distinct and important ways (Sarkar & Fletcher, 2013). First, it provides a narrowed definition of psychological resilience in terms of scope, as it focuses solely on psychological

components evidenced by mental processes and behaviors. Second, it captures both trait and dynamic process views of resilience by indicating that psychological characteristics (i.e., mental processes and behaviors) enable how an individual adapts to situations (i.e., trait perspective) as well as signifying that resilience develops over time in response to ongoing person-environment interactions (i.e., dynamic perspective). Lastly, it uses the term “stressors” instead of “adversity” purposefully. While some researchers use adversity within the literature (Luthar & Cuchitti, 2006), others prefer to use stressors because this term broadly encapsulates the day-to-day, more commonly experienced difficulties that elicit positive adaptation. Furthermore, it accounts for how resilience processes are differently affected depending on the magnitude associated with the context of endured stressors. For example, some people are resilient in response to extreme stressors like death of a loved one or parental divorce while others are resilient when facing mild stressors like academic stress (Davydov et al., 2010).

In addition to offering a definition of psychological resilience that was previously absent within the sport resilience literature, Fletcher and Sarkar’s (2012) study of elite sport performers produced other notable findings. What emerged is a comprehensive model – known as the Grounded Theory of Psychological Resilience and Optimal Sport Performance – which captured these Olympic champions’ unique responses to sport stressors (Galli & Gonzalez, 2015). In this model, they deduced five psychological characteristics, which included a positive personality, motivation, confidence, focus, and perceived social support, as helpful in shielding these performers from the potential negative effects of sport stressors. The presence of these five psychological characteristics contributed to these athletes perceiving stressors as challenges instead of

threats (i.e., challenge appraisals) and self-reflecting on their ways of thinking (i.e., meta-cognitions). Challenge appraisals and meta-cognitions foster productive responses to sport stressors that included “facilitative interpretations of emotions, effective decision making, reflection, and increased task management (p. 675). And, ultimately, these facilitative responses are viewed as antecedents to optimal sport performance in this model.

In Galli and Vealey’s (2008) study of ten high-level athletes, they qualitative coded and analyzed data from interviews which aimed to elucidate athletes’ perceptions and experiences of resilience. To do so, the researchers asked questions that targeted these athletes’ most challenging moments experienced and endured in their sporting careers. The method, results, and analysis were informed by Richardson and colleagues’ (1990, 2002) resiliency model that views the acquisition of resilience as stemming from an individual’s response following the disruption of a state of homeostasis. These researchers found five dimensions as operative within the resiliency process – (a) breadth and duration, (b) agitation, (c) sociocultural influences, (d) personal resources, and (e) positive outcomes. Overall, Galli and Vealey provided further support for the notion that resilience is facilitated by personal characteristics (e.g., cognitive appraisals and personality), perceptions and availability of social support, and coping strategies.

Machia and colleagues’ (2013) resilience inquiry was specifically situated within the post-injury context. In their study, they interviewed 11 male quadriplegic wheelchair rugby players in hopes of understanding how these individual adapted and resiliently integrated following a traumatic injury. Similar to Galli and Vealey (2008), the researchers based their theoretical framework on Richardson and colleagues’ (1990,

2002) Resiliency Model with a particular emphasis on the resilience process and the acquisition of adaptive capacities in response to experiencing adversity. Their results revealed seven categories associated with overcoming adversity and development of resilient qualities, which included: (a) preexisting factors and experiences, (b) disturbance/disturbing emotions, (c) multiple sources and types of support, (d) special opportunities and experiences, (e) behavioral and cognitive coping strategies, (f) motivation to adapt, and (g) gains from the resilience process. This study's findings were consistent with the existing literature as it found that resilience is shaped by a multitude of personal and socioenvironmental factors.

Measurement and Assessment of Resilience

Despite the presence of various conceptualizations of resilience, there is an absence of sport-specific resilience measures within the literature. One explanation for the lack of sport-specific measures of resilience stems from conceptual issues effecting the resilience field writ large (Windle, 2011). That is, it is extremely challenging to develop a context-specific measure based on a construct that cannot be agreed upon more broadly. Furthermore, the sport-specific development of a resilience measure is stunted by the fact that resilience studies in other domains cannot be generalized to the sport context (Sarkar & Fletcher, 2013). For example, multiple studies (Haskett et al., 2006; Walsh et al., 2010) have examined the relationship between adverse childhood experiences and resilience, but these findings cannot be directly tied to the sport population as student-athletes' resilience is mediated by the presence of unique sociocultural factors (e.g., adjustment to college, team cohesion, coach-athlete relationship).

In response to the paucity of sport-based resilience measures, researchers have resorted to utilizing general or proxy-indicator measures of resilience to capture the construct within sport performers. The selection of measures tends to be guided by the desired aspects of resilience a researcher seeks to assess and understand. According to Fletcher (2021), these aspects include “component parts (e.g., adversity & adaption), linking mechanisms (e.g., appraisals and meta-cognitions), influencing factors (e.g., personality and support) and consequences (e.g., well-being and performance)” (p. 198).

A number of measures have been used to measure proxy indicators of resilience within sport performers. Regarding coping skills, the most often used measure is the Athletic Coping Skills Inventory-28 as developed by Smith and colleagues (1995). This is a 28-item scale that measures seven dimensions of coping skills within the sport context, which include: (a) coping with adversity, (b) peaking under pressure, (c) goal-setting and mental preparation, (d) freedom from worry, (e) concentration, (f) confidence and achievement motivation, and (g) coachability. Hardiness is another resilience-based proxy indicator that has been assessed with athletes. Most common among these linking mechanism scales are the Dispositional Resilience Scale (Bartone, 2007) and the Cognitive Hardiness Scale (Nowack, 1989). Lastly, some studies have examined the effects of influential factors such as social support (Mummery et al., 2004) and explanatory styles (Seligman et al., 1990) on sport performance. In these studies, the Multidimensional Scale of Perceived Social Support (Zimet et al., 1998, Zimet et al., 1990) and the Attributional Style Questionnaire (Peterson et al., 1982; Seligman et al., 1979) were used, respectively.

By far, the 25-item Connor-Davidson Resilience Scale (Connor & Davidson, 2003) has been the most commonly used general resilience measure within the sport performance literature (Bryan et al., 2019). This scale, however, has received mixed support within the literature. In Sarkar and Fletcher's (2013) review, they questioned the authors' item selection processes, noting a particular theoretical concern in relation to the inclusion of two items based on Sir Edward Shackleton's 1912 Antarctic trip. Alternatively, both Gucciardi et al. (2011) and Gonzalez et al. (2016) found strong psychometric support for the revised 10-item scale in adolescent Australian cricket players and long-distance runners, respectively.

In the absence of sport-specific general measures of resilience, Sarkar and Fletcher (2013) provided specific recommendations for measuring resilience in sport performers. Generally, they indicated that resilience within sport performers should be assessed in three separate domains: adversity, positive adaptation, and protective factors. These dimensions should be measured distinctly from one another. Regarding adversity, these authors cautioned against utilizing measures that identify the severity and duration of stressors. They noted that assessing the intensity of a stressor may lead to confounding effects due to the possibility that this response may be indicative of maladjustment (as opposed to an accurate representation of the stressor itself). Instead, they recommended simply including measures that solely prompt respondents to indicate how often a stressor or adversity is encountered. In addition, they emphasized that only uncontrollable events should be included in adversity measures as these are presumed to be most distressing. Relatedly, they warned readers against assessing for controllable events because these could unintentionally tap into maladjustment processes also.

Sarkar and Fletcher (2013) also offered recommendations regarding measuring positive adaptation with sport performers. One recommendation is for researchers to use valid measures specific to the adversity being measured. For example, while it may be appropriate to assess for socially-conforming behaviors in a population who is at risk for antisocial issues, this assessment would be inappropriate for athletes because athletes typically employ goal-directed behaviors in pursuit of success and well-being. Another recommendation is to provide a clear distinction between protective factors (antecedents) and positive outcomes in light of assessment objectives. For example, self-efficacy can be viewed as both a protective factor and outcome of resilience research (Kinard, 1998).

In addition, Sarkar and Fletcher (2013) provided words of caution regarding the assessment of protective factors with athletes. Protective factors refer to “influences that modify, ameliorate, or alter a person’s response to some environment hazard that predisposed to a maladaptive outcome” (Rutter, 1985, p. 600). Specifically, they noted resilience measurements typically focus on the individual level only and recommended assessors examine resilience cross multiple domains (e.g., individual, team, community). In addition, they encouraged the intentional use of measures that have strong theoretical underpinnings. They cited multiple measures that reflect the bias of the measures’ creators and implore those who assess resilience in athletes to be intentional in their measure selection process. Lastly, they urged awareness within researchers of how resilience measures can tap into personal qualities at a singular point in time and fail to capture the dynamic process of managing and responding to adversity.

Changing Minds, Changing Lives Resilience-based Intervention

Changing Minds Changing Lives (CMCL) is an NCAA grant-funded course developed by Ginny Chandler and Jim Helling of the University of Massachusetts Amherst. It is evidence-based in terms of its approach to motivation and basic needs, its course model and interventions for fostering resilience, and its conceptualization of resilience. Its framing of human motivation, need fulfillment, and positive adaptation both theoretically and within the course's interventions is steeped within Deci and Ryan (2000)'s Self-Determination Theory (SDT). That is, the CMCL's design is rooted in the notion that people are more likely to be motivated and positively adapt to adversity when their basic needs for autonomy, relatedness, and competence are met. In alignment with SDT principles, students are granted autonomy in selecting topics for in-class writings, gain a sense of relatedness through receiving and providing authentic support to classmates during the sharing of stories, and develop competence via identifying strengths and receiving positive support regarding shared stories (Chandler et al., 2020).

Its training model of resilience is informed by Southwick and Charney's (2012) findings that suggest resilience interventions should include the following aspects: (a) emotional regulation training to identify and manage unhelpful emotional responses; (b) cognitive behavioral approaches to restructure unhelpful thoughts and increase positive affect; (c) physical health information on different habits (i.e., sleep, nutrition, exercise) to increase protective behaviors; (d) social support to foster connections which serve as a protective factor; and (e) a mindfulness component to enhance the capacity to manage stress. More specifically, each training session incorporates the 4 R's which include relaxation, research, writing, and a reflection. Relaxation exercises are heavily based in

mindfulness practices. The research component incorporates didactic instruction which aims to teach a basic concept within the resilience framework (i.e., identification of personal strengths or reframing unhelpful thoughts). The structured group writing sessions involves participants freewriting based on a prompt that aligns with the research topic of the day. After each writing period, participants are invited to share their writings verbatim while listeners are encouraged to identify what stood out or was strong about the writing (Schneider, 2003). The reflection component serves as a consolidating end to the class in which each student is invited to share one of the 3 A's, which include an Affirmation of something that was learned, an Appreciation regarding someone else's sharing during the session, or an Appraisal which is a question or suggestion moving forward (Chinn, 2001).

While CMCL acknowledges that some aspects of resilience may be inherited, it aligns more closely with dynamic views of resilience as it seeks to teach and build resilience protective factors and positive adaption within its students (Rutter, 2012; Ungar et al., 2013). To do so, it conceptualizes resilience through its ABC's framework, which includes Active coping, Building strengths, and Cultivating connections.

