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Development of the Life After Sports Transition (LAST) Online Course for Collegiate Student-Athletes: Pretest-Posttest Study

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Abstract

Transitioning into athletic retirement can have negative impacts on college student-athletes' well-being, yet few educational programs exist to help augment college student-athlete preparation for embracing life after sports. The objective of this study was to develop and evaluate a new Life After Sports Transition (LAST) online course for college student-athletes. A single group pretest-post-test study evaluated effects of the LAST course among a convenience sample of college student-athletes attending a NCAA Division I university. Paired sample t-tests examined changes in athletic identity, psychological well-being, hope, and self-reflection/insight. Findings showed a decrease in athletic identity scores from pretest to posttest, which approached statistical significance ($P = .06$). However, contrary to our hypotheses, participants also reported lower scores on self-reflection/insight ($P = .004$, Hedges $g = 1.65$) at post-test. Despite these counter intuitive findings, participants rated the LAST course highly on most distance education quality dimensions. While student-athlete participation in the LAST course was associated with a decline in athletic identity, findings suggest that future life after sport transition programs focus more on introspective mediators of lifestyle change (i.e., self-reflection) to foster more positive life transitions for college student-athletes.

Keywords: *athletic retirement, college student-athlete, distance learning, health coaching, life coaching*

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Since it is highly unlikely that most collegiate student-athletes will advance to professional levels in their sport (i.e., 0.9-9.5% chance across all sports), many have little to no control over their "athletic retirement" once their college athletic careers come to an end (National Collegiate Athletic Association [NCAA], 2017). For many student-athletes, graduating from college means leaving behind competitive sports they have participated in for the better part of their lives. These student-athletes initially may experience shock and other emotions such as grief and anger that can adversely impact their transition from college life to post-graduate life (Moreland-Bishop, 2009; Stokowski, Paule-Koba, & Kaunert, 2019). Failure to cope with the transition to life after sports can lead to stress, uncertainty, or other identity crises that often are followed by negative long-term consequences such as neuroses, alcohol/drug abuse, and other chronic health risks (Lally, 2007; Stambulova,

Alfermann, Statler, & Côté, 2009).

Some Division I athletes are hesitant to seek out help when preparing for their lives after sports for fear coaches and teammates will perceive this request as withdrawing from their athletic responsibilities (Murdock, Strear, Jenkins-Guarnieri, & Henderson, 2014). Many college student-athletes believe if they begin to focus on their future careers prior to college graduation they will be perceived as being unfocused athletes (Linnemeyer & Brown, 2010). This reluctance is regrettable as student-athletes who do not focus on career planning until later on in their athletic careers can find themselves less prepared to enter the real world (Poux & Fry, 2015). Because college student-athletes have such high demands placed on their time during their athletic careers, they often lose crucial opportunities to explore career building, which places them at a marked disadvantage compared to their non-athlete collegiate peers who are able to

gain career-related knowledge and gradually build up their professional profiles (Bjornsen & Dinkel, 2017; Tyrance, Harris, & Post, 2013). Thus, researchers and practitioners are tasked with addressing the stressors that detrimentally impact graduating college student-athletes, including coming to terms with their athletic identities, preparing for a future career, locating resources that support successful transitions, and accessing personalized programs that address the unique health needs of this increasingly at-risk student population.

As summarized by Stout (2018), student-athletes who engage in career planning are able to redefine themselves and cope better with the loss of their athletic identities. Conversely, student-athletes who resist the transition due to possible negative reactions from coaches or fellow student-athletes are less prepared to succeed following their athletic retirement (Linnemeyer & Brown, 2010; Murdock et al., 2014). Student-athletes must be convinced of why they need to change their lifestyles as they transition away from being a college athlete. They also must have an adequate understanding of how to achieve their life goals off the field. At this important turning point in their lives, this unique group of young people should be prompted to consider life changes, explore new challenges, and embrace the opportunity to make career-related decisions. Allowing students to reflect on their lives, considering what is already working for them, and building on existing strengths more adequately prepares the student-athletes for life after school (Cavanagh, Grant, & Kemp, 2005). Skills and strengths student-athletes acquire through sport participation, such as time management, teamwork, and leadership, are transferrable to the real world (Bjornsen & Dinkel, 2017). Since web-based educational programs can significantly improve outcomes for student-athlete populations, the objective of this study was to design and evaluate a new online life coaching course to evaluate the extent to which such a course could improve sport-to-life transitions of student-athletes (Van Raalte, Cornelius, Andrews, Diehl, & Brewer, 2015).

Athletic Identity

The majority of college student-athletes strug-

gle with loss of their *athletic identity* (Leonard & Schimmel, 2016). Athletic identity is defined as the degree to which they identify with their athletic role and look to others for acknowledgement of that role (Brewer, Van Raalte, & Linder, 1993). Understanding athletic identity and how it influences student-athletes' nuanced experiences inside and outside of the intercollegiate setting is critical to improving their experiences transitioning out of sport (Brewer et al., 1993; Huang, Chou, & Hung, 2016; Moiseichik, Stokowski, Hinsey, & Turk, 2019; Poux & Fry, 2015; Stokowski, Paule-Koba, et al., 2019). Retiring student-athletes with high athletic identities experience more severe psychosocial difficulties compared to student-athletes with less exclusive athletic identities and need additional support to make more mature (i.e., confident, reasonable, and responsible) career-related decisions (Brewer et al., 1993; Houle & Kluck, 2015). However, student-athletes with high athletic identity may not be willing to address their transition away from college athletics (Huang et al., 2016). Further preserving student-athletes' commitment to their athletic identity is their social support network, typically comprised of teammates (both current and former), who might inhibit their ability to seek out, ponder, and experience other non-sport identities (Stokowski, Paule-Koba, et al., 2019). This interpersonal factor can be particularly detrimental when the student-athlete's athletic identity intersects with their racial identity (Bimper, Harrison, & Clark, 2012; Fuller, Harrison, & Bukstein, 2017; Singer, 2008).

Collegiate athletes tend to maintain a strong athletic identity following athletic retirement and thus are highly susceptible to facing difficulties transitioning from life during sports to life after sports (Lavallee, Gordon, & Grove, 1997). Having a strong athletic identity is negatively associated with pre-retirement career planning and positively associated with zeteophobia (i.e., anxiety associated with post-athletic career exploration/decision making) (Grove, Lavallee, & Gordon, 1997). Consequently, college athletes with strong athletic identities often are ill-prepared for vocational tasks and thus encounter more negative transition experiences (Poux & Fry, 2015). Moreover, student-athletes who cling to their role as an athlete have difficulty coming to terms with who they are and cannot articulate what they want to do with their

lives after sports; thus, they are left feeling lost and helpless following the end of their collegiate competitive sport careers (Lally, 2007; Lavalley & Robinson, 2007; Reifsteck, Gill, & Labban, 2016).

