The Aspen Institute's PROJECT PLAY
REIMAGINING YOUTH SPORTS IN AMERICA

RESEARCH BRIEF

What is the status of youth coach training in the U.S.?

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At its best, youth sport participation positively influences psychosocial, physical, and motor skill development (Fraser-Thomas, Côté, & Deakin, 2005). Children are drawn to sport to have fun, improve skills, get fit, socialize with friends, and begin the path to higher levels of competition (Keathley & Himelein, 2013; Sirard, Pfeiffer, & Pate, 2006). Despite the many positive effects of participation in youth sport, the potential for negative experiences cannot be ignored.

Of the millions of youth participating in sport each year (NFHS, 2007; SFIA, 2011), approximately one third (Gould & Petlichkoff, 1988; Weiss & Petlichkoff, 1989) choose to quit organized sport activities because they are not having fun, change interests, lack the appropriate skill level, feel burned out, are bored, or do not like the coach (Gould, Feltz, Horn, & Weiss, 1982; Jõesaar & Hein, 2011; Molinero, Salguero, Concepcin, Alvarez, & Marquez, 2006). Therefore, whether current training programs produce coaches that facilitate the positive emotional and psychological outcomes necessary to improve retention rates is a critical question. Fortunately, evidence suggests many of the negative experiences reported by youth sport participants can be minimized by coaches trained in research-based coaching education programs (Fraser-Thomas et al., 2005). For example, trained youth sport coaches produce significantly higher participant retention rates compared to non-trained peers (Barnett, Smoll, & Smith, 1992). Unfortunately, many coach training programs focus primarily on skill development instead of emphasizing strategies that encourage children's continued participation in youth sport programs and subsequent life-long involvement in sport and athletic activities (Fraser-Thomas et al., 2005).

The purpose of this research brief is to summarize relevant literature and available data concerning how training programs influence coaching approaches, and inevitably retention of youth athletes. Specifically, this brief is organized into five sections identifying: 1) what defines quality coaching, 2) the breadth of available coach training programs, 3) curricula themes contained within coach training programs, 4) the efficacy of coach training programs, and 5) areas of needed improvement in coach training programs.

Question 1: What defines a quality coach, and how are they made?

One of the most important influences on positive development in youth sport comes from the personal interactions athletes have with coaches (Bruner, Hall, & Côté, 2011). Ultimately, coaches impart knowledge to and model behavior for participants learning to engage in healthy physical exercise, perform in competitive environments, contribute to a team, persevere over challenges, and employ adaptive coping skills. Consequently, the skill of a coach is paramount to fostering a successful and positive sport environment. Understanding the personal characteristics of highly skilled coaches is therefore critical to increasing youth sport retention rates.

The *International Sport Coaching Framework* (2013) adopts an integrative definition of effective coaching from Côté and Gilbert (2009) that describes effective coaching as "*the consistent application of integrated professional, interpersonal, and intrapersonal knowledge to improve athletes' competence, confidence, connection, and character in specific coaching contexts.*" Consistent with this definition, research documents youth participants' preferred coach characteristics. For example, a study by Becker (2009) asked elite athletes from a variety of sporting backgrounds to retrospectively describe their experiences with coaches they considered 'great.' Importantly, many athletes included descriptions of their youth sport coaches. Athletes identified that the best coaches were knowledgeable, skilled, and experienced in their sport. Athletes valued their coaches' interpersonal skills—perceiving them as teachers, mentors, and friends, while describing them as good listeners, patient, and professional on and off the field. Coaches had the ability to use their own emotions to alter players' arousal levels, and were described as passionate, inspiring, competitive, but also composed throughout the season. Interestingly, while many athletes described their great coaches as perfectionists, they indicated their coaches maintained an approachable "human quality;" instilling a sense of trust, reliability, and confidence. Relatedly, Jõesaar, Hein, and Hagger (2012) recently found that when coaches foster autonomy in youth athletes (e.g., considering athlete input into decision making processes), levels of intrinsic motivation and the likelihood of continuing in the sport one year later increased. Overall, in addition to the traditional X's and O's knowledge of sporting environments, the interpersonal and psychological skills of coaches are important to athletes and promote retention of participants.