Purpose of the Present Research

The transition to college is a unique experience that introduces significant psychological and socioemotional challenges for student-athletes in particular. Incoming freshmen student-athletes are tasked with navigating the normal academic and social demands in addition to adjusting to new teammates, coaches, as well as heightened performance expectations and pressure. Due to the extensive time demands required of athletes (e.g., training, travel, competition), these persons are often disconnected from

normative protective factors – such as involvement in campus activities as well as regular interactions with professors and peers – that facilitate positive adaptation. Therefore, additional psychological resources are warranted for the student-athlete population during this period.

Resilience-based programming is a viable, proactive option toward helping first-year student-athletes manage and respond to their unique stressors encountered. Research shows that resilience-based programming has led to enhancing coping, resilience, and stress perceptions with college students in general. As the resilience programming literature is relatively limited regarding incoming first-year student-athletes (Chandler et al., 2020; Pierce et al., 2021), this study attempted to extend previous research by exploring the effect of resilience-based programming on sport-specific measures of student-athlete mental health and well-being while accounting for adversity experienced. More specifically, the purpose of this study was to examine the effect of the CMCL course on self-reports and narratives of adversity, resilience, athletic-specific psychological strain and sport well-being. In addition, this study assessed the feasibility of this course as well as explore participants' subjective experiences.

While previous research has shown that this course fostered resilience with incoming first-year collegiate-athletes with high ACE's scores (Chandler et al., 2020), this study sought to extend the efficacy literature of the CMCL course by assessing sport-specific measures of positive adaptation while accounting for adversity. Specifically, this study aimed to answer the following questions: 1) Does the 5-week course effect scores and narratives of resilience, adversity, student-athlete mental health and sport-specific well-being?; 2) Does the course effect participants' reports on desired outcomes of the

course (i.e., active coping, building strengths, and cultivating connections); and 3) What are participants' subjective experiences of the course?

Based on the primary research question, the following hypotheses were proposed by this investigator:

1. Resilience will significantly improve between pre- and post-intervention after accounting for adversity experienced.
2. Sport well-being will significantly improve between pre- and post-intervention after accounting for adversity experienced.
3. Athlete psychological strain will significantly decrease between pre- and post-intervention after accounting for adversity experienced.

CHAPTER 3

METHOD

Participants

Incoming, first-year student-athletes were recruited from a mid-Atlantic NCAA Division I university athletic department in the United States. This study faced significant participant retention issues throughout its course. A total of 26 student-athletes were recruited to participate in this study. The final sample for this study included only fifteen male-identified 1st-year football student-athletes as members of the experimental group.

Regarding the experimental group, sixteen members of the incoming first-year football student-athletes agreed to participate in the study. All participants in the experimental group identified as male. The median age was 18.1 years ($SD = .26$), with ages ranging from 18 to 19 years. Most participants identified as Black or African American ($n = 12$), while four participants identified as White and one identified as Hispanic or Latino; one participant endorsed multiple racial identities. At post-intervention, fifteen participants completed all quantitative measures, with one person failing to complete measures due to a scheduling conflict. Participation significantly decreased between post-intervention and the 3/4-month follow-up. At the 3/4-month follow-up, this investigator sent multiple emails to request quantitative measures completion, but only five participants completed all quantitative measures.

Regarding the control group, member participation significantly decreased between the pre-intervention and post-intervention assessments. At pre-intervention, ten participants completed the informed consent process and subsequently completed all

quantitative measures. The control group participants consisted of eight men and two women. The median age was 18.3 years ($SD = 0.48$), with ages ranging from 18 to 19 years. Most participants identified as White ($n = 8$), while others identified as Black or African American ($n = 1$) or multiracial ($n = 1$). Nine sports were represented within the sample. Three control group participants completed all quantitative measurements at the post-intervention assessment.

In response to low continued participation among control and experimental group participants, this investigator consulted with his dissertation chair and other committee members. The following modifications to the original research design were implemented. First, this investigator shifted the focus of the quasi-experimental mixed methods intervention research design to solely examining experimental group data. Second, it was decided that this investigator would conduct an additional theoretically-based semi-structured interview to further explore the effects of the CMCL intervention on narratives related to the dependent variables (i.e., resilience, athlete psychological strain, sport well-being) and covariables (i.e., organizational sport stressors, general college stressors) of interest.

Measures

Connor-Davidson Resilience Scale-10 (see Appendix A). The Connor-Davidson Resilience Scale (CD-RISC-10; Connor & Davidson, 2003) is a 10-item measure of resilience that has been adapted from the original unidimensional CD-RISC-25 as supported by Campbell-Sills and colleagues' (2007) psychometric analysis. It was used to examine the effect of participation in the intervention course on resilience as a protective factor. The CD-RISC-10 is a unidimensional measure that assesses the

hardiness and persistence of respondents. Participants were asked to rate each item based on a five-point Likert Scale ranging from 0 (not true at all) to 4 (true nearly all of the time) in light of how they have felt within the past month. Total scores range from 0-40 with higher scores reflecting greater resilience. The CD-RISC-10 has demonstrated good internal consistency ($\alpha = .85$; Campbell-Sills et al., 2007). In addition, resilience scores on the CD-RISC-10 have been positively and moderately correlated with other related measures in expected ways like global hardiness ($r = .56-.62$; Gucciardi et al., 2011) and positive affect ($r = .67$; Gonzalez et al., 2016).

Athlete Psychological Strain Questionnaire (see Appendix B). The Athlete Psychological Strain Questionnaire (APSQ; Rice et al., 2020) is a 10-item, brief screening tool designed to measure athlete-specific distress and mental health symptoms and was used to examine the effect of participation in the resilience-based course on positive adaptation. The APSQ consists of three factors that measure athletes' self-regulation, perceived performance-related stress, and external coping behaviors. Participants were asked to rate items on a Likert scale in light of athletes' distress over the past four weeks (i.e., 1 = None of the time; 5 = All of the time). A total APSQ score is calculated with scores ranging from 10-50 and greater APSQ scores reflecting higher levels of athlete psychological strain. In addition, subscales scores are calculated and range dependent upon the subscales (e.g., Self-Regulation: 4-20; Performance: 4-20; External Coping: 2-10). Reliability estimates revealed each subscale to have good internal consistency as all scores exceeded α values of .80 (Self-Regulation: $\alpha = .98$; Performance: $\alpha = .82$; External Coping: $\alpha = .80$). In addition, Rice et al. (2020) demonstrated convergent validity with psychological distress scores as measured by the

Kessler-10 (K-10; Kessler et al., 2002) and divergent validity with well-being scores as measured by the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS; Stewart-Brown et al., 2009)

Sport Mental Health Continuum – Short Form (see Appendix C). The Sport Mental Health Continuum-Short-Form (Sport MHC-SF; Foster & Chow, 2019) is a 14-item measure of sport-specific well-being and will be used to examine the effect of participation in the resilience-based course on positive adaptation. The Sport MHC-SF was adapted from a reliable and valid original measure – the Mental Health Continuum Short-Form (MHC-SF) – with permission from its original creators (Keyes et al., 2008). The Sport MHC-SF comprises three subscales that measure sport subjective well-being (i.e., happiness and sport satisfaction), sport psychological well-being (i.e., effective daily functioning, personal growth in sport), and sport social well-being (i.e., person's functioning in sport). Participants were asked to rate items on a 6-point Likert scale regarding the frequency of feelings (i.e., 0 = Never; 5 = Every day) with each item targeting a sport-specific subscale of well-being. Total scores can be calculated for each subscale (e.g., Sport subjective well-being: 0-15; Sport social well-being: 0-25; Sport psychological well-being: 0-30) as well as for a total score (e.g., 0-70). Greater total scores and subscale scores reflect higher levels of well-being. Reliability estimates revealed each subscale to have good internal consistency reliability as all subscales scores exceeded r values of .88. The Sport MHC-SF subscales have been found to be positively correlated as expected with measures of global well-being (i.e., Mental Health Continuum – Short Form), health status (i.e., Short Form Health Survey), and quality of life (i.e., Quality of Life Assessment).

Organizational Stress Indicator for Sport Performers (see Appendix D). The Organizational Stress Indicator for Sport Performers (OSI-SP; Arnold et al., 2013) is a 23-item measure that was used to assess organizational stressors associated with participants' experience in sport, and more specifically, adversity. The OSI-SP assesses a student-athlete's organizational stressors across five domains, which include (a) goals and development, (b) logistics and operations, (c) team and culture, (d) coaching, and (e) selection pressures. Within each domain, participants were asked to rate on a 6-point Likert scale the extent to which the organizational place a demand on them in terms of the frequency of the symptoms. The Likert scale operates on a 0-5 range from 0 (never) to 5 (always). The OSI-SP frequency scale showed acceptable internal consistency ($\alpha = .75-.85$). In addition, the OSI-SP demonstrated significant concurrent validity with other variables such as perceived tangible support (Freeman, Coffee & Rees, 2011) and athlete satisfaction (Riemer & Chelladurai, 1998).

College Student's Stressful Event Checklist (see Appendix E). The College Student's Stressful Event Checklist (CSSEC; ASU, 2022) is an adapted version of Homes and Rahe's (1967) Social Readjustment Rating Scale (SRRS) designed specifically for college students. The CSSEC consists of 32 life events that would be commonly reported as stressful by college students. Each event is listed with a weighting based on magnitude of stress derived from a process of dividing the mean of original participants weighting responses by a scaling constant. Participants were asked to indicate if they have experienced each event, and the value numbers assigned for all events were summed which produced a total score regarding the level of current or recent stress. Due

its recent adaptation, no studies have examined its psychometric properties within the literature.

Exploratory Questions (see Appendix F). This investigator developed four exploratory questions to assess participants' subjective experiences of the course. Specifically, these four questions aimed to elucidate behavioral changes as a result of the course, learnings/takeaways from the course, and opinions and feelings about the course itself.

Procedures

This study received approval from the James Madison University IRB in June 2022. This investigator contacted associate/assistant athletic directors to recruit incoming first-year student-athletes to participate in the study. After conversations with athletic administration staff, it was decided that the CMCL course would be offered solely to incoming first-year football student-athletes as an alternative to the standard introduction to the university course. Prior to the start of the course, this investigator and a fellow course facilitator informed the incoming first-year football athletes regarding the details of the study, asked them to participate, and reminded them that participation was not mandatory nor expected. In the absence of the course facilitators, willing participants completed an informed consent document via QuestionPro, which outlined procedures, participant rights, and potential risks associated with course participation. Those who agreed to participate comprised the experimental group moving forward. Next, participants completed pre-intervention quantitative measures related to positive adaptation (APSQ, Sport MHC-SF) and protective factors (CD-RISC 10) and a brief demographic questionnaire.

The CMCL course began on June 22nd and ended on July 29th. The participants completed ten, 50-minute sessions as a part of their participation in the course. Throughout the course, the participants completed in-class writing assignments and a final project, the latter of which comprised one source of qualitative data. The participants were tasked with completing a final project, which was designed to synthesize learnings from the course. The participants each presented their presentation to the class during the final class meeting. At the end of their presentation, the participants received feedback from class members as per usual. Students were expected to submit a physical copy of their final project (i.e., poem, PowerPoint, other written document); however, two students gave oral presentations without a physically prepared document. Oral presentations were not included in the qualitative analysis procedures. A total of thirteen participants' final projects were eligible for qualitative data analysis. The final project types included four poems and nine PowerPoint presentations.