However, self-reporting interventions, such as the social psychological practices of account-making and confiding, counteract the stress and negative emotional toll experienced by transitioning and former student-athletes (Lavalley, Gordon, & Grove, 1997). Furthermore, student-athletes adjust more positively when they capitalize on time dedicated to the planning of career, psychological, personal/social, and financial aspects of their post-collegiate sport career, resulting in better processing and managing of their shift (i.e., loss/reduction) in athletic identity (Park, Lavalley, & Tod, 2013). Such cognitive exercises may work toward discriminating between identities (e.g., athletics vs. academic), affording student-athletes the time and mental energy necessary to successfully navigate the pressures and responsibilities associated with each identity (Settles, Sellers, & Damas Jr, 2002). However, compartmentalizing identities can be difficult for student-athletes who strongly identify with their athletic roles given that they can feel distracted or held back by academic responsibilities; such cognitive dissonance between identities tends to leave student-athletes feeling stressed, resulting in negative impacts on their wellbeing (Lu, Heinze, & Soderstrom, 2018). Thus, it is important for student-athletes to be made aware of, reflect on, and acquiesce attachments to their reduced athlete identity so as to better embrace their academic identity in preparation for their transition out of sport. Given the difficulties student-athletes with strong athletic identities face and the potential hindrances their lack of acknowledgement creates, it is critical that athletic departments and advisors provide programs and other resources on pre-retirement planning to student-athletes prior to their impending transitions from college sport participation (Stokowski, Paule-Koba, et al., 2019). A scalable online intervention tailored for the transition-related needs of these student-athletes can

help lower athletic identity, which is important as it generally leads to better outcomes such as a greater sense of well-being, hope, and self-reflection.

Existing Resources to Support College Student-Athlete Transitions

One of the few programs available to help college student-athletes successfully transition into athletic retirement is the *NCAA Life Skills Program*, which educates student-athletes on how to balance academic achievement, athletic success, and personal well-being (NCAA, 2017). The *NCAA Life Skills Program* is a collaboration between the NCAA national office and 1,200 NCAA-member institutions that endow student-athletes with useful life skills for their college experience as well as life after graduation (NCAA, n.d.). Administration of the *Life Skills Program* is overseen by the NCAA education services staff who provide support, services, and programs to participating NCAA institutions (NCAA, 2008). Throughout the program, collegiate athletes are provided with educational materials and supplemental resources to promote their development in five discrete areas: (1) academics, (2) athletics, (3) personal development, (4) career development, and (5) community service (NCAA, 2008). Wisdom (2006) and Murdock (2010) found the *Life Skills Program* adequately meets the developmental and psychological needs of student-athletes through implementing effective instructional strategies and resources.

While the *Life Skills Program* has been shown to benefit student-athletes who are able to participate, other available programs report variable success. Murdock and colleagues (2014) conducted a program evaluation of a group-administered career development program at a U.S. university focused on preparing NCAA Division I student-athletes for their career transitions after graduation. The program consisted of athletics department and career services personnel delivering voluntary, one-hour in-person presentations on financial security, graduate school selection, searching for jobs, etc. Findings from the program evaluation showed male student-athletes reported greater needs for career planning resources and support than did their female counterparts. However, student-athletes did not find the program to be useful,

in part, due to their lack of interest in occupational education that would help them prepare for their transition from sports to a career (Murdock et al., 2014).

However, other studies document that student-athletes can benefit from health education at the end of their collegiate careers. Reifsteck and colleagues (2018) conducted an impact evaluation of the *Moving On!* transition program for NCAA student-athletes in the final year of athletic eligibility ($n = 20$). *Moving On!* addressed the physical activity needs of graduating student-athletes using novel in-person self-reflection activities where student-athletes were asked to consider their weight management habits within the context of their shifting identities. To support positive connections with their peers, participants were encouraged to exchange healthy recipe ideas and brainstorm strategies for overcoming potential barriers to healthy eating once they transitioned out of sports (Shriver, Reifsteck, & Brooks, 2019). Moderate and significant increases in healthy eater identities were observed in participants, and there also was a large increase in their nutrition self-efficacy. However, self-determined motivation for healthy eating did not increase significantly, and no significant changes were observed for exercise identity, physical activity self-efficacy, or autonomous motivation for exercise (Reifsteck, Brooks, Newton, & Shriver, 2018).

With regard to professional preparation, college student-athletes tend to listen to others when choosing a career path rather than exploring career interests themselves (Linnemeyer & Brown, 2010). Enriching professional development experiences for student-athletes enhance self-efficacy to overcome perceived barriers associated with career exploration (Huang et al., 2016). Thus, it is recommended that collegiate athletic programs invest in creating supportive cultures that nurture career selection, planning, and personal development beyond sport (Poux & Fry, 2015). Systematic approaches to life preparation outside of sports are important for helping college student-athlete populations plan for their careers. However, Stout (2018) explains, “among NCAA institutions, there are few programs that truly help student-athletes adapt during the transition period and life after collegiate athletics” (p. 31). This

fundamental gap in training is surprising, especially since athletes are “conditioned” to be coachable and are accustomed to establishing and achieving their own life goals.

Roles of Life and Health Coaching

Life coaching has been defined as supporting individuals to enhance personal growth as opposed to fixing personal problems. In general, life coaching takes a holistic approach whereby the client spends time examining and evaluating their life, and then systematically makes life-enhancing changes based on this self-reflection (Grant & Greene, 2002). Professional life coaching is an evolving cross-disciplinary occupation that works to enhance well-being, improve performance, and facilitate individual change (Sackett, Haynes, Gray, Rosenberg, & Richardson, 1996). A meta-analysis showed life coaching interventions have significant positive effects on work-related performance and skills, well-being, attitudes toward work, and goal-directed self-regulation, yet the effects of different coaching interventions vary considerably (Theeboom, Beersma, & Van Vianen, 2014). Grant (2003) and Grant, Curtayne, and Burton (2009) showed participation in life coaching is associated with positive individual change, better goal attainment, and enhanced quality of life. One integral aspect of both health and life coaching are that goals are personally defined by the learner. Goals set by individuals, rather than others, are more likely to result in firm commitments toward positive change (Locke, 1966).

Life development interventions are useful to help athletes transition away from their sports careers, particularly interventions including support strategies and personal assessments (Lavalley, 2005). These elements have been shown to help student-athletes tap into their internal resources to aid in their adaptation to life after sports (Stokowski, Paule-Koba, et al., 2019). Barton (2011) found the development of life skills is positively influenced by not only one’s experiences within sports but also during time set aside to reflect on sport-related experiences. Thus, having someone (e.g., life coach) in whom student-athletes can confide allows them to better process their transitions out of sports and manage the potential subse-

quent stress likely to follow the end of their careers as athletes (Lavalley et al., 1997). The processes behind life and health coaching should seek to strike the right balance between facilitating the process of client/student self-discovery and content or information delivery about goal setting. Coaching, which includes guidance from relatable role models, may be especially effective for promoting goal attainment, especially in college student-athlete populations (Green, 2010; Spence & Grant, 2007). To facilitate sustained change, continual self-directed learning usually is necessary for the coached to experience personal growth (Grant, 2003). Moreover, coachees are guided to explore issues, set goals, and develop action plans to better reach their goals (Cavanagh et al., 2005). Coaching strategies for athletes include planning for their careers post athletic retirement and determining how to develop and utilize sport-related skills to live more healthy lifestyles (Spence & Grant, 2007; Stambulova et al., 2009).