Coaches develop expertise through the accrual of thousands of hours of coaching experience—experience that complements their own sport participation (Lynch & Mallett, 2006). Interestingly, most successful coaches do not specialize in a single sport during their own athletic career. In fact, while many successful coaches were above average athletes for the sport they currently coach, research indicates that most participated in multiple sports growing up (Gilbert et al., 2009; Gilbert, Côté, & Mallett, 2006; Lynch & Mallett, 2006). In addition to competitive and practical experiences, research suggests that one method of producing quality coaches involves hundreds of hours of formal coach training (Erickson, Côté, & Fraser-Thomas, 2007); yet coaches in the U.S. receive limited formal training through courses and clinics (Gilbert et al., 2006; Gould, Giannini, Krane, & Hodge, 1990). Therefore, informal (on the job) training may be the primary method by which most coaches acquire expertise (Gilbert et al., 2009, 2006). One critical component of both formal and informal coach training is the mentorship of young coaches (Bloom, Durand-Bush, Schinke, & Salmela, 1998; Erickson et al., 2007; Lynch & Mallett, 2006). In effect, mentoring provides coaching for coaches, and imparts practical knowledge through guided experiential learning in technical, administrative, teaching, and interpersonal domains (Cushion, Armour, & Jones, 2003; Erickson, Bruner, MacDonald, & Côté, 2008; Gould et al., 1990; Lemyre, Trudel, & Durand-bush, 2007). However, benefits of mentorship will be limited by the quality of the mentor, and the mentor / mentee relationship (Jones, Harris, & Miles, 2009).

Conclusions:

- *Quality coaches possess expert skills in several areas.*
- *Technical and sport-specific knowledge are highly valued by athletes at all developmental levels.*
- *Psychological skills (such as motivation, guided goal setting, autonomy support, and arousal regulation) and interpersonal skills are highly valued characteristics of coaches.*
- *Coaching expertise is developed through substantial training that includes formal and informal training, as well as classroom and practical training*

Question 2: What organizations provide training in coaching?

Coaching education within the U.S. emerged from physical education programs that began in the early part of the 20th century. Although modern physical education curricula have evolved into research-based pedagogy programs, specified training for coaches has lagged behind (Dieffenbach & Wayda, 2010). At a post-secondary level, the vast majority of training options exist within colleges and departments with curricular foci in education, sport physiology, kinesiology, and/or sport management (McMillin & Reffner, 1999). Secondary educators, who also coach, often train primarily in general pedagogy and a specific content area (e.g., math, science, social sciences, physical education) due to state licensure requirements. As a result, training in sport coaching and the sport sciences is often limited, if existing at all. Even when coaches emerge from training programs in the sport sciences, many of these programs focus on physiology, biomechanics, athletic training, and strength and conditioning. Subsequently, many, if not the vast majority of coaches in youth sport lack specified training in the science of coaching (Nelson, Cushion, & Potrac, 2006). This phenomenon is only magnified in the volunteer coach (Lemyre et al., 2007). In an attempt to address the void, numerous organizations have generated training programs and competencies to certify coaches.

The National Council for the Accreditation of Coaching Education (NCACE) serves as the sole accrediting body for coaching education programs within the United States. As of October 2013, nine post-secondary institutions have sought and achieved NCACE accreditation (Table 1). This anemic number of institutions is but a fraction of post-secondary programs offering relevant course work. For example, USAcoaching.org identifies an additional 14 active post-secondary institutions offering coaching education curricula (Table 2). In fact, a reasonable estimate of the actual number of programs can be extrapolated from McMillin & Reffner's (1999) Directory of College and University Coaching Education Programs. The directory, albeit outdated, identifies upwards of 148 undergraduate minor, 10 undergraduate major, and 21 graduate level programs in coaching education. Such a discrepancy is not surprising given the limited fiscal and temporal resources of colleges and universities. In effect, the costs of NCACE accreditation for many of these programs outweigh the benefits in the eyes of administrators (Templin & Blankenship, 2007). Unfortunately, emerging coaches seeking post-secondary training may find it difficult to locate and successfully navigate information on available programs due to the lack of a central database. If a prospective coach Google searched, "How do I become a coach?" 26,200 results emerge; of which, the NCACE website is not found within the first 100 results.