Prior to the completion of the course on July 29th, a computer room was reserved for participants to complete post-intervention quantitative measures (in the absence of this principal investigator) pertaining to positive adaptation (APSQ, Sport MHC-SF), protective factors (CD-RISC 10), and adversity experienced (OSI-SP, CSSEC), as well qualitative exploratory questions about their subjective experiences in the course.

In mid-November, roughly four months after the post-intervention quantitative administration, this investigator sent multiple emails to the experimental group participants, including a link to the JMU QuestionPro survey, to complete the following quantitative measures: CD-RISC 10, APSQ, Sport-MHC-SF, OSI-SP, and CSSEC. They also completed an additional demographics measure.

Due to low participation at the 3/4-month follow-up by the experimental group, this investigator developed a semi-structured interview (see Appendix G) to further assess participants' narratives related to a protective factors, positive adaption, and adversity experienced. This semi-structure interview addendum was approved by the JMU IRB in November 2022. It included thirteen, theoretically-developed, varied question types (i.e., knowledge, feelings, devil's advocate; Merriam & Tisdale, 2016) designed to further assess dependent variables (i.e., resilience, sport well-being, athlete psychological strain) and one variable of adversity (organization sport stressors). The question allotment, based on construct assessed, is as follows: resilience (1), sport well-being (6), athlete psychological strain (2), sport stressors (3). Separately, one question explored the participant's recent application of a skill gained from the course. Regarding recruitment methods, this investigator used purposive recruiting to identify 6-8 course participants who were likely to have benefited from the course (desired 3-4 participants) and unlikely to have benefited from the course (3-4 participants). This investigator used this bilateral approach in hopes of acquiring qualitative data that would fully represent a range of course participants' experiences and narratives. He sent out emails to the pre-determined participants; only one participant agreed to participate in the interview process.

This participant, known as Participant H, was interviewed in January 2023. This investigator re-consented the participant (IRB-approved), noting information regarding the Zoom video format, recording of the interview, and plans to store the information on a password-protected thumb-drive. After receiving verbal consent, this investigator

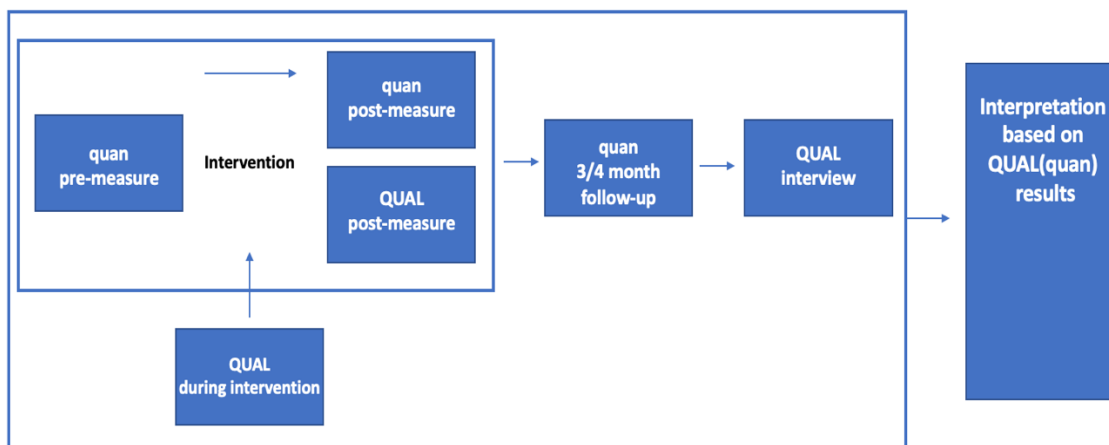
conducted a semi-structured, 13 question interview with one participant. The interview lasted roughly thirty minutes in length and was transcribed for analysis.

Design

This study used a mixed methods intervention research design (see Figure 1) to guide its implementation of quantitative and qualitative measures (Creswell, 2014). This investigator included qualitative measures to serve the following purposes: (a) deepen understanding of the impact of the CMCL course and (b) represent the voices of its participants. Originally, this investigator planned to assign equal weighting to quantitative and qualitative measures administered. However, due to participant retention issues, the qualitative measures were more heavily weighted during the mixing and summation of findings processes.

Figure 1

Conceptual Graphic of Mixed Methods Intervention Research Design



Data Analysis

Quantitative Data Analysis. This investigator conducted multiple quantitative analyses to address research question #1. Descriptive analyses were completed in advance of all quantitative analyses to assess for relevant assumptions. First, multiple

within-subjects analyses of covariance (ANCOVAs) were conducted to assess the effect of participation in the CMCL course on the dependent variables (i.e., resilience, athlete psychological strain, sport-well-being) while accounting for adversity experienced (i.e., general college stressors and sport stressors) at post-intervention. Second, multiple within-subjects ANOVAs were conducted to measure the effect of participation in the CMCL course on the dependent variables (i.e., resilience, athlete psychological strain, sport well-being) at post-intervention and again at the 3/4-month follow-up.

Qualitative Data Analysis. This investigator utilized a variety of qualitative data analysis methods according to fit with each data source. For the interview, the investigator employed Interpretative Phenomenological Analysis (IPA: Smith, Flowers, & Larkin, 2009) to analyze the semi-structured interview. IPA is a form of qualitative data analysis that has three theoretical foundations: phenomenology, hermeneutics and idiography. Phenomenology was originally posited by Husserl (1900) as a philosophical approach that aims to understand the subjective experiences of individuals (Husserl, 1970/1900). It focuses on how humans register within their consciousness objects and events (Smith & Sparkes, 2017). Hermeneutics primarily seeks to understand the processes by which people interpret and make-meaning of phenomena. Within IPA, a process unfolds wherein the researcher attempts to interpret and make meaning of how a participant makes sense of phenomena, which is referred to as a double hermeneutic (Smith & Sparkes, 2017). Idiography consists of focusing on an individual or a small group of individuals, with the intention of developing an in-depth understanding of each participant's unique experience.

This investigator followed data analysis recommendations proposed by Smith and Osborn (2003). To start, this investigator read the interview transcript multiple times to familiarize himself with the data and subsequently jotted initial personal responses to the data in the lefthand side of the transcript. Next, this investigator engaged in a line-by-line analysis in which “objects of concern” and “existential claims” were coded, as recommended by Larkin and Thompson (2011). The transcript then was reviewed in an iterative manner, and emergent themes were identified. Finally, this investigator reviewed the compiled list of emergent themes and developed overarching convergent themes.

For the final projects, this investigator transcribed each project and read each transcript as a means of initially familiarizing himself with the general content. Next, for each transcript, he followed Miles and Huberman’s (1984) method of data analysis, which included a line-by-line analysis of the data with the following questions in mind: (a) what are people doing? and (b) what is this an example of? Additional first cycle coding processes – such as elemental and affective methods – were utilized to develop initial categories per transcript (Miles et al., 2014). Subsequently, themes were inductively derived from these categories per each transcript. Afterward, an organically developing process of deductive (i.e., code lists) and inductive coding (i.e., subcoding) was used to compile emergent themes across data (Miles et al., 2014). Finally, second order and first order themes were delineated from the compilation of themes.

For the exploratory questions, this investigator used a variety of coding methods to assess the participants’ responses (Miles et al., 2014). For the opinion (#2) and feelings (#3) questions, evaluation coding methods were used to delineate participants’

general ratings of the course. For the differences in behaviors/treat yourself question (#1) and takeaways question (#4), elemental methods were used to capture themes related to personality-based characteristics as well as desired course outcomes. The delineated themes were represented in a basic matrix approach (Miles et al., 2014).

Trustworthiness

To increase the trustworthiness of this study, this investigator kept a reflexive journal throughout the data acquisition and analysis processes (Lincoln & Gruba, 1985). He wrote down his internal responses to the perceived quality of the final projects and interview itself. In addition, he maintained an audit trail which outlined his deductive and inductive processes (i.e., subcoding – final projects) of developing themes and subthemes. As a result, an unaffiliated person should be able to follow and understand the logic steps used by this investigator. He also spent time reflecting on past salient experiences within his own college adjustment process, resilience within sport, and dealing with adversity. This process, known as “bracketing,” served the purposes of increasing this investigator’s awareness of value/biases and reducing the likelihood of imposing these on participants’ accounts (Smith & Osborn, 2003).

CHAPTER 4

RESULTS

Quantitative Results

Pre-intervention to Post-intervention ANCOVAs

Resilience. A within-subjects ANCOVA was performed to assess differences in CD-RISC 10 scores as a function of involvement with the CMCL course while adjusting for OSI-SP and CSSEC scores at post-intervention. The sphericity assumption did not apply as only two levels were represented. The assumptions of normality and normal distribution were met. The assumption of independent sampling was violated. All other assumptions were met.

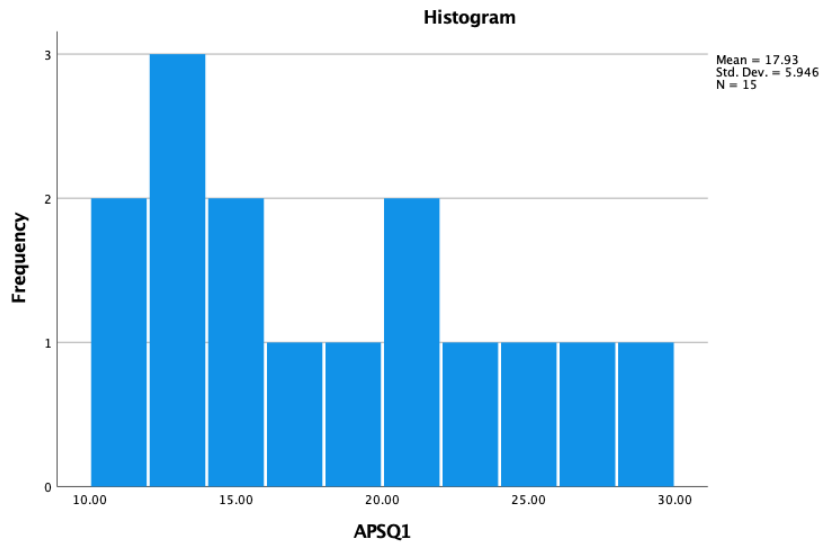
The results of the ANCOVA revealed no significant difference in CD-RISC 10 scores from pre-intervention ($n = 15$; $M = 32.2$, $SD = 3.5$) to post-intervention ($n = 15$; $M = 32.4$, $SD = 4.6$), $F(1, 12) = .157$, $p = .699$, $\eta^2 = .013$. After adjusting for sport stressors, no significant difference was found in CD-RISC 10 scores based on participation in the CMCL course, $F(1, 12) = .690$, $p = .422$, $\eta^2 = .054$. Similarly, adjusting for general college stressors did not yield a significant difference in CD-RISC 10 scores based on participation in the CMCL course, $F(1, 12) = .001$, $p = .974$, $\eta^2 = .000$.