Life and Health Coaching for Retiring Student-Athletes

To facilitate successful transitions, colleges and universities are encouraged to offer multifaceted career and life planning services to prepare student-athletes for life after college sports. The transition experience requires student-athletes to go through an academic and career planning process that integrates their past, present, and future to form comprehensive life and health strategies (Stambulova, 2010; Stout, 2018). For example, Brooks and colleagues (2019) found student-athletes who participated in the *Moving On!* lifetime physical activity transition program viewed the program positively, primarily due to raised levels of consciousness about their athletic identity and its relationship to physical activity. Within the *Moving On!* program, senior-level college student-athletes benefitted from hands-on physical activity experiences, a program workbook, and goal-setting strategies for integrating exercise into their future lives. The program was grounded in identity theory and self-determination theory, which represent two theoretical paradigms especially useful for health promotion programs targeted toward transitioning college student-athletes.

Future research is needed to provide more evidence that life and health coaching can make a positive difference in college student-athletes' transition to life after athletics. However, only a handful of studies have investigated the impact of life and health coaching on self-regulated behavior and well-being in college student-athletes (Reifsteck et al., 2018; Shriver et al., 2019; Spence & Grant, 2007). Accordingly, it is important that educational programs leverage the qualities athletes acquire through the demands of their sports career. Web-based educational programming can affect outcomes for student-athletes across geographic regions and resource availability levels (Van Raalte et al., 2015). Utilizing theoretical tenets of the Cognitive-Behavioral, Solution-Focused Coaching (CB-SFC) (Grant, 2003), we developed goal-directed distance learning modules that explained educational topics relevant to the student-athlete transition from college sports to a fulfilling professional career. This framework purports attainment of one's goals is best facilitated by understanding how one's behavior both influences and is influenced by personal factors (e.g., cognitions, emotions, physical ailments) and the social environment (e.g., physical surroundings, family, friends, peers, social networks) (Bandura, 1978). Inclusion of solution-focused techniques helped orientate student-athletes toward personal strengths, as opposed to problem analysis. The CB-SFC serves as the basis for the Integrated Developmental Coaching Framework (Cavanaugh et al., 2005), which draws on students' past experiences and learning to inform their understanding of their present situation and to plan future development strategies.

Therefore, the objective of this study was to design and evaluate a new online life coaching course entitled, the Life After Sports Transition (LAST) online course. Based on the body of literature related to the effects of life coaching and athletic identity (Brooks, Reifsteck, Powell, & Gill, 2019), psychological well-being (Sackett et al., 1996; Theeboom et al., 2014), hope (Snyder et al., 1991), and self-reflection and insight (Grant & Greene, 2002), the following two hypotheses were tested in this pre-experimental study:

Hypothesis #1: College student-athletes will report significantly lower athletic identity after

completing the LAST course.

Hypothesis #2a: College student-athletes will demonstrate a significantly higher psychological well-being after completing the LAST course.

Hypothesis #2b: College student-athletes will demonstrate significantly greater hope after completing the LAST course.

Hypothesis #2c: College student-athletes will demonstrate significantly higher psychological self-reflection/insight after completing the LAST course.

Methodology

Research Design

A single group pretest-posttest design was used to test the impact of the LAST content modules developed in the Blackboard online course management system. This pre-experimental design allowed for the preliminary assessment of any immediate changes in athletic identity, well-being, hope, and self-reflection/insight among college student-athletes.

LAST Instructional Design

Key aspects of introspective exploration within the Integrated Development Coaching Framework were used to facilitate the student-athlete's understanding of the most effective developmental options for maximizing their personal success. Life coaching, which adopts the core principles of CB-SFC as described in the Integrated Developmental Coaching Framework, focuses on the following elements: (1) developing a future vision, (2) identifying desired outcomes, (3) establishing specific personal goals, (4) identifying personal strengths and available resources for building self-confidence, (5) formulating action plans, and (6) monitoring and evaluating progress while executing plans (Spence & Grant, 2007). These six elements theoretically help learners constitute a closed-loop "cycle" of self-regulated behavior (Bandura, 1978). Accordingly, we designed the LAST course to be offered as either a 1-credit hour academic course or as a free online continuing education opportunity that could be taken by graduating college student-athletes or alumni.

Seven content modules were developed in the Blackboard online course management system to educate college student-athletes on relevant life and health coaching topics (Table 1). Student access to Blackboard provided comprehensive safeguards for all student data. Each module aligned with the CB-SFC elements and related athlete development literacies (e.g., transition, career, mental and emotional health, professionalism, and character) important to life coaching targeted at college student-athletes seeking success in life after sports (Livengood, Hilliard, Martin, Darwin, & Sagas, 2015). Within each module, we included web-based educational resources, online lectures, and course assignments/assessments. The LAST course website on Blackboard included: (a) student learning objectives (SLOs), video lectures, links to available online resources; (b) forums for creating and managing student discussions and content sharing.

Table 1*Curriculum Outline for LAST Course*

Module Number	Module Title	Selected Assignments & Activities	Athlete Development Literacies
1	Course Introduction	<ul style="list-style-type: none"> Student-athletes view an introduction to the LAST course and begin to think about, “What’s Life Like After Athletics?” 	<ul style="list-style-type: none"> ➤ N/A
2	Developing a Future Vision	<ul style="list-style-type: none"> Student-athlete posts a brief autobiography Student-athlete completes online <i>Strong Interest Inventory</i> (Donnay & Borgen, 1996) Develop a new vision for life and moving away from college sports. 	<ul style="list-style-type: none"> ➤ Transition ➤ Character
3	Identifying Desired Life Outcomes	<ul style="list-style-type: none"> Student-athlete explains reasons to selecting major Identify desired life outcomes, goals, Build a LinkedIn profile and learn how to search for jobs through Glassdoor and Indeed 	<ul style="list-style-type: none"> ➤ Career ➤ Personal Branding
4	How to Establish SMART Goals	<ul style="list-style-type: none"> Student-athlete completes tutorials on how to develop SMART personal goals Student-athlete develops a personal road map of clearly defined, achievable life/career goals and objectives for the next 1-2 year period Improve time management skills 	<ul style="list-style-type: none"> ➤ Periodization
5	Mental Health Management	<ul style="list-style-type: none"> Student-athlete introduced to time and mental health/emotional management behavior(s) Student-athlete introduced to evidence-based web-based resources for managing stress, anxiety, and depression 	<ul style="list-style-type: none"> ➤ Mental Health ➤ Emotional Awareness & Control
6	Physical Well-Being After Your Athletic Career	<ul style="list-style-type: none"> Tutorial on what physical changes to expect following a Division 1 athletic career Tips on weight management strategies and how to overcome temptations to live an unhealthy lifestyle 	<ul style="list-style-type: none"> ➤ Fitness ➤ Nutrition
7	Formulating Personal Action Plans	<ul style="list-style-type: none"> Student-athlete becomes cognizant of factors that could impede a successful life transition and establishes mechanisms that ward off impediments to success Student-athlete learns strategies for monitoring progress Student-athlete develops a brief personal action plan for life after sports 	<ul style="list-style-type: none"> ➤ Professionalism ➤ Character

Note: Athlete development literacies adopted from the work of Livengood et al., 2015.