Post-graduate certificates and training programs offered through myriad sport organizations provide alternative training models for youth coaches. NCACE identifies eight accredited organizations (Table 3). The NCACE accredited organizations range from general coaching organizations, such as the National Federation of State High School Associations (NFHS), to specific sport governing bodies like USA Track & Field. Similar to post-secondary institutions, the NCACE list of accredited organizations is not exhaustive. To illustrate this point, 48,300 results appear when searching for "sport coaching certification programs" through Google. Given the plethora of training options available, and the likelihood that youth coaches will struggle to identify what certification they should pursue, sport organizations should provide explicit guidelines and readily accessible training programs. A sample of highly respected organizations offering coaching education programs, but lacking NCACE accreditation, is available in Table 4.

Conclusions:

- *Post-secondary institutions and various organizations provide coach training programs.*
- *Identifying what training programs exist and which are appropriate may be difficult for emerging and continuing coaches.*

Question 3: What is being taught to coaches?

The National Association for Sport and Physical Education (NASPE) publishes the National Standards for Sport Coaches (NSSC), which identifies eight general domains of knowledge vital for quality coaching. The eight domains include 1) Philosophy & Ethics; 2) Safety & Injury Prevention; 3) Physical Conditioning; 4) Growth & Development; 5) Teaching & Communication; 6) Sport Skills & Tactics; 7) Organization & Administration; and 8) Evaluation. Each of the eight domains consists of specific standards (NASPE, 2006). The 40 standards include detailed benchmarks that guide performance and evaluation of the respective standards. All programs accredited by NCACE have demonstrated curricula that provide opportunities for students to develop the skills necessary to master each of NSSC's benchmarks and standards contained within the eight domains. Additionally, NSSC identifies three performance levels of coaches—basic coach (Level 1), intermediate coach (Level 3), and master coach (Level 5)—that designate the minimum standards coaches should master to provide quality coaching for specific developmental levels of sport participation. For example, Level 1 & Level 3 coaches are prepared to perform as youth sport coaches and high school coaches. In comparison, Level 5 coaches are prepared to coach sub-elite (college) and elite athletes (Olympic / professional). Interestingly, only two NCACE accredited programs provide Level 5 training (see Tables 1 & 3).

In spite of the efforts of NCACE to standardize coaching education programs, a high degree of variability exists across post-secondary coaching education curricula. For example, the M.Ed. degree offered from the Virginia Commonwealth University is housed within the Center for Sport Leadership and the curriculum contains a strong emphasis on sport administration. In comparison, many programs are housed within traditional physical education / exercise science programs. The B.S. offered by Brigham Young University is one such degree, and primarily emphasizes K-12 education and the exercise sciences—requiring only three courses explicitly focused on coaching. The most rigorous coaching programs, such as those offered by West Virginia University, require upwards of 10 courses specifically focused on coaching principles ranging from strength and conditioning, coaching techniques for specific sports, and practicum experiences. See Tables 1 and 2 for a more detailed breakdown of curricula.

Post-secondary programs also vary in the availability, volume, and magnitude of practical internship (practicum) experiences. Programs offering practical experiences range in requiring 1-3 applied experiences. Additionally, the number of credit hours (and presumably the number of contact hours) varies by institution. While some programs require as few as one credit hour of practical experience, others include a capstone experience consisting of substantial practical involvement. Further, the nature of practical experiences likely vary according to the emphasis of the program such that practical experience in a program emphasizing sport management is likely very different than practicums found in programs emphasizing coaching education. Of most concern, 13 of the 41 identified programs fail to offer any formal practicum. Considering that quality coaching practicums provide opportunities to develop administrative, communication, teaching, interpersonal, networking, and leadership skills in addition to the application of strategic, ethical, and sport science knowledge obtained in the classroom (Dieffenbach, Murray, & Zakrajsek, 2011); the absence of formal practical experience opportunities in a coaching education program is shocking.