Athlete Psychological Strain. A within-subjects ANCOVA was performed to assess differences in APSQ scores as a function of involvement with the CMCL course while adjusting for OSI-SP and CSSEC scores at post-intervention. The sphericity assumption did not apply. The assumptions of normality at pre-intervention ($W = .88$, $p = .18$), normal distribution at pre-intervention (see Figure 2), and independent sampling

were all violated. Due to the presence of multiple assumption violations, this investigator did not interpret the results.

Figure 2

Distribution of APSQ Scores at Pre-intervention



Sport Well-being. A within-subjects ANCOVA was performed to assess differences in Sport MHC-SF scores as a function of involvement with the CMCL course while adjusting for OSI-SP and CSSEC scores at post-intervention. The assumptions of normality and normal distribution were met. The outlier assumption was violated; however, upon review, it was determined that the participant answered earnestly, and thus, the responses were included. The assumption of independent sampling was violated.

The results of the ANCOVA revealed no significant difference in Sport MHC-SF scores from pre-intervention ($n = 15$; $M = 58.1$, $SD = 8.7$) to post-intervention ($n = 15$; $M = 53.3$, $SD = 8.9$), $F(1, 12) = .748$, $p = .404$, $\eta^2 = .059$. In addition, adjustments for sport stressors, $F(1, 12) = .067$, $p = .800$, $\eta^2 = .006$, and general college stressors, $F(1, 12) =$

.00, $p = .991$, $\eta^2 = .00$, did not yield significant differences in Sport MHC-SF scores for participation in the CMCL course.

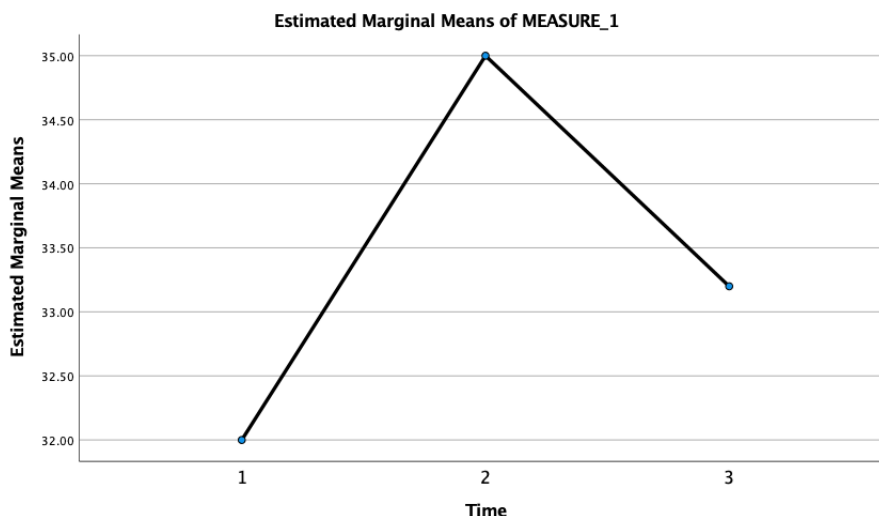
Pre-intervention to Post-intervention to 3/4 Month Follow-up ANOVAs

Resilience. A within-subjects ANOVA was performed to assess differences in CD-RISC 10 scores at post-intervention and again at 3/4-month follow-up as a function of involvement with the CMCL course. The assumptions of sphericity, normality, and normal distribution were all met. The assumption of independent sampling was violated. All other assumptions were met.

The results of the ANOVA revealed no significant differences in CD-RISC 10 scores from pre-intervention to post-intervention to 3/4-month follow-up, $F(2, 8) = .573$, $p = .585$, $\eta^2 = .125$. Although not significantly different, the estimated marginal means for the CD-RISC 10 scores increased from pre-intervention ($n = 5$; $M = 32.0$, $SD = 4.3$) to post-intervention ($n = 5$; $M = 35.0$, $SD = 3.6$) and decreased from post-intervention to 3/4-month follow-up ($n = 5$; $M = 33.2$, $SD = 5.1$). A plot of the estimated marginal means for the CD-RISC 10 scores is presented in Figure 3.

Figure 3

Plot of Estimated Marginal Means for CD-RISC 10 Scores at Pre-intervention(T1), Post-intervention (T2), and 3/4 Month Follow-up (T3)



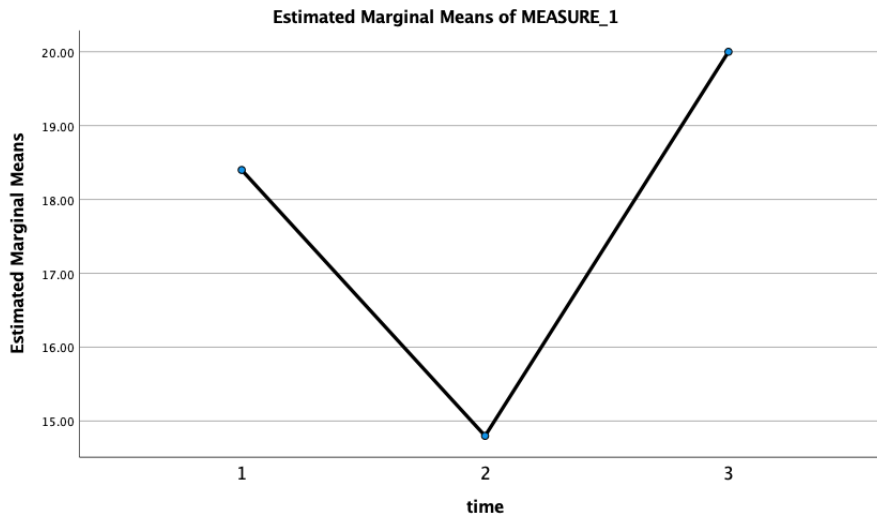
Athlete Psychological Strain. A within-subjects ANOVA was performed to assess differences in APSQ scores at post-intervention and again at 3/4-month follow-up as a function of involvement with the CMCL course. The assumptions of sphericity, normality, and normal distribution were all met. The assumption of independent sampling was violated due to the purposeful sampling approach employed. All other assumptions were met.

The results of the ANOVA revealed no significant differences in APSQ scores from pre-intervention to post-intervention to 3/4-month follow-up, $F(2, 8) = 1.22$, $p = .345$, $\eta^2 = .233$. Although not significantly different, the estimated marginal means for the APSQ scores decreased from pre-intervention ($n = 5$; $M = 18.4$, $SD = 7.0$) to post-intervention ($n = 5$; $M = 14.8$, $SD = 6.4$) and increased from post-intervention to 3/4-

month follow-up ($n = 5$; $M = 20.0$, $SD = 6.2$). A plot of the estimated marginal means for APSQ scores is presented in Figure 4.

Figure 4

Plot of Estimated Marginal Means for APSQ Scores at Pre-intervention (T1), Post-intervention (T2), and 3/4 Month Follow-up (T3)



Sport Well-being. A within-subjects ANOVA was performed to assess differences in Sport MHC-SF scores at post-intervention and again at 3/4-month follow-up as a function of involvement with the CMCL. The assumptions of sphericity and normality were met. However, the normal distribution assumption was violated at post-intervention and 3/4-month follow-up (see Figure 5). In addition, the outlier assumption was violated at post-intervention (see Figure 6). Also, the assumption of independent sampling was violated.

Figure 5

Distribution of Sport MHC-SF Scores at Pre-intervention (SWB2) and 3/4 Month Follow-up (SWB3)

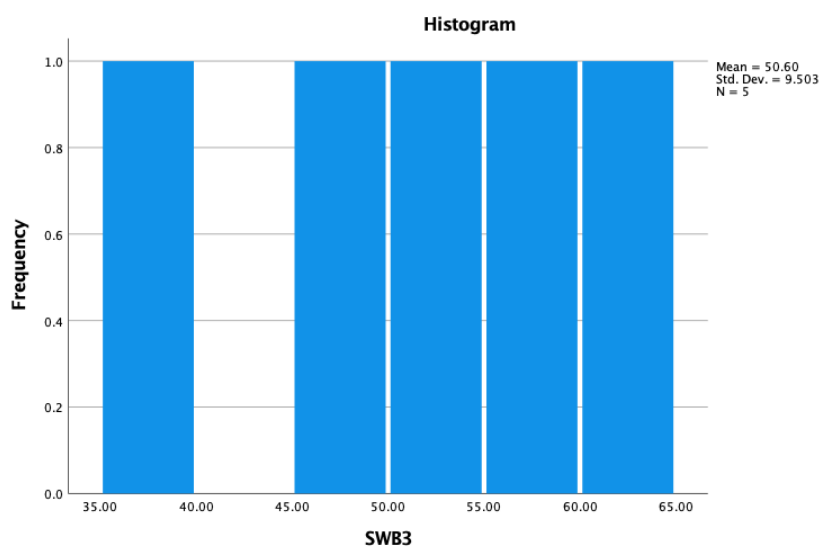
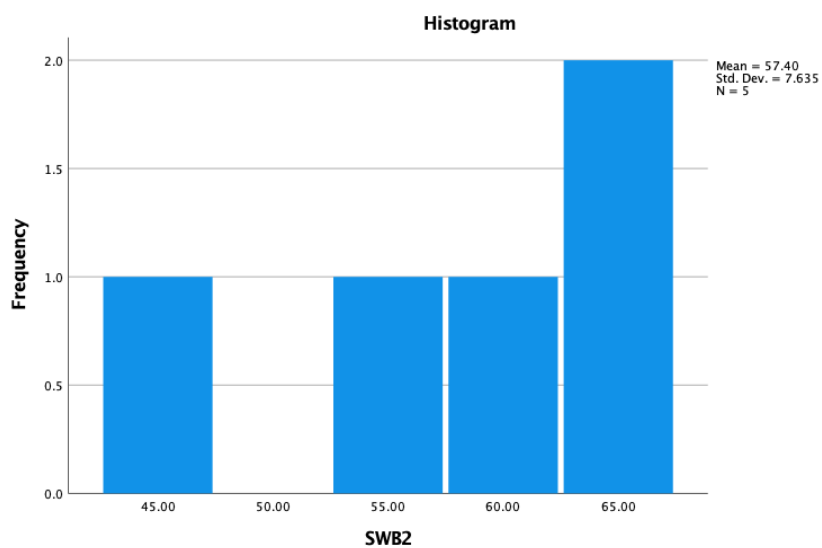
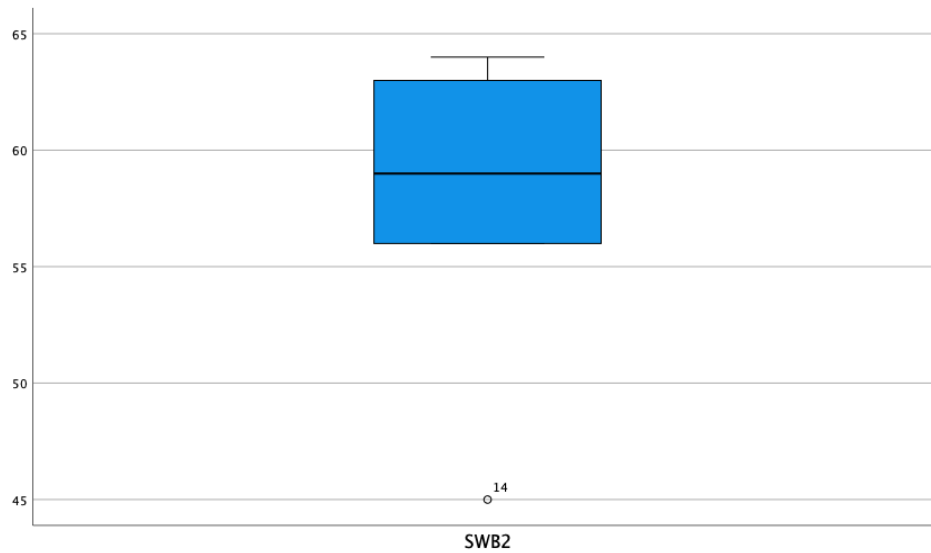