In addition, each module included short ≤5-minute voice-over PowerPoint presentation videos to accompany the content. Other instructional materials included brief excerpts of recorded interviews with former college student-athletes from the institution who had transitioned into their careers post-graduation. Prior to development of the LAST course, our research team conducted one-on-one, semi-structured, exploratory interviews with a convenience sample of former college student-athletes to gain insight on: 1) factors that affected their wellness during their transition from college sports; 2) available resources they accessed during the transition; 3) unhealthy experiences that hindered their well-being; and 4) health-related adjustments that helped facilitate positive life transitions beyond intercollegiate athletics (Bopp et al., under review). Findings from these interviews revealed student-athletes should be able to come to terms with their athletic identity, access interpersonal support, engage in mental and physical health management, and understand the importance of the graduate school and internship experience prior to entering the workforce. Using the audio- and video-recorded interview content, we uploaded approximately one-minute excerpts (i.e., “motivational minutes”) that described strategies these former college student-athletes used to make a successful career transition from college athletics post-graduation. One interview excerpt was uploaded into each of the seven online course modules.

Course assignments included module quizzes, discussion board posts, and VoiceThread personal journal reflection entries. VoiceThread is an asynchronous, collaborative, multimedia learning tool in Blackboard that holds images, documents, and videos, and allows students to navigate slides and leave comments via text, voice, audio file, or webcam (Brunvand & Byrd, 2011; Parise, 2015). The required textbook for the course entitled, *The Athlete After: A 10-Week Guide to Balancing Life After Sports* (Hargrave, 2016), explained how to adjust to the

transition out of sports through food, body, and mind. Topics covered in the textbook included how to eat right, exercise safely, channel strengths as an athlete into one’s career, and how to create a personalized transition plan for the 10-week period immediately following athletic retirement. Each course module included an online discussion forum for students to express their thoughts, feelings, and experiences collaboratively by using critical thinking to answer prompts related module content. Course assignments included in each module encouraged students to reflect on and work toward the module SLOs. Supplementary educational resources were provided for students to access and reference on life and health coaching topics of interest.

Participants

In the summer of 2018, the principal investigator requested a complete list of student-athletes ($n = 463$) in at least their sophomore year from the university registrar. From this list, a convenience sample of 182 students with a university email address listed were sent an invitation to pilot test online LAST course materials over the summer semester of 2019. The initial contact email contained a brief description of the study and explained how completing the study could help fellow student-athletes, along with an electronic informed consent form. The invitation email also emphasized the athletic department (including staff and representatives) would not have access to individual survey responses during the pilot study, nor would the athletic department be provided with individual sport information concerning scores and status related to study participation. Potential student-athlete participants also were assured their decision to participate or not would not affect their future relationship with their university or their university’s athletic department. Interested participants also were afforded the opportunity to respond to the email for more information about study participation. Prior to data collection, the study was approved by the university’s institutional review board (IRB).

Participants were asked to review the electronic informed consent document and indicate they

agreed to participate in the study as described prior to completing the pretest survey measures. Each study invitation email sent was followed by up to two reminder emails (Dillman et al., 2009). To participate, a student-athlete was required to be in at least their sophomore year of college, which is around the time when student-athletes are encouraged to begin to think about their futures after college sports (Burton, Hirshman, O'Reilly, Dolich, & Lawrence, 2018). All student-athletes were required to meet the following inclusion criteria: 1) enrolled as a student with access to university course management technology; 2) able to speak English; 3) provide informed consent; and 4) at least 18 years of age. A total of 17 student-athletes agreed to pilot test the LAST course materials. Of those who agreed to participate, 14 successfully completed the pretest survey, which approximated the number of students typically enrolled in online summer courses at the university where the study took place.

Data Collection

Upon completion of pre-course questionnaires, participants were invited to access the LAST course shell developed using Blackboard. Prior to accessing the LAST course, participants were directed to complete an electronic informed consent document and pretest survey administered using Qualtrics online survey technology. Use of Qualtrics allowed student-athletes to complete instruments remotely via their personal electronic devices (i.e., computer, laptop, tablet, smartphone). After providing informed consent and completing pretest study measures, participants were informed they had between 4 to 6 weeks during the summer semester to complete the seven online LAST course modules. Participants were provided a draft of the LAST course syllabus, which outlined a detailed course calendar. During the pilot testing period, each participant received regular prompts from the lead investigator to view/complete all course readings, lectures, activities, and assignments as indicated on the LAST course calendar. Immediately following completion of the course, participants were

asked to complete a posttest Qualtrics survey.

Measures

At pretest, each student-athlete was asked to provide demographic data on age, gender, race, ethnicity, cumulative GPA range, years of remaining athletic eligibility, sport, and major. At both pretest and posttest, participants were asked to complete several study-related measures.

Athletic identity was measured using the 10-item Athlete Identity Measurement Scale (AIMS) (Brewer et al., 1993), which measured three dimensions: social identity (i.e., the degree of identification with the athletic role); reliance on athletic identity relative to other identities (i.e., exclusivity); and the degree to which the athlete would experience negative emotions when performing poorly or not participating in their sport (i.e., negative affectivity). Responses were measured on a 7-point Likert scale ranging from 1 (Strongly disagree) to 7 (Strongly agree). Total AIMS scores ranged from 10 to 70, with higher scores indicative of a stronger athletic role identification. Data collected using the AIMS scale showed satisfactory internal consistency (Cronbach's $\alpha = 0.75$) in this study.

Psychological well-being was measured using a validated 18-item scale (Ryff & Keyes, 1995; Ryff & Singer, 2006) that measured autonomy, environmental mastery, positive relationships with others, purpose in life, personal growth, and self-acceptance. Items within each subscale were summed, yielding a range from 18 to 108. Higher scores on subscales mean higher levels of psychological well-being. Adequate internal consistency, test-retest reliability (over a 6-week period), and construct validity of data collected using this scale has been reported elsewhere (Ryff & Singer, 2006). In this study, data collected using the 18-item psychological well-being scale demonstrated good internal consistency (Cronbach's $\alpha = 0.81$).

Hope was measured using the 12-item hope

trait scale (Snyder et al., 1991), which measured two dimensions of hope: agency (i.e., belief in one's ability to initiate and maintain movement toward goals) and pathway (i.e., ability to conceptualize routes to a goal). Total hope scores were calculated by summing the agency and pathway items. Total hope trait scores have demonstrated adequate internal consistency in prior studies (0.74 to 0.84) and evidence of construct validity (Snyder et al., 1991). Data collected using the hope trait scale in this study showed strong internal consistency (Cronbach's $\alpha = 0.88$).