Curricula provided by sport organizations in many ways reflect those offered by post-secondary institutions (Table 3 & Table 4). However, these curricula are abbreviated. The overwhelming paradigm involves 1-2 required courses in foundational topics, 1-2 courses focused on player safety, and 1-2 courses specific to a sport and/or the age group of involved athletes. Additional elective style courses are offered by many organizations for coaches seeking further training. For example, the National Federation of State High School Associations (NFHS), Positive Coaches Alliance, and Youth Enrichment in Sports offer courses focusing on techniques promoting optimal emotional and psychological experiences for participants. USA Hockey provides one of the more rigorous models; requiring coaches to progress along a tiered, three-year education program that includes age-specific training. Once coaches reach Level 3 certification, certification is valid for two years. Coaches are then required to renew certification after two seasons in order to continue coaching. In addition to the basic certification requirements, USA Hockey provides additional levels of training that encourage continued skill development. Surprisingly, none of the reviewed curricula included a formal mentorship or apprenticeship program for beginning coaches—this is not to say that mentorships do not occur, but rather there exists no

formal mechanism by which consistent and quality mentorships can currently be ensured.

The costs of courses and certifications offered through sport organizations vary dramatically—ranging from approximately $20 to $250 in most organizations (Tables 3 and 4). The price of certification increases as course rigor, complexity of course delivery, and level of certification increases. For example, USA Rugby provides an ideal pricing model for entry-level training (Level 100 certification) in collaboration with the International Rugby Board (IRB). The Level 100 certification Rugby Ready course is available for no charge, and includes 18 modules that cover safety and sport-specific technical topics. Further training (Level 200 & Level 300 certification) is offered at a cost. Although Level 100 training is offered at no cost, registering as a Level 100 coach requires membership with USA Rugby at a cost of $65. In collaboration with NFHS, the Special Olympics of North America offer free training in Unified Sports. Comparatively, Youth Enrichment in Sports offer a "pay what you can" pricing model allowing free access to content, but suggesting a $25 donation—with a majority of proceeds donated to youth sport organizations. While not outrageously high, the existing cost structure of available coaching certifications may reduce the likelihood of volunteer coach enrollment—especially for lower income coaches, and coaches with one or more dependents involved in pay to play organizations.

Conclusions:

- *In spite of established national standards, coaching education curricula vary dramatically across organizations.*
- *An inconsistent expectation of practical experience exists in post-secondary coaching education programs.*
- *Sport organizations offer quality training alternatives for coaches not trained in post-secondary coaching education programs; however, emerging coaches may find the more rigorous programs and certification levels cost prohibitive.*

Question 4: Do coaching education programs influence participant retention?

Most existing literature evaluating the efficacy of coach training programs focuses on how coach training affects the psychological outcomes of participants. Consequently, limited data exists examining how coach education programs directly influence retention rates in youth sport. Further, a recent systematic review indicates that coach training is still an emerging science, with many coach interventions lacking strong theoretical bases (Langan, Blake, & Lonsdale, 2013). Unsurprisingly, without unified empirically guided theories, mixed results have emerged regarding the effectiveness of coach training.

One of the first investigations to look at coach training was conducted in 1976 (Smith, Smoll, & Curtis, 1976). Researchers assigned Little League Baseball coaches to a two-hour *Mastery Approach to Coaching* (MAC) training program during preseason and interviewed the coaches' athletes at the end of the season. The MAC program consisted of emphasizing positive coaching behaviors (e.g. reinforcement, encouragement following mistakes, supportive corrective instruction, and technical instruction) and decreasing undesirable coaching behaviors (e.g. punishment, punitive instruction, controlling behaviors). One critical instruction given to coaches was to concentrate on participants' effort levels and emphasize fun experiences, as opposed to promoting winning as the primary goal. Results from this seminal investigation indicated that a short duration intervention was successful in improving athletes' self-esteem and positive ratings of the coach and sport environment. Other work substantiates the effectiveness of formal coach training programs on increasing youth athletes' self-esteem (Coatsworth & Conroy, 2006), and quality informal coach training on increasing personal and social skills in youth athletes (MacDonald, Côté, & Deakin, 2010).