Figure 6

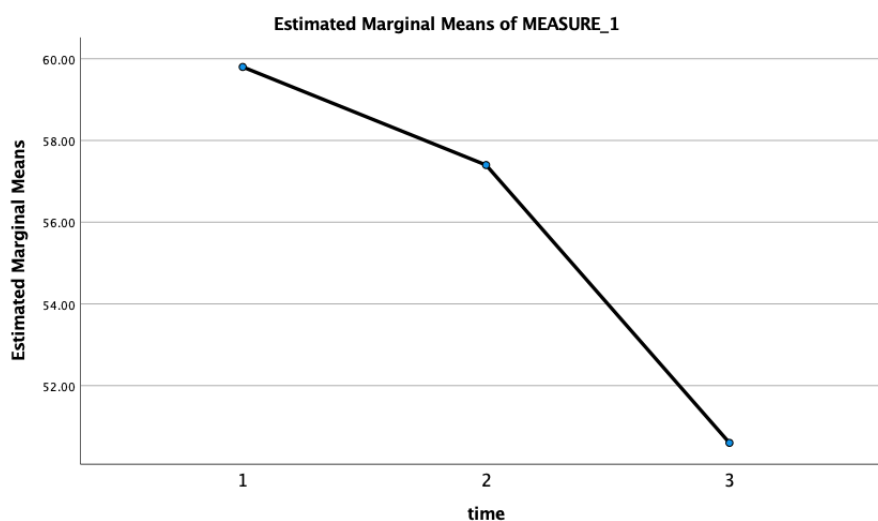
Plot of Outlier Score for Sport MHC-SF Scores at Post-intervention



The results of the ANOVA revealed no significant differences in Sport MHC-SF scores from pre-intervention to post-intervention to 3/4-month follow-up, $F(2, 8) = 1.996$, $p = .198$, $\eta^2 = .333$. Although not significantly different, the estimated marginal means for the Sport MHC-SF scores decreased from pre-intervention ($n = 5$; $M = 59.8$, $SD = 7.3$) to post-intervention ($n = 5$; $M = 57.4$, $SD = 7.6$) and decreased from post-intervention to 3/4-month follow-up ($n = 5$; $M = 50.6$, $SD = 9.5$). A plot of the estimated marginal means for resilience scores is presented in Figure 7.

Figure 7

Plot of Estimated Marginal Means for Sport MHC-SF Scores at Pre-intervention (T1), Post-intervention (T2), and 3/4 Month Follow-up (T3)



Qualitative Results

Phenomenological Narratives of Adversity, Psychological Strain, Sport Well-Being, and Organizational Sport Stressors

The IPA-informed data analysis process generated four themes and thirteen subthemes (see Table 1). The themes spanned college adjustment, service to others, the uniqueness of the position played, and the culture of JMU Football. Each theme and corresponding subthemes are described below.

Table 1

Themes and Subthemes from Interview related to Resilience, Athlete Psychological Strain, Sport Well-being, and Organizational Sport Stressors

#	Second Order Themes	First Order Themes
1	Adjusting to the student-athlete grind	a. New adversity b. Coping mechanisms c. Social supports d. Real world preparation
2	Serving others provides purpose	a. Resetting effect of community service b. Helping teammates succeed
3	Uniqueness of position played	a. Perception of elevated social status b. Position-specific requirements
4	The JMU Football Culture	a. Transition to FBS b. Mentality and values c. Relationships vary based on time of year d. Selection processes

Theme #1 – Adjusting to the Student-Athlete Grind. Participant H described the “daily grind” of being a student-athlete, within the context of returning from Christmas break, as consisting of “going through a bunch of classes, getting into workouts, and trying to get in your extra work.” Essentially, it seems that the student-athlete “grind” refers to academic and athletic demands. One subtheme that emerged was the experiencing of *new adversity*, which referred to increased “freedom” and general

“stuff on your plate.” Although not specifically stated, his definition of “stuff” was similar to his conceptualization of the “daily grind.”

Developing helpful *coping mechanisms* was another subtheme that emerged related to adjusting to the student-athlete grind. Participant H described these coping mechanisms as essential to navigating the previously described adversity associated with being a college student-athlete. For example, he stated,

So, I think early on also just trying to figure out what my schedule is and what my coping mechanisms were going to be throughout the semester. And, as a result, [I] was able to adjust not too difficultly academically, athletically, and socially.

Participant H cited the following skills as critical to dealing with the different adversity faced as a college student-athlete: cope/prep ahead, time management, mindfulness, being informed by past adversity, and using your voice. He signaled the importance of preparing in advance as an effective coping strategy to facilitate college adjustment and optimize athletic performance. He also emphasized the importance of mindfulness and “focusing on the present,” the need to “remember where you’re at,” and attempting to limit thinking about items unrelated to the task at hand. Moreover, for athletic and scholastic performance, it is important to H to “take it play by play rep by rep” and “not worrying about what has happened or what is going to happen.” He also indicated that “studying past adversity” is a helpful way to prepare for adversity. Lastly, he emphasized that assertive communication skills are important, as illustrated by his statement, “Voicing what I have going on to others is a strength that definitely helped me.”

The availability of *social supports* was another subtheme that related to adjusting to the student-athlete grind. Specifically, when discussing factors that have allowed him to persist through tough times thus far, H mentioned that he has “a lot of people that are willing to help me out and are helping me out on a daily basis.” In addition, H cited having “good relationships going into the school year” as having positively contributing to his college adjustment process.

A final subtheme related to adjusting to the student-athlete grind was the generalizability of his adversity faced as student-athletes transition to the “real world.” When prompted to describe the ways in which his experience at JMU has challenged him to grow and become a better person, he stated, “I feel like having this much going on on a daily basis, just kind of really preparing me for the real world.” This seemed to suggest the act of juggling numerous competing demands as a student-athlete will prepare him well for future post-graduation endeavors. In addition, he indicated that planning ahead translated to the “real world:”

Looking at it, that whether it be the night before and the morning of, and just looking at how I’m gonna attack it, and what I’m going to be doing at different times for the real world.

Theme #2 – Serving Others Provides Purpose. The second theme that emerged from this interview is the significance of serving others being important, not only to the others, but yourself as well. Participant H alluded to the *resetting effect of community service*. When asked to describe a time in which he felt a sense of purpose as a student-athlete, he elaborated on a community service experience with local middle school kids

as a salient event, noting that talking to the kids was a “humbling” experience and that it “resets you.”

H also discussed a sense of purpose related to *helping his teammates succeed*. He described feeling “purposeful” in his role in “running the scout team.” He noted that “by giving a good look to the starting defense” he was “contributing to our overall success.” Moreover, it would make him “feel proud when they would go out and succeed the next week of the game.”

Theme #3 – Uniqueness of Position Played. H referenced on two separate occasions the uniqueness of the position he played on the team. The unique features of his position consists of two subthemes: *perceptions of elevated social status* and *position-specific responsibilities*. This first subtheme refers to the notion that his position is more socially desirable at large than other positions within the sport of football. During H’s description of providing service to local middle school children, he noted that “when the little kids hear [my position], they want to ask you all the questions in the world.”

The second subtheme refers to the idea that the position he plays entails *position-specific requirements*. Specifically, H mentioned that control and understanding are important for his position. In addition, he emphasized that “not worrying about past experiences” is an important skill for playing his position. Lastly, when describing anxiety-related thoughts that manifest during his performance as a [insert position], he identified making the right decision and making the right play as sources of concern.

Theme #4 – The JMU Football Culture. This theme encompasses a variety of topics pertaining to JMU football culture, which included the transition to the Football Bowl Subdivision (FBS), mentality/values, relationships, and selection processes. When

prompted to discuss the atmosphere on the team during the *transition to FBS*, H offered the following response:

I'm saying that we're not changing anything in our process. We're going out to win every single game, and that doesn't matter if we're playing the FCS or FBS or if they put us in the NFL next year. It's going to be the same mentality. It's really just a different title, doesn't change anything about us. Doesn't change....Yeah, there might be more people in the stands, but we're worried about what's going on in the field.

Another subtheme that emerged related to the JMU Football culture consisted of *mentality and values*. H noted the importance of winning to JMU culture, stating that “JMU culture is still the JMU culture, and we're just here to win.” H also referenced the value of “hard work” when he stated, “We're not working any harder than we were working.” He also described a recent experience in which he had difficulties with his mood and motivation when he noted returning back from Christmas break into a “work state of mind.” H also identified the value and notion of “finishing strong.” When prompted to describe a recent time in which he applied a knowledge or skill from the resilience course, he briefly noted a desire to “finish strong” as a means of “doing my part for the team.”

When discussing a typical day of interacting with his coaches and teammates, H identified that *relationships vary based on time of year* (i.e., in-season vs. off-season). Specifically, H emphasized that in-season relationships between coaches and players tend to be “business-focused,” which includes preparing for games and focusing on “what we have to accomplish that week.” Additionally, he noted that less time for “small talk”

exists during the season, whereas in the off-season, interactions between coaches and players are increasingly informal and relationally-based. That is, coaches may be more willing to “check in” about topics such as “family” and others during the off season.

Finally, when prompted to discuss his opinion about the methods that determine who plays, H initially indicated that he believes the *selection processes* are “fair.” Moreover, he stated that “whoever’s performing the best, and whoever has the best grip of the team, is going to be the guy....It’s always going to be the best guy who plays.”

Changing Minds Changing Lives Final Class Project Submissions

The combined Miles and Huberman (1984) and Miles and colleagues (2014) data analyses approaches yielded three themes and ten subthemes. The following themes are reflective of consistently convergent responses across the final projects. The themes and subthemes are represented in Table 2.

Table 2

Themes and Subthemes from Participants’ Takeaways from the CMCL Course

#	Second order themes	First order themes
1	The lasting effects of meditation	a. Worry disintegration and other coping benefits b. Trying new things c. Elevation and personal growth
2	Managing stress and persistence	a. Identifying causes of stress b. Good and bad stress c. Keep going through stress

3 Opening up and becoming	a. Witnessing/listening to others
brothers	b. Reflecting/opening up to others
	c. Becoming brothers
	d. Overcoming differences in upbringings

Theme #1 – The Lasting Effects of Meditation. The practice of meditation was commonly referenced by participants as something that “stuck out” from the course. Specifically, multiple participants made comments related to the form of applying meditation. Some members expressed appreciation for its simplicity, as captured by participant C’s statement, “There’s different steps you can take like simply taking breaths.” Others expressed gratitude for the variety of meditation practices taught in the course, as illustrated by participant O’s comment, “I’m glad that it was a different type of meditation every time.” Overall, eight out of fourteen participants included meditation in their final project, making it the most referenced topic of all.