Self-reflection/insight was measured using the 20-item self-reflection and insight scale (Grant, Franklin, & Langford, 2002; Roberts & Stark, 2008), which comprised two subscales: self-reflection and insight. The scale assessed individuals' propensity to reflect on, and their level of insight into, their own thoughts, feelings, and behavior. Items were answered with a 6-point scale (1=strongly disagree to 6=strongly agree). Total scores were calculated by summing together the self-reflection and insight items. Data collected using the total self-reflection and insight scale demonstrated adequate internal consistency in the current study (Cronbach's $\alpha = 0.79$).

At posttest, participants were asked to complete the 34-item Distance Education Learning Environments Survey (Walker & Fraser, 2005), which measured subscales of instructor support, student interaction and collaboration, personal relevance, authentic learning, active learning, and student autonomy. Questions were answered on a 5-point scale (1=never to 5=always). Higher subscale scores indicate a better distance education learning environment.

Data Analysis

Univariate analyses checked for outliers and evaluated normality assumptions. Several students ($n = 4$) dropped out of the study after taking the pretest and therefore there was missing data due to their

withdrawals. In this case, pretest scores were observed outcomes and posttest scores were unobserved potential outcomes. All non-responders at posttest ($n = 4$) reported being unable to complete the study due to lack of time and other obligations that came up unexpectedly during the summer. Because of this, the missing data was considered independent of both pretest and posttest scores and treated as MCAR (Missing Completely at Random) (Lu, Zhang, & Lubke, 2011). Little (1988)'s MCAR test was computed to confirm data was indeed MCAR. Missing data was replaced using the Expectation-Likelihood-Maximization (ELM) algorithm (Cranmer, 2017). Descriptive and frequency statistics were computed to report demographic characteristics of the sample, average study scale responses, and student-athlete perceptions of instructional materials on the LAST online course prototype. Descriptive statistics were computed to determine mean (\pm SD) subscale (i.e., online instructor support, student interaction and collaboration, personal relevance, authentic learning, active learning, and student autonomy) and total scores on the DELES. Paired sample *t*-tests compared changes in athletic identity (i.e., AIMS scores), psychological well-being, hope trait, and self-reflection/insight scores, from pretest to posttest.

When using a single group pretest-posttest research design to estimate each primary and secondary outcome by GPA level (≥ 3.0 vs < 3.0), academic major (hard sciences vs. social sciences), student-athletes' eligibility status (≥ 2 years remaining vs. 1 year), and student-athletes' rating of LAST course quality (total DELES score > 3.5 vs. total DELES score < 3.5), there is no assurance group differences will not be confounded with these measured pretest characteristics. In observational studies, intervention effects often are influenced by these types of subject characteristics. Therefore, we must account for systematic differences in baseline characteristics when estimating the effect of independent variables on outcomes (Austin, 2011). One method to address this limitation is propensity score matching (PSM), which can reduce or eliminate the effects of confounding in pretest-posttest data. A propensity score is defined as the estimated probability for each individual in the study to be assigned to an intervention on all observed confounders. PSM methods have been used previously in studies ex-

amining the effects of Alcoholics Anonymous (Ye & Kaskutas, 2009), educational attainment on teenage alcohol use (Staff, Patrick, Loken, & Maggs, 2008), and school size on math achievement (Wyse, Keesler, & Schneider, 2008). In this study, we matched the age and pre-test scores at posttest to compare preliminary effects of the LAST course on total primary and secondary outcome scores as well as the subscales of all outcome measures.

The statistical significance level was set at $P < .05$. Statistically significant paired t test results were interpreted using *Hedges' g* effect sizes to account for bias due to small sample size. *Hedges' g* effect sizes were computed using equations provided by Lakens (2013). SPSS v24.0 was used to conduct all analyses.

Results

Fourteen student-athletes completed the pretest measures (Table 2). The majority of participants were female ($n = 12$; 85.7%), and the mean age of participants was 22.01 years (± 1.98 years). Most student-athletes identified as being White and non-Hispanic. More than 50% reported high cumulative GPAs ranging from 3.50-4.00 on a 0-4.00 grading scale. Almost half ($n = 6$) had one year of athletic eligibility remaining, while four student-athletes (28.6%) had exhausted their remaining eligibility. The largest number of student-athlete participants came from the following women's NCAA sports: swimming ($n = 3$; 21.4%), soccer ($n = 3$; 21.4%), and cross country/track and field ($n = 3$; 21.4%). Nearly one-third of participants majored in business ($n = 4$; 28.6%), with the remaining majoring in six other areas of study (i.e., biology, chemistry, exercise physiology, psychology, public health, university studies).

Table 2*Participant demographic characteristics (n = 14)*

Characteristic	<i>M</i> ± <i>SD</i> (years)
Age	21.07 ± 1.98
<i>Gender</i>	<i>n</i> (%)
Female	12 (85.7)
Male	2 (14.3)
<i>Race</i>	
White	12 (85.7)
Black/African-American	2 (14.3)
American Indian/Alaskan Native	1 (7.1)
Asian	1 (7.1)
<i>Ethnicity</i>	
Not Hispanic	13 (92.6)
Hispanic	1 (7.1)
<i>Cumulative GPA</i>	
3.50-4.00	8 (57.1)
3.00-3.49	4 (28.6)
2.50-2.99	2 (14.3)
<i>Years of Remaining Athletic Eligibility</i>	
0	4 (28.6)
1	6 (42.9)
2	2 (14.3)
3	2 (14.3)
<i>College Sport</i>	
Women's Swimming	3 (21.4)
Women's Soccer	3 (21.4)
Women's Tennis	1 (7.1)
Women's Basketball	1 (7.1)
Women's Cross Country/Track and Field	3 (21.4)
Men's Football	1 (7.1)
Women's Lacrosse	1 (7.1)
Men's Cross Country	1 (7.1)
<i>College Major</i>	
Biology	2 (14.3)
Business	4 (28.6)
Chemistry	1 (7.1)
Exercise Physiology	2 (14.3)
Psychology	2 (14.3)
Public Health	2 (14.3)
University Studies	1 (7.1)

Note: Two participants checked more than one response for race and were thus counted in the final tally (n = 16 for Race).

Four of the student-athletes were unable to complete all course modules and study measures during the summer semester. Due to study attrition, we conducted statistical analyses of pre- and post-test data collected from the remaining participants who completed the study ($n = 10$). While a very low number of student-athletes completed the study, this small sample size is typical among studies of this college student sub-population (Provencio, 2016) and was judged to be acceptable for this pre-experimental quantitative study.

Hypothesis #1: College student-athletes will report significantly lower athletic identity after completing the LAST course.

There were no statistically significant differences in AIMS scores from pretest ($M=52, SD=5.81$) to posttest ($M=47.80, SD=6.14$); $t(9) = 2.11, P = .06$. Nevertheless, AIMS scores approached statistical significance by decreasing an average of almost 5 points from pretest to posttest.