The *worry disintegration and other coping benefits* of meditation was an emergent subtheme from the final class projects. Four of the fourteen final projects described ways in which meditation helps them cope. Participant H cited reduced worry as one benefit of meditation in his rhyme-filled statement, “We spent time learning to meditate which caused many of worries to disintegrate.” Similarly, participant C noted that meditation is a “great way to not let things bother me.” The calming and relaxing effects of meditation also were consistently cited as a benefit of meditation. For example, participant C noted meditation helps to “achieve the common goal of relaxing yourself” and “stimulate being calm.” Participant I reportedly liked the meditation practice in class

as these exercises apparently “gave us another opportunity to rest our minds throughout the day.” Participant C also named the slowing and narrowing of attention as benefits of meditation. Specifically, he noted that “these techniques will help when I need a way to slow down.” In addition, he mentioned meditation is a “great way to take things one step at a time.”

Trying new things emerged as one of the subthemes related to the lasting effects of meditation. Participant O mentioned the novelty of using meditation as a coping tool, noting that “I have never done meditation in my life, so it was definitely a different experience.”

Participant L seemed to link meditation as a tool that will facilitate *elevation and personal growth*. He stated, “We learned to meditate which is going to help us elevate.” Participant M also noted that the course outcomes, which included meditation, will foster growth, as illustrated by his statement, “I plan on using my outcomes to improve my performance in my classes, and my personal relationships.”

Theme #2 – Managing Stress and Persistence. Several participants made multiple references to the theme of stress as a key learning from the course. Stress causes, perceptions and management strategies were taught during a resilience-based class in the course. Two participants cited gaining knowledge about *identifying the causes of stress* as a key takeaway from the course. Participant F expressed, “I learned what stress can be caused by.” Similarly, participant M stated, “I liked the lesson when we went over stress, the causes of it.”

Two participants identified the Neurobiology of Stress class as particularly insightful when perceiving *good and bad stress*. Participant F noted, “I learned how

[stress] can be good or bad.” Participant M offered an expanded perspective as illustrated by his statement, “I learned about how we have a certain threshold where stress is beneficial, and once it passes that it could result in negative outcomes.” Furthermore, Participant M cited a connection between positive stress and resilience, “If you work towards positive stress and learn from your mistakes, you will become resilient.”

Three participants referenced a subtheme of *keep going through stress* as a cognitive and behavioral approach to managing stress. Participant F offered a definition-based perspective in his statement, “To keep going means to adapt and push through adversity or to not quit.” Furthermore, he described how he applied “keep going” in a sport performance context, stating “I continued to keep going during tempo runs each Monday.” Participant I noted a benefit of “keep going” as indicated by his statement, “It is always good to keep going because it makes you stronger overall.”

Theme #3 – Opening Up and Becoming Brothers. Participants consistently cited the unique intra-course processes of sharing aloud and listening to others as meaningful aspects of the course. Furthermore, they referenced how these processes significantly and positively influenced relational quality among participants and allowed them to overcome intra-group differences. Four of fourteen projects referenced made references to the intra-course processes and associated outcomes.

The process of *witnessing/listening to others* was a subtheme that emerged within this broader theme. Participant L described in metaphorical terms that others “listened to me with their eyes and ears.” Participant H positively regarded being able to listen to others in his statement, “It was a blessing to hear all my teammates’ different drives.”

Another subtheme that emerged from the data was *reflecting/opening up to others*. Participant F referenced the course structure and benefits of “opening up” when he stated that “throughout this course we were forced to talk and open up with our teammates on a personal level, and that helped me learn how important expressing yourself to others can be.” Participant N described the classroom environment as facilitative of “opening up” to others, as illustrated by his comment, “We found a space that made it comfortable for us to express ourselves to other people.” Participant H specified contents that were shared aloud, stating “We spoke on our strengths and just one thing.”

An outcome of deepened relational quality, or *becoming brothers*, was another subtheme that emerged from the data. Three separate participants used the term “brother” in their final projects. Participant N offered an appraisal regarding the complementary nature of shared strengths by participants throughout the course. Specifically, he stated, “Our different strengths complement each other’s weaknesses which helps us work together as brothers.” Participant H identified a deepened understanding of and sense of appreciation for his teammates as a result of the intra-course processes. He denoted, “We have learned a lot from each other. I am thankful to know you all like my brother.” Participant L echoed these two aforementioned sentiments, stating “Now we’re all brothers.”

Overcoming differences in upbringing emerged as a final subtheme withing this within this broader theme. Participant N noted, “We are all very different but very similar at the same time. Our upbringing may have been different coming down the line.” Participant H offered a similar perspective, as illustrated by his statements “All from

different upbringings and backgrounds” and “This class taught that we are not too far from the same”.

Participants’ Outcomes/Perceptions/Feelings about the CMCL Course

The evaluation and elemental coding methods (Miles et al., 2014) generated a series of themes in response to the exploratory questions. The themes and subthemes that emerged from the exploratory questions are represented in a Conceptually Clustered Matrix (Miles et al., 2014) (see Table 3) and are described below.

Differences in Behavior. Participants’ responses to question one were delineated into three overarching themes: personality-related characteristics, active coping, and cultivating connections. Four respondents offered responses consistent with personality-based characteristics. Specifically, the respondents cited increased patience, enhanced openness to different perspectives, positive outlook, and reduced stress as altered personality-related characteristics following the completion of the CMCL Course. In addition, the respondents endorsed five specific coping skills and one general coping skill improvement as ways that they behave different and/or treat themselves differently as a result of the course: (a) taking care of body/mind, (b) managing emotions, (c) thinking more, (d) meditating/relaxing, and (e) being self-compassionate. Lastly, one respondent provided a response related to cultivating connections. Participant A cited “my speaking” as a perceived behavioral difference following the completion of this course.

Table 3

Conceptually Clustered Matrix of Themes derived from Participants’ Responses to Four Exploratory Questions about the CMCL Course

#	Questions	Themes
1	After having completed the resilience course, what differences might I observe in how you behave and/or treat yourself?	Personality-related characteristics (4) Active coping (13) Cultivating connections (1)
2	What is your opinion of the course you completed?	Ratings: <ul style="list-style-type: none"> • Very helpful/great (2) • Good/Helpful/nice/useful/beneficial/fun (8) • Alright/mediocre (3) • Not helpful (1) • No purpose (1) Other notable responses: <ul style="list-style-type: none"> • Good course “to escape” • “Beneficial to athletic success” • “Outside of my comfort zone”
3	How do you feel about the way the course was conducted?	Positive responses – 12 Negative responses – 2 (noted twice)
4	What are two most important bits of information or skills that you are taking away from the course?	Active coping (5 subcategories – 15 responses) Building strengths (3 response) Cultivating Connections (2 subcategories – 4 responses overall)

Opinions of Course. Regarding people’s opinions of the course, these responses were deduced into a scale ranging from “No purpose” to “Very helpful/Great.” One respondent noted the course as seemingly having “no purpose,” while another respondent described it as being “not helpful.” Three respondents indicated the course was “alright” or “mediocre.” Eight respondents provided positive opinions, which consisted of the following codes: good/helpful/nice/useful/beneficial/fun. Lastly, two respondents offered

highly positive opinions about the course, which included descriptions of it being “very helpful” and “great.”

Other noteworthy responses were documented by this investigator. A majority of additional responses were positive in nature. For example, Participant E described this course as “a good course to escape,” potentially suggesting that it functioned as a safe-haven. Participant C reported a positive relationship between CMCL participation and his athletic performance, as illustrated by his statement, “I think the course was beneficial to my athletic success.” Participant B described the course as involving some discomfort in a positive manner, noting “it was a great experience outside of my comfort zone.” Conversely, Participant D offered constructive criticism about the strictness of the course, as illustrated by his response, “I feel like if you’re going to do something like this, you need to be more strict on homework and things of that nature.”

How Course was Conducted. A majority of responses ($n = 12$) to the third question were positively valanced. Positive responses featured themes related to course ratings (i.e., cool/good/conducted flawlessly & in a good manner), perceptions about the instructors (i.e., relaxing/chill instructors), outcomes (i.e., encouraged talking), and organization of the course. Two participants offered negative ratings about the course, with both responses centered around the theme of course organization. For example, Participant I stated that the “timing was off but besides that it was alright.” Similarly, Participant M indicated “sometimes it wasn’t really organized well.”

Course Takeaways. The participants’ responses were divvied based on the three desired course outcomes: active coping, building strengths, and cultivating connections. Thirteen responses referenced active coping skills. Specific active coping skills included

patience, relaxation/meditation, taking care of yourself, stress perceptions/dealing with stress, and resilience/just keep going. Three responses referenced building strengths, as each listed and described their main strengths as identified via a Strengths Finder survey. Four responses referenced cultivating connections. Specifically, three participants indicated an improved ability to share aloud with others whereas one respondent noted a theme of universality despite individual background differences.

Chapter 5

DISCUSSION

The present study implemented an exploratory mixed methods intervention design to assess the following research questions: (a) Does a 5-week, resilience-based course affect scores and narratives of resilience, adversity, student-athlete mental health and sport-specific well-being?; (b) Does the course affect participants' reports on desired outcomes of the course (i.e., active coping, building strengths, and cultivating connections)?; and (c) What are participants' subjective experiences of the course? The existing literature has provided support for the mental health benefits of resilience programming with college students (Hartley, 2011; Houston et al., 2017; Steinhardt & Dolbier, 2008) and college student-athletes (Chandler et al., 2020; Pierce et al., 2021). However, no study to date has utilized sport-specific measures of mental health, well-being and adversity to evaluate the effects of a resilience-based intervention with incoming collegiate-student athletes. Thus, the present study is the first to implement sport-based measures of well-being and psychological strain, as well as adversity, to assess the effects of a the CMCL course with incoming first-year student-athletes.

Quantitative Findings

The investigator's first hypothesis postulated that resilience scores would significantly increase following participation in the CMCL course after accounting for adversity experienced. The findings of this study did not support this claim while accounting for sport stressors and general college stressors. However, resilience appeared to increase pre- to post-intervention and decrease from post-intervention to 3/4-month follow-up. It makes sense that the resilience would increase pre- to post-

intervention, as participants would have just recently completed the resilience course at and be able to recall salient learnings. Given the time removed from the CMCL course, it is possible that participants had forgotten course learnings and/or become mentally, physically, and emotionally fatigued from sport participation, which may have resulted in reduced self-perceptions of resilience at the 3/4-month follow-up.

The investigator's second hypothesis postulated that athlete psychological strain would significantly decrease following participation in the CMCL course after accounting for adversity experienced. Due to excessive violations of assumptions for this quantitative method of analysis, changes in athlete psychological strain were examined without accounting for adversity experienced. However, athlete psychological strain appeared to decrease from pre- to post-intervention and increase from post-intervention to 3/4-month follow-up. External factors may have contributed to the felt sense of athlete psychological strain as reported by these participants. At pre-intervention, these athletes were in the early process of adjusting to being NCAA Division I football players. At post-intervention, these athletes had completed the summer grind of practicing and were approaching a brief intermission in sport participation. At the 3/4-month follow-up, these athletes were in the midst of not only practicing, but also engaging in competitive performances and surely encountering academic demands, which would theoretically entail greater levels of externally-based psychological strain behaviors. These behaviors could have included, but not been limited to decreased motivation, increased irritability, difficulties being around teammates, worry about performance, substance use, and risky off-the-field behavior.

The investigator's third hypothesis postulated that sport well-being would significantly increase from pre- to post-intervention after accounting for adversity experienced. The findings of this study did not support this claim while accounting for sport stressors and general college stressors. In contrast, sport well-being decreased across each administration of quantitative measures, with a large decrease occurring from post-intervention to 3/4-month follow-up for these participants. There is moderate empirical support for other similar constructs possibly explaining the reduction of sport well-being from pre-intervention to post-intervention to 3/4-month follow-up. For example, research has revealed a strong relationship between athletic identity (Brewer et al., 1993, Gustafsson et al., 2007, 2008, performance-based self-esteem (Gustafsson et al., 2018; Hallsten et al., 2005) and negative health outcomes (i.e., burnout). Along these lines, if these participants possessed high levels of athletic identity and/or performance-based self-esteem and were not playing in performance contexts, it is reasonable to conjecture that their sport well-being may have declined due to reduced happiness and sport satisfaction and lack of opportunities to experience personal growth in sport.

Results from the interview with Participant H also provides some insight into the possible reduction of sport well-being from post-intervention to 3/4-month follow-up. Specifically, H indicated that relationships between coaches and athletes become increasingly "business-focused" during the season. Thus, it is possible that participants endorsed lower sport well-being as the season progressed related to not experiencing warm and trusting relationships in sport or a sense of belongingness during this period, assuming H's perspective is generalizable to those of other course participants.

Qualitative Findings

There are several findings that emerged across the sources of data (i.e., interview, final projects, and exploratory questions), which are described in detail below. First, the unique processes within the CMCL course led to a sense of brotherhood among participants. Second, practicing mindfulness facilitates positive adjustment to college athletics. Lastly, the CMCL course is generally viewed by participants as positive and worthwhile.

Intra-CMCL Processes Foster a Sense of Brotherhood

This present study found that participants consistently referenced deepened relations, or “becoming brothers,” as a result of this course. This theme was consistently represented across all data sources (i.e., interview, final project, and exploratory questions). Thus, this finding provides strong support for the notion that the CMCL course helps to *cultivate connections* among participants. For example, in the final projects, the participants reported “opening up,” “listening to” and “learning from” others as mechanisms of action which enhanced and deepened relationships among participants. Additionally, participants indicated overcoming individual differences in “backgrounds” and “upbringings” via the aforementioned intra-course processes.

The exploratory questions data also offer support for the *cultivating connections* desired course outcome. Specifically, multiple participants cited takeaways from the course or differences in behavior related to self-expression, such as “sharing in front of people” or “express...feelings.” In conjunction with data from final projects, a reference was made to a sense of universality despite being from “different backgrounds.”

Lastly, in the interview, Participant H made references to relational benefits gained from participation in the CMCL course. H noted that participation in this course contributed to his building “friendships” and developing “bonds”. Further, he indicated with his “good relationships” teammates led to reduced difficulties during his social adjustment to college.

The finding of a developed sense of brotherhood is consistent with the pedagogical design of the CMCL course. That is, this course features a strengths-based pedagogy that implements micro-interventions to generate a sense of self-determination and acceptance within participants (Deci & Ryan, 2000). Course participants are encouraged to engage in expressive-writing, reflect aloud, and receive strengths-based feedback (Schneider, 2003), which ultimately fosters deepened sense of relatedness. In addition, participants are tasked with completing a closing activity known which features something known as the three A’s (Chinn, 2001), which aims to increase group cohesion: appreciation, affirmation, or appraisal from that day’s course. Typically, participants identified positive attributes or new learnings about others from the course, which deepens a sense of relatedness and group cohesion.

This sense of brotherhood, or deepened relational quality, may help to explain the reduced psychological strain and increased resilience scores at post-intervention. That is, it is reasonable to conjecture that an enhanced sense of cohesion or perceived support among teammates may have led to reduced externalization symptoms/behaviors, decreased perceived stress, and increased persistence and hardiness among participants. However, this sense of brotherhood did not appear to influence the sport well-being of CMCL participants, as these scores decreased at post-intervention and 3/4-month follow-

up. Instead, the decrease in sport-well-being scores may be explained by a theme derived from the interview – *relationships vary based on time of year*. Specifically, participant H noted that interactions between coaches and players become increasingly “business-focused” and decreasingly inclusive of “small talk” during the season. To this end, participants at the 3/4 follow-up administration may have endorsed lower ratings on Sport MHC-SF relationally-based items pertaining to a sense of belonging in sport and relational warmth and trust with others.

Meditation Facilitates Adjustment to College Athletics

This study also provided strong support for the CMCL’s desired outcome of *active coping*, specifically regarding the practice of meditation. Participants most frequently referenced the active coping skill of meditation across all three data sources (i.e., interview, final projects, exploratory question). The reported benefits of meditation spanned across domains of functioning, which included coping and performance. In terms of coping, within final projects, it was the most cited topic of all. Specifically, participants noted the following coping benefits associated with mindfulness: worry disintegration, relaxation, rest, and slowing down. Within the exploratory questions, three participants referenced mindfulness (or its benefits) as an observable behavioral difference following the course. In addition, six participants endorsed mindfulness as a most important skill/takeaway from the course. Within the interview, Participant H noted helping him focus on tasks relevant for academic and athletic performance as a benefit of mindfulness practice.

Regarding performance, Participant H insinuated that the practicing mindfulness benefits athletic performance. Specifically, he described the mindfulness within the sport

context as indicated by his statements of “focusing on the present” and taking “it play by play, rep by rep.” His description of these mindfulness-based mental strategies seemed to be attributed to enhanced athletic performance. In addition, he suggested that practicing mindfulness limited potential deterrents to optimal performance, such as “worrying about what has happened or what is going to happen.”

This qualitative finding regarding the importance of *mindfulness* on adjustment may help to explain the reduced psychological strain and increased resilience scores at post-intervention. That is, participants may have endorsed lessened stress perceptions and enhanced positive adaptation to adversity due to practicing mindfulness consistently.

The extant literature regarding the effects of mindfulness on athletic performance is inconsistent. A number of meta-analyses have examined the link between mindfulness and performance and found conflicting results. In Gardner and Moore’s (2012) review of a decade’s worth of mindfulness and acceptance-based interventions effectiveness on athletic performance enhancement, the authors found that the existing level of empirical support met the “probably efficacious” level as posited by the APA’s Division 12 task force criteria. Noetel and colleagues’ (2019) systematic review of mindfulness and acceptance approaches also provided initial support for the effectiveness of mindfulness and acceptance interventions on athletic performance enhancement. These authors, however, cautioned that “with limited internal validity across studies, it is difficult to make strong causal claims about the benefits these strategies offer” (p. 139). While these systematic reviews moderately supported the connection between mindfulness-based interventions and athletic performance enhancement, Buhlmayer and colleagues’ (2017) meta-analysis of mindfulness-interventions on performance-related outcomes indicated

that these interventions are helpful approaches for “precision sport disciplines such as shooting and dart throwing” and generally improve “physiological and psychological surrogates (theoretically-linked factors to performance) (p. 2310).

CMCL Course is a Generally Positive Experience for Participants

This study found that the participants generally viewed the CMCL course as a positive experience. This generally positive view was consistent across all qualitative data points (i.e., interview, final projects, exploratory questions). This finding provides initial evidence to support the feasibility of the CMCL course being taught with incoming JMU student-athletes moving forward. Participants consistently cited coping skills as a takeaway from the course, such as mindfulness, identifying and managing stress, self-expression and listening to others, and building strengths. In addition, the participants offered favorable responses regarding the interpersonal processes of the course, such as writing, sharing, and listening to others. Further, when prompted to provide their opinion of the course, twelve participants offered positive to neutral ratings spanning “very helpful” to “average,” whereas two endorsed negative ratings spanning “not helpful” to “no purpose.” However, these two participants mentioned complaints related to the organization and timing of the course.

This study extends Chandler and colleagues’ (2020) finding that the course is generally appreciated by its participants. Similarly, it supports Pierce and colleagues’ (2021) finding that a resilience-based interventions implemented with student-athletes as they transition to college is typically viewed as beneficial by its participants. Moreover, it provides further evidence that the CMCL course produces its desired outcomes related to active coping, building strengths, and cultivating connections.

Implications for Practice

This study revealed key implications for utilizing the CMCL course with incoming first-year, male-identified athletes. First, the qualitative analyses of this study demonstrated that this course deepens a sense of relatedness (i.e., “brothers”) and group cohesion among incoming first-year collegiate athletes during their transition to college. Having strong relationships, or social supports, have been positively linked to psychological resilience (Fletcher & Sarkar, 2012; Freeman & Ress, 2009), injury and recovery (Judge et al., 2012), enhanced well-being (Katagami & Tscuhiya, 2016, 2017), and superior performance (Freeman & Rees, 2008; Rees & Freeman, 2010; Sarkar & Fletcher, 2014) within the literature. These outcomes would be extremely beneficial for incoming first-year athletes as they face increased academic, social, and sport demands associated with the transition to college.

In addition to enhancing relatedness and cohesion, the CMCL course also appears to impart practical strategies to help first-year athletes cope with their transition to college. The results of the current study suggest that having increased coping strategies (i.e., mindfulness, stress management, self-expression) may contribute to reduced athlete psychological strain (e.g., more motivated, less worrying about injury or performance) and increased resilience. As a result of participating in the CMCL course, incoming first-year athletes could more effectively manage the extensive demands present related to the student-athlete grind.

Implications for Research

The results of this study provided a few implications for researchers. In future studies, researchers should continue to use purposeful sampling; however, they should

aim to recruit a greater number of participants to ensure that a quasi-experimental research design can generate significant quantitative findings if they do exist. In addition, researchers should recruit participants across gender identities and sports teams to increase the generalizability of their findings. Notably, the process of recruiting participants may be somewhat constrained by timing and availability factors associated with specific teams.

The results of this study also revealed the need for additional sport-specific measures of resilience may be warranted. While participants were not taught resilience within the sport context necessarily, they were assessed via other sport-specific measures of positive adaptation (e.g., APSQ, Sport MHC-SF). Thus, including a sport-specific measure of resilience would enhance consistency among quantitative measures used. In addition, it is likely that a sport-specific measure of resilience would more effectively capture sport-specific subjective and environmental factors that lead to overcoming adversity. Therefore, this study provides further support for previous indications that a sport-specific measure of individual resilience is needed (Galli & Gonzalez, 2015; Sarkar & Fletcher, 2013).

Similarly, researchers should attempt to create and validate an adjustment to college measures for student-athletes. This author decided to utilize the College Student Stressful Event Checklist (CSSEC; ASU, 2022) as a way to assess for adversity. College student athletes face unique social, physical, and mental stressors during the transition to college experience in comparison to their peers. These stressors include, but are not limited to, adjusting to new teammates/coaches, heightened performance pressure, extensive time demands associated with sport, and being away from campus regularly.

Developing a checklist similar to the CSSEC but adapted to include only specific stressors associated with the adjustment to college experience for student-athletes or being a student-athlete in general would increase researchers' ability to assess for athlete-specific adversity.