Hypothesis #2a: College student-athletes will demonstrate a significantly higher psychological well-being after completing the LAST course.

Results of the paired t -test analyses showed no statistically significant difference in psychological

well-being from pretest ($M=89.60, SD=8.81$) to posttest ($M=86.32, SD=10.35$); $t(9) = 1.03, P = .33$ (Table 3). However, in contrast to what was expected, average psychological well-being scores did decline slightly.

Hypothesis #2b: College student-athletes will demonstrate significantly greater hope after completing the LAST course.

Paired t -tests showed no statistically significant differences in hope (trait) scores from pretest ($M=27.00, SD=2.75$) to posttest ($M=27.22, SD=3.36$); $t(9) = -0.24, P = .82$ (Table 3).

Hypothesis #2c: College student-athletes will demonstrate significantly higher psychological self-reflection/insight after completing the LAST course.

In contrast to what was hypothesized, participants scored lower on psychological self-reflection and insight after completing the LAST program ($P = .004, Hedges\ g = 1.65$). Primarily, participants were less self-reflective and insightful after completing the LAST course ($M=74.67, SD=6.04$) as compared to before enrollment ($M=90.00, SD=11.70$).

Table 3

Mean ($\pm SD$) Pre- and Post-LAST Program Scores on psychological well-being, hope and self-reflection/insight

Secondary Outcomes	Pretest		Posttest		t	P	Hedges' g
	M	SD	M	SD			
Psychological Well-Being	89.60	8.81	86.32	10.35	1.03	.33	
Hope (Trait)	27.00	2.75	27.22	3.36	-0.24	.82	
Self-Reflection & Insight	90.00	11.70	74.67	6.04	3.89	.004**	1.65

Note: Paired t tests were conducted to assess the direction and degree of change in the selected constructs from pretest to posttest among student-athletes who completed the LAST program. P values are expressed as two-tailed. * $P < .05$; ** $P < .01$.

Participants reported moderate to high ratings on most distance education quality dimensions (Table 4). The highest score was related to the quality of instructor support during the semester ($M=4.38$, $SD=.48$, range=3.5–5.0). Mean scores on personal relevance, authentic learning, and student autonomy were moderately strong, with average scores ranging from 3.58 ($SD=.80$) to 3.93 ($SD=.49$). The only DELES dimension rated poorly by participants was peer interaction and collaboration while completing the LAST course ($M=1.98$, $SD=1.0$, range=1.0–4.0).

Table 4

Student-athlete ratings of LAST course quality.

DELES Quality Dimension	$M(\pm SD)$
Instructor Support (range = 3.5–5.0)	4.38 (.48)
Peer Interaction/Collaboration (range = 1.0–4.0)	1.98 (1.0)
Personal Relevance (range = 3.0–5.0)	3.93 (.49)
Authentic Learning (range = 2.0–4.0)	3.58 (.80)
Active Learning (range = 3.0–5.0)	3.83 (.44)
Student Autonomy (range = 3.0–5.0)	3.85 (.61)
Total DELES Score (range = 3.0–4.0)	3.59 (.45)

Propensity Score Matching Analyses on Total and Subscale Outcome Scores

Participants with high GPA scores had significantly higher environmental mastery ($b = 2.28$, $SE = 0.49$, $P < .001$, 95% CI: 1.30 to 3.25) and purpose in life ($b = 2.78$, $SE = 1.20$, $P = .02$, 95% CI: 0.42 to 5.14) post-test scores than the low GPA group after PSM of pre-test scores and age. Participants with more than one year of athletic eligibility remaining reported significantly lower positive relations ($b = -1.93$, $SE = .85$, $P < .02$, 95% CI: -0.26 to -3.59) post-test scores than participants with only one year of eligibility remaining; however, participants with more years of eligibility remaining reported higher hope pathway ($b = 1.86$, $SE = .41$, $P < .001$, 95% CI: 1.05 to 2.66) scores than participants with only one eligibility year remaining. Participants who majored

in hard sciences (e.g., chemistry, biology) reported significantly lower self-reflection and insight ($b = -9.81$, $SE = 3.19$, $P = .002$, 95% CI: -3.55 to -16.06) post-test scores than participants who majored in social science disciplines (e.g., public health, psychology).

Discussion

Principal Findings

The intent of the LAST course was to help student-athletes understand how to view post-athletic life as a challenge worth embracing, which can be a task similar to that of competing on the field of play. However, there are few formal life coaching trainings available to college student-athletes who are nearing graduation and transitioning into life after sports. This has led to much consternation among student-athletes who struggle during this confusing time in their lives. Development of an accessible, engaging, and practical online life coaching educational resource (i.e., LAST course) was expected to help student-athletes access resources that would help translate their athletic drive and skill into actionable strategies that could be deployed for successfully adapting to athletic retirement and winning in life. As might be expected and desired, participation in the LAST course was associated with a decline in athletic identity, albeit to a non-statistically significant degree, which has been shown to facilitate successful adaptation to life after sports (Martin, Fogarty, & Albion, 2014).

Findings from this study add to the limited body of research on effective transition programs for student-athletes that translate existing theory and research into practical educational strategies (Reifsteck et al., 2018). In this respect, the LAST course prototype was found to provide college student-athletes with an additional educational opportunity that helped them, at the very least, initiate the process of preparing for life after sports by considering how to manage multiple aspects of their lives following sports. Costley & Lange (2016) noted that increased levels of instructor support and control leads to an increase in perceived learning. Intuitively, there appear to be several immediate benefits to using instructor-led life coaching to help college student-athletes who are about to graduate. Most notably, life coaching education provides instructional opportunities for students

to contemplate change processes for enhancing their individual performance, personal growth, and overall wellness.

Moreover, the design of the LAST course represents an improvement in instructional design over its predecessors. Through leveraging the CB-SFC (Grant, 2003) and the Integrated Developmental Coaching Framework (Cavanaugh et al., 2005), this pilot study adds to the minimal but growing literature related to life and health coaching for retiring student-athletes (Reifsteck et al., 2018; Shriver et al., 2019; Spence & Grant, 2007). The design of the LAST course directly addressed issues identified in the literature such as providing guidance in career exploration (Linnemeyer & Brown, 2010), enhancing self-efficacy to overcome perceived barriers (Huan Chou & Hung, 2016), and providing meaningful life coaching for transitioning beyond athletics (Poux & Fry, 2015; Stout, 2018). The course design also addressed the issue of low participant satisfaction (Murdock et al., 2014), while retaining the positive aspects of previous programs by utilizing a self-reporting style intervention that uses social psychological practices such as account-making and confiding to limit the stress and negative emotions endemic to student-athletes on the topic of athletic retirement (Lavallee et al., 1997). Results from this preliminary evaluation, and the steps taken in the design of the LAST course, can help inform subsequent efforts to develop interventions targeting larger samples of college student-athletes and alumni who are contemplating personal health and wellness issues that are likely to emerge in life after sport.