Based on the finding that involvement in the CMCL course appears to have deepened relational quality among participants, it is recommended that future research include a measure related to social support. According to Freeman (2021), there are multiple constructs associated with social support that can be measured, two of which are perceived and received support. Perceived support refers to the perceptions of available social support within an individual's network, whereas received support refers to the frequency of receiving support from members of one's work (Gottlieb & Bergen, 2010). Regarding the benefits between the two constructs of support, Freeman (2021) notes that "perceived support is more strongly and consistently related to outcomes than received support" (p. 253). Thus, it is recommended that future research includes the Perceived Available Support in Sport Questionnaire (PASS-Q: Freeman, Coffee & Rees, 2011) as an additional protective factor measure.

Limitations

The current study has a number of limitations that should be considered when applying the implications for practice and research. First, this study lacked a control group, and the experimental group was insufficient in size (e.g., $n = 5$ for ANOVAs; $n = 15$ for ANCOVAs) to allow for adequate hypothesis testing to take place. As a result, the study's design did not allow for comparisons to be made regarding the effect of the CMCL course nor was their sufficient power to demonstrate significant results. Future

research should look to use a variety of a recruitment tactics in order to ensure consistent control group participation and a larger sample size. Such interventions tactics could include monetary compensation or other incentives for agreeing to participate in the study. Overall, a larger sample is needed to adequately run the necessary statistical analyses to test the study's hypotheses to determine if significant differences exist.

Second, this study used relatively new sport-specific measures as a means of assessing for sport well-being, psychological strain, and adversity experienced. Future research should aim to validate these measures (i.e., APSQ, Sport-MHC-SF, OSI-SP) to ensure that their psychometric properties are intact. In addition, future research should seek to implement these measures with a wide range of common sport issues faced by athletes (i.e., adjustment to college, burnout/motivation, performance anxiety, etc.).

Third, this investigator was the only person involved in the qualitative coding process due to timing constraints. Although the investigator kept a reflexive journal and an audit trail, future research should aim to take additional steps to ensure “trustworthiness” (Lincoln & Gruba, 1985). For example, one method involves the inclusion of additional research assistants who serve the role as a “critical friend” (Kember et al., 1997). These critical friends would have specifically followed the audit trail to confirm that themes derived by this author closely matched the participants' actual words and intended meanings. An alternative method to ensure trustworthiness would be “member checking” the results of the study afterwards (Lincoln & Guba, 1985).

Lastly, the experimental group was homogenously represented by sport. That is, only football players participated in the CMCL intervention. Future studies should aim to

implement the intervention with a variety of sports and gender identities to increase the generalizability of the effect size of the intervention.

Conclusion

The CMCL course generated a deepened sense of relational quality, or brotherhood, within its participants. This deepened relationship among participants can be traced back to the processes of expressive writing, reflecting, and witnessing from a strengths-based perspective. In addition, the CMCL course boosted participants' active coping skills, such as mindfulness, stress management, and self-expression. However, this study found no significant effects of course participation on resilience, psychological strain nor sport well-being scores while accounting for adversity. Future studies should seek to implement the CMCL course with a greater number of participants with diverse gender identities represented to increase the likelihood of statistically significant results and generalizability. Also, it is recommended that future research with the CMCL course includes a sport-specific measure of perceived support (PASS-Q: Freeman et al., 2011), as well as sport-based measures of resilience and college adjustment if developed by then.

Appendix A

Connor-Davidson Resilience Scale-10 (CD-RISC 10)

Please indicate how much you agree with the following statements as they apply to you over the last month. If a particular situation has not occurred recently, answer according to how you think you would have felt.

	not true at all (0)	rarely true (1)	sometimes true (2)	often true (3)	true nearly all the time (4)
1. I am able to adapt when changes occur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I can deal with whatever comes my way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I try to see the humorous side of things when I am faced with problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Having to cope with stress can make me stronger.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I tend to bounce back after illness, injury, or other hardships.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I believe I can achieve my goals, even if there are obstacles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Under pressure, I stay focused and think clearly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I am not easily discouraged by failure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I think of myself as a strong person when dealing with life's challenges and difficulties.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I am able to handle unpleasant or painful feelings like sadness, fear, and anger.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix B

Athlete Psychological Strain Questionnaire (APSQ)

Directions: Below are a set of statements that are used to describe distress that athletes may experience. Please reach statement carefully and then circle the number that most applies to your experience within the last four weeks.

Statement	None of the time	A little of the time	Some of the time	Most of the time	All of the time
1. It was difficult to be around teammates	1	2	3	4	5
2. I found it difficult to do what I needed to do	1	2	3	4	5
3. I was less motivated	1	2	3	4	5
4. I was irritable, angry, or aggressive	1	2	3	4	5
5. I could not stop worrying about my performance	1	2	3	4	5
6. I found training more stressful	1	2	3	4	5
7. I found it hard to cope with selection pressures	1	2	3	4	5
8. I worried about life after sport	1	2	3	4	5
9. I needed alcohol or other substances to relax	1	2	3	4	5
10. I took unusual risks off-field	1	2	3	4	5

Appendix C

Sport Mental Health Continuum – Short Form (Sport MHC-SF)

During the past month, how often did your sport participation make you feel...	NEVER	ONCE OR TWICE	ABOUT ONCE A WEEK	ABOUT 2 OR 3 TIMES A WEEK	ALMOST EVERY DAY	EVERY DAY
1. happy	0	1	2	3	4	5
2. interested in your sport	0	1	2	3	4	5
3. satisfied	0	1	2	3	4	5
4. that you had something to contribute to your team or sport community	0	1	2	3	4	5
5. that you belonged to your team or sport community	0	1	2	3	4	5
6. that your team or sport community is a good place for all participants	0	1	2	3	4	5
7. that people in your sport are basically good	0	1	2	3	4	5
8. that the way your sport is organized makes sense to you	0	1	2	3	4	5
9. that you liked most parts of your athletic personality	0	1	2	3	4	5
10. good at managing the daily responsibilities of your sport	0	1	2	3	4	5
11. that you had warm and trusting relationships with others in your sport	0	1	2	3	4	5
12. that you had sport experiences that challenged you to grow and become a better person	0	1	2	3	4	5
13. confident to think or express your own ideas and opinions to people in your sport	0	1	2	3	4	5
14. that you have a sense of direction or meaning within your sport	0	1	2	3	4	5

Appendix D

Organizational Stress Indicator for Sport Performers (OSI-SP)

Each of the following questions describes pressures that you may have experienced as part of your participation in competitive sport in the past month. Pressure is:

Those events, situations, or conditions that place a demand on you

For each question, place a tick in each of the three columns to indicate:

- how often this pressure placed a demand on you ("Frequency" column),
- how demanding this pressure was for you ("Intensity" column), and
- how long this pressure placed a demand on you for ("Duration" column)

In the past month, I have experienced pressure associated with...		FREQUENCY					
		How often did this pressure place a demand on you?					
		Never	Rarely	Sometimes	Often	Very often	Always
		0	1	2	3	4	5
1	...the responsibilities that I have on my team						
2	...the relationship between my coach and I						
3	...the regulations in my sport						
4	...my coach's personality						
5	...the accommodation used for training or competitions						
6	...the training or competition venue						

In the past month, I have experienced pressure associated with...		FREQUENCY					
		How often did this pressure place a demand on you?					
		Never	Rarely	Sometimes	Often	Very often	Always
		0	1	2	3	4	5
7	...the organization that governs and controls my sport						
8	...the atmosphere surrounding my team						
9	...how my team is selected						
10	...my teammates' attitudes						
11	...the spectators that watch me perform						
12	...the food that I eat						
13	...the shared beliefs of my teammates						
14	...what gets said or written about me in the media						
15	...selection of my team for competition						

In the past month, I have experienced pressure associated with...		FREQUENCY					
		How often did this pressure place a demand on you?					
		Never	Rarely	Sometimes	Often	Very often	Always
		0	1	2	3	4	5
16	...my training schedule						
17	...the organization of the competitions that I perform in						
18	...injuries						
19	...the funding allocations in my sport						
20	...the development of my sporting career						
21	...the technology used in my sport						
22	...travelling to or from training or competitions						
23	...my goals						

Appendix E

College Student's Stressful Event Checklist (CSSEC)

On the following page you will find a checklist that will help you determine if there is undue stress in your life. In this checklist, each item signifies a life event that requires an individual to make a readjustment or a change in his or her life.

Instructions: Place an “X” in the column labeled Happened for those events that have occurred in your life recently or that you expect to occur soon. Total your score by adding the event values, and circle that category below in which your score falls. Please go to the next page to complete the stressful event checklist.

Rank:	Value:	Happened:	Score:	Life Event:
1	100			Death of a close family member
2	73			Death of a close friend
3	65			Divorce between parents
4	63			Serious legal problems
5	63			Major personal injury or illness
6	58			Responsibilities for others, such as children/spouse
7	50			Threat to major source of income
8	47			Difficulty with roommate(s)
9	45			Change in health of a family member
10	45			Pregnancy
11	44			Sexual problems
12	40			Serious disagreements with parents
13	39			Change in lifestyle for financial reasons
14	39			Difficulty in identifying a major
15	39			Serious argument with close family member
16	39			Problems with a girlfriend or boyfriend
17	37			Having to repeat a course
18	37			Increased workload at school
19	36			Outstanding personal achievement
20	35			First semester in college
21	31			Change in living conditions
22	30			Serious disagreements with an instructor
23	29			Lower grades than expected
24	29			Change in sleeping habits
25	29			Change in social habits
26	28			Change in eating habits
27	26			Chronic car problems
28	26			Change in number of family get togethers
29	25			Too many missed classes
30	24			Change in plans for a major
31	23			Dropped more than one class
32	20			Minor traffic violations

Total Score :

Appendix F
Exploratory Questions

Post-Intervention

1. After having completed the resilience course, what differences might I observe in how you behave and/or treat yourself?
2. What is your opinion of the course you completed?
3. How do you feel about the way the course was conducted?
4. What are two most important bits of information or skills that you are taking away from the course?

Appendix G
Semi-Structured Interview

1. Tell me about a time when you applied a piece of knowledge or a skill you learned from the resilience course to help you deal with a recent adversity or stressor.
2. Some say that the transition to college as student-athlete is very difficult academically, athletically, and/or personally. Briefly describe what this transition has been like for you.
3. What personal strengths have allowed you to persist through any tough times that you have experienced so far?
4. How do you feel about your overall experience as a JMU football player?
5. If I followed you through a typical day of interacting with your coaches and teammates, what might I observe?
6. What are your thoughts regarding the statement, “the JMU football community is a good place for all participants?”
7. In what ways has your experience as a football player at JMU challenged you to grow and become a better person?
8. Tell me about a time in which you felt a sense of purpose as a student-athlete at JMU.
9. Tell me about a recent time when you were stressed or concerned about your sport performance.
10. If I were to ask you about a recent experience in which you had difficulties with your mood or motivation, which time would it be?
11. What is your opinion about the methods used to determine who plays?
12. How do you feel about your relationship with your coach(es)?

13. Some might say that the transition to FBS play has been easy for the team, while others might say that the transition has been difficult... Talk about the atmosphere on the team during this unique time.

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