Findings Related to Athletic Identity

Regardless of the impetus for athletic retirement, transitions into life after sport often are associated with added stress and uncertainty about whether lack of athletic competition will change the athlete's life for the better or for the worse (Stambulova et al., 2009). Young people experience shifts in identity during their formative years, which sometimes leads to a greater sense of purpose and concomitant personal growth (Chickering & Reisser, 1993). However, for growth to occur, student-athletes must overcome losing their athletic identity and utilize their internal assets and other available external resources while

exploring and forming a new identity (Stokowski, Paule-Koba, et al., 2019). While the trend toward lower athletic identity did not reach statistical significance, it is important to note that athletic identity did decrease at posttest for the majority of participants (70%). While the results related to AIMS scores did not reach statistical significance, the magnitude of 5 points decrease may suggest a treatment effect, which supports the conduct of a future efficacy study that is controlled. Furthermore, as athletic identity did decline among most LAST course participants, the course demonstrated at least some potential to help current college student-athletes begin to come to terms with their imminent identity as a non-competitive athlete. This is important as student-athletes with stronger athletic identities have difficulty letting go of who they are as an athlete, which can adversely impact their future career prospects (Hoffman, 2016). Interestingly, though, other studies of college student-athletes suggest that high athletic identity is not always correlated with low career self-efficacy (i.e., lack of confidence to choose a career that will result in high job satisfaction) (Huang et al., 2016).

Findings Related to Self-Reflection/Insight, Hope, and Well-Being

After participating in the online LAST course, the student-athletes' introspective and self-reflection abilities unexpectedly declined, while hope and well-being remained unchanged. The finding related to self-reflection/insight was not expected given the LAST course's emphasis on developing a future sense of self (Module 2), identifying personal life outcomes (Module 3), and formulating personal action plans (Module 7). Similarly, hope and well-being were expected to rise as a function of the course's emphasis on those same modules as well as mental health management (Module 5), and physical well-being after your athletic career (Module 6). While the LAST course was designed to help student-athletes think about themselves as non-athletes, this notion may be something they were resisting as evidenced by the negligible changes regarding athletic identity. Further, self-reflection that is followed by no tangible, observable results may have caused student-athletes to believe that personal introspection is of limited value. To promote positive self-reflection, Module 7 (Formulating Personal Action Plans) of the LAST course

should be modified to show student-athletes how their own action plan is tied to their perceived ideal self instead of simply focusing on how to monitor their progress toward the execution of their plan. This may include delivering more personalized messages that student-athletes can learn from and act on through using their self-reflective capabilities. For example, male student-athletes may benefit more from targeted intervention strategies that assist them to conceptualize their self-identity through the help of peer mentors (Murdock et al., 2014). One systematic approach used by practitioners to help athletes transition into a successful career is the 5-Step Career Planning Strategy (Stambulova, 2010), which is a counseling framework that helps to build student-athletes' awareness of past, present, and future circumstances by including their own perspectives on sport and life.

Potential Confounding Pretest Influences on LAST Course Effects

Exploratory propensity score matching analyses were conducted to account for differences in participant characteristics at pretest, which could have influenced primary and secondary outcome scores. When age and pretest scores were matched at posttest, student-athletes with higher GPAs showed better mastery over their environment as well as a greater sense of purpose in life. These two key dimensions of psychological well-being (i.e., feeling mastery over one's environment and having a strong sense of purpose in life) can positively impact successful transitions into life beyond sports (Stoltenburg, Kamphoff, & Lindstrom Bremer, 2012). Interestingly, though, student-athletes with more athletic eligibility remaining (>1 year) reported lower positive relations with others than athletes who were about to graduate. It is important to note that student collaboration during the LAST course was shown to be poor and in need of further enhancements to increase meaningful peer-to-peer interactions. At the same time, student-athletes with several years of athletic eligibility remaining showed higher hope (pathway dimension) scores when compared to student-athletes in their final year of athletic competition. Also, when pretest scores were matched with age, student-athletes majoring in hard sciences

were less self-reflective than their counterparts studying social sciences. This may be due to the nature of the LAST course, which was heavily grounded in the psychological sciences and health promotion, which student-athletes in hard sciences may have less exposure to within the classroom. Accordingly, consideration should be given to providing student-athletes in hard sciences with additional resources for engaging in more introspective self-reflection.

Study Limitations

There are several limitations to the current pilot study that must be considered when interpreting these exploratory results. First, the very small sample size of this pre-experimental study ($n = 14$) suggests that the results provide narrow but important utility. A fully powered study with a larger sample size, as well as a comparison or control group, is necessary to evaluate the LAST program's potential impact on athletic identity, psychological well-being, hope, and self-reflection/insight.

Second, this pretest-posttest study used a within-subjects design with no follow-up measures administered after the posttest. This limitation has been reported in similar studies when working with similar college student-athlete samples (Reifsteck et al., 2018). The development and pre-testing of the LAST course represents one initial step toward creating and administering new training opportunities that promote student-athlete welfare. There are several limitations associated with the study sample. The average age of participants was older (i.e., about 21 years old), and the majority of participants had ≤ 1 year of athletic eligibility remaining, which captured few underclassmen student-athletes even though sophomore year is when student-athletes are encouraged to begin thinking about their futures after college sports (Burton et al., 2018). Also, 12 of the 14 study participants (85.7%) were women. Given that women have far fewer athletic opportunities post-graduation, this may have accounted for their lower athlete identity. Conversely, Black male student-athletes feel pressure to develop a strong athletic identity (Singer, 2008), which when in-

intersecting with racial identity, has been found to have disparate impacts on their experiences (see Bimper et al., 2012). In addition, study participants self-reported GPAs between 3.5-4.0, which is problematic because these athletes may already have been high achieving and performed well as a student, so their identities outside of being an athlete may already have been higher than some other student-athletes. Because of these limitations, future studies of the LAST course's efficacy should include more diverse college/university samples, especially with respect to age, gender, race/ethnicity, academic performance, and athletic identity.

Third, the lack of a control or comparison group leaves open the possibility that the effects occurred naturally, rather than being caused by actual exposure and engagement with the LAST course educational modules. There is a need to conduct a more detailed process evaluation of the LAST program that accounts for program fidelity, instructional dose (both delivered and received), student reach, student recruitment, and contextual factors (Saunders, Evans, & Joshi, 2005) in the campus environment that may influence the effectiveness of the LAST program. While lack of detailed process evaluation is acknowledged as a study limitation, participants already were asked to complete four different post-test surveys (84 items in total), which placed a fair bit of response burden on the participants and likely led to at least some degree of response fatigue.

Finally, participants self-selected into this exploratory study and may have been expressly motivated toward particular perspectives on life following athletic retirement. Submitting socially desirable responses on questionnaires also could have threatened the internal validity of the study's findings. Despite these limitations, this pre-experimental study represents one of the only studies to evaluate the preliminary effectiveness of online life and wellness coaching programming for collegiate student-athletes. Future studies should consider student-athlete readiness for life beyond sports to determine the extent to

which LAST course participation could help student athletes feel more prepared for their impending life transition beyond NCAA athletics.

Future Research and Practice

Future studies are needed to understand more about how diverse college student-athletes respond to transition programs that seek to modify or transition their athletic identity. One example of this type of study (Reifsteck et al., 2016) found that the shift from an athletic identity to an exerciser identity may be particularly beneficial for student-athletes as they transition to lifetime physical activities after the conclusion of their competitive sport career. Given the numerous personal, environmental, social, and vocational factors that can positively or negatively impact a student-athlete's sport-to-career transition (Park et al., 2013), it is critical for college athletic departments to provide and facilitate professional development and transitioning services throughout their collegiate athletic career (Harrison & Lawrence, 2004; Leonard & Schimmel, 2016; Stokowski, Bo, Turk, Fridley, & Hutchens, 2019; Stoltenburg et al., 2012). Programs delivered in conjunction with athletic departments should consider training student-athletes how to positively transition into life after athletics by helping them gradually withdraw from their athletic identities (Lally, 2007; Linnemeyer & Brown, 2010; Moiseichik et al., 2019; Murdock, 2010). These types of transition programs should seek to integrate both academic (i.e., LAST course) and athletic department resources to help student-athletes develop intrinsic, health-focused goals that better prepare them for athletic retirement (Ryan, Patrick, Williams, & Deci, 2009).

Future practice-based activities should consider involving scheduling, planning, and career forecasting to help student-athletes progress toward a new sense of self (Stambulova et al., 2009). For example, within the LAST course, sustainable physical activity was covered in Module 6 (Physical Well-Being After Your Athletic Career). Addressing physical activity after college sports participation may help transitioning student-athletes modify their athletic identities in a positive (healthy) way. Vicarious experiences observing former student-athletes who have successfully transitioned may help address negative self-perceptions in student-athletes who are transitioning into life

after sports (Harrison & Lawrence, 2004). Subsequent iterations of the LAST course should consider explicitly addressing activities and assignments that aim to build self-acceptance and self-reflective capabilities, which both became diminished among participants in the current study. Moreover, the LAST course should be modified to consider the various and intersecting identities of student-athletes. For instance, the role of race and racial identity, particularly of Black male student-athletes, should be considered (Bimper et al., 2012).

Online wellness coaching initiatives for former student-athletes also should challenge this unique population to transfer their athletic drive and skills into actionable health protection and improvement strategies (Stellefson, Wang, Apperson, Bopp, & Zhang, 2019). Strengthening individual resources through providing web-based education, competence training, and goal setting can help student-athletes to make a healthy adaptation to life without sports. Resources such as these are in existence, particularly on the subject of nutrition and physical activity (Reifsteck et al., 2018). These types of innovative wellness coaching resources can help athletic alumni who may have left the campus learning environment begin to view their own personal wellness as an ongoing “game” worth winning and practicing on a daily basis. However, given resource constraints in athletic departments, colleges and universities should seek to create adaptable educational courses (both online and on-campus) that help current and former student-athletes understand how to view post-athletic life as a wellness challenge worth embracing. These types of short-courses could meaningfully augment social support already being provided by professional development and wellness programs targeted at graduating student-athletes. Encouraging transitioning student-athletes to take advantage of online continuing education opportunities may motivate them to engage in social networks made up of athletic administrators, coaches, and teammates, who likely will serve as important sources of social support (Blinde & Stratta, 1992; Rohrs-Cordes & Paule-Koba, 2018; Stokowski,

Paule-Koba, et al., 2019). Furthermore, by expanding on evidence-based interventions (Shriver et al., 2019) to address the occupational, social, academic, spiritual, and mental dimensions of wellness, student-athletes will be better prepared to succeed in their life beyond sport.

Other college student-athletes who have participated in transition-related programming have requested more time to engage in life transition preparatory experiences, particularly programs that are tailored to individual health and wellness concerns (Brooks et al., 2019). Student-athletes who may be forced into “early retirement” due to injury, personal/family issues, safety and health concerns, changes in eligibility status, poor academic performance, etc., could access activities designed to help them build a better sense of self, perhaps through linking their self to health in the same manner that they linked their self to college athletics. In the LAST program tested here, healthy nutrition and physical activity behaviors were targeted as key antecedents of effective weight management. Targeting physical activity and nutrition together is in line with other research that suggests people often initiate these behavior changes together (King, Marcus, Pinto, Emmons, & Abrams, 1996).

Athletic departments, educational institutions, student wellness centers, and researchers from academic departments may benefit from forming more synergistic alliances that share wellness promotion resources among graduating college student-athletes and alumni (Stellefson et al., 2019). The overall quality of the LAST online learning environment was rated as moderate to strong by student-athletes, something of which members of these higher education stakeholder groups should take note. To help support institutions in adopting the LAST course for their student-athletes, we developed a course syllabus that can be adapted by athletic departments and other sport psychology professionals in future efficacy trials. Given competing priorities that athletics departments face in their efforts to promote student-athlete wellness, the syllabus was designed so that the LAST

program could be delivered by a variety of academic and non-academic (e.g., existing athletics department staff members) personnel. The immediate goal moving forward would be for stakeholders such as coaches, administrators, friends, and family members to be made aware of the difficulties associated with this transition, as well as education on how to provide all former student-athletes, with adequate wellness support and adjustment resources (Harrison & Lawrence, 2004; Smith & Hardin, 2018).

Conclusion

Transitions into life after sport can be complex and include unanticipated difficulties influenced by an athlete's sense of who they are, which also can be influenced by several interpersonal (e.g., peers, parents, coaches) and institutional (e.g., location, college/university) factors (Bjornsen & Dinkel, 2017). This pre-experimental study generated preliminary data that helped provide new knowledge about how to address the gap in our understanding of how to best support graduating collegiate student-athletes as they transition into their lives beyond sports. The potentially scalable LAST course prototype showed some potential to supplement ongoing student-athlete professional development programs by helping student-athletes to view college athletic retirement as the beginning of something equally or far more enriching. This pilot study represents a starting point. The next logical step in this line of inquiry would be to test an updated version of the LAST course in a subsequent controlled study to determine its validity and efficacy.

Although there clearly is a need for additional research, the online material within the LAST course prototype provides theoretically-informed information on strategies and mechanisms that provide a more definitive way to cope with the prospect of athletic retirement. It is important to explore options for transferring the LAST courseware designed during this study into alternative educational technologies that can be promoted and disseminated by academic (e.g., colleges/universities) and non-academic organizations

(i.e., athletic conferences) alike. One logical next step could include building a modified version of the LAST course online that specifically addresses theoretical constructs, which unexpectedly declined in this study (i.e., introspective, self-reflection, self-acceptance). Regardless of potential next steps, knowledge gained from this preliminary study can be applied to creating other continuing learning opportunities, as well as professional development and wellness programs, targeted at college student-athletes and/or athletic alumni.

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