Contrasting results exist examining whether training programs actually alter coaches' behaviors. For example, Conroy and Coatsworth (2004) found that a 2-hour coach training program modeled after the MAC program had little impact on modifying the coaching behaviors of a sample of youth swim coaches. In contrast, Falcão, Bloom, and Gilbert (2012) demonstrated that a similar 2-hour workshop aimed at increasing positive coaching successfully improved desirable coaching behaviors and attitudes in youth soccer and basketball coaches. Specifically, Falcão and colleagues

found that most coaches believed the workshop activities promoted coach competence, confidence, connection, and character development. An important aspect of this particular workshop was that coaches were given input (autonomy support), thus promoting intrinsic motivation to fully participate in the training procedures. Similarly, a study by Campbell (2005) found that formal instructional courses for novice coaches improve aspects of the Coach Efficacy Scale (CES; Feltz, Chase, Moritz, & Sullivan, 1999), including coach motivation, strategy, technique, and character building. Other intervention strategies have proven effective at increasing coaches' facilitation of young athletes focusing on mastery goals versus outcome goals and individual performance relative to peers (Smith, Smoll, & Cumming, 2007; Smoll, Smith, & Cumming, 2007).

One of the few studies to directly examine the effect of coach training and youth player attrition found that the same MAC program used by Smith and Smoll (1976) reduced dropout in a group of little league baseball players (Barnett et al., 1992). Player ratings of their coaches indicated that MAC trained coaches were more engaging, better teachers, and less punitive compared to ratings of coaches not receiving MAC training. Additionally, players felt their MAC trained coaches liked them more, and in turn players reported liking their coaches more. Finally, players of MAC trained coaches reported having more fun and more interpersonal connection with their teammates compared to control players. Important to the interpretation of these results, players in both groups did not differ in their overall team performance, liking of the sport, or evaluation of coaches' knowledge. Although not directly measuring participant attrition, a related study by Smoll, Smith, & Cumming (2007) report increased engagement in team activities throughout a basketball season for 10-14 year old female and male participants whose coaches received preseason MAC training.

Conclusions:

- *Existing research indicates that appropriate coach training programs have the ability to improve coaches' behaviors, improve player outcomes (e.g., self-esteem, enjoyment), participant engagement, and ultimately increase participant retention.*
- *Unfortunately, existing research is limited; emphasizing the need for more research examining the impact of coach training on coaches' experiences, participant outcomes, and participant retention.*

Question 5: How can coaching education programs improve to promote player retention?

Extant research clearly identifies the factors important in facilitating continued youth sport participation. In turn, coaches stand to maximize the likelihood of participant retention when they possess competencies in the technical aspects of a given sport; providing positive and fun competitive environments; motivating and modeling adaptive coping skills in the face of adversity; and promoting mastery motivation while minimizing fear of punishment for mistakes. Limited, but encouraging, evidence suggests that training coaches in the psychological skills of coaching, as well as the technical skills, facilitates retention of youth participants. Existing coach standards (NASPE, 2006) promote such training. However, detailed examination of available curricula reveals inconsistent implementation of this desired training. While some programs provide substantial training, others only include training in interpersonal / psychological skills within the broader context of other coaching courses. Further, internships and mentorships have been identified as extremely important in expertise development of coaches. However, implementation of internships is inconsistent, and formal mentorships appear nonexistent within sport organizations. Whether emerging coaches know training is available is an additional concern. Moreover, emerging coaches may encounter difficulties locating the quality training they desire. Finally, the cost of coach training programs may be a limiting factor for many youth coaches.

Although several limitations in current coach training programs have been identified, the obstacles presented are manageable. For example, curricula content should be explicitly evaluated to ensure that in addition to training coaches in the technical aspects of sport coaching, theoretical foundations and practical knowledge are imparted to trainees concerning the interpersonal and psychological skills necessary to provide the highest quality coaching possible. In addition, more stringent guidelines should be formulated concerning the type and volume of practical experiences necessary to complete post-secondary coaching education programs. Similarly, governing bodies should strongly consider instituting mentorship programs such that emerging, novice coaches work under the guidance of expert coaches—in effect learning to appropriately apply the technical, interpersonal, and psychological knowledge

obtained through certification coursework. Considerable efforts should also be made to ensure that the best information on coaching education is prominent and readily accessible in today's dynamic media world. Finally, an evaluation of certification costs should be conducted, such that individuals volunteering and coaching our youth, can reasonably access and gain the necessary training to provide positive and healthy sport experiences.

Coaching education in the U.S. has evolved considerably in its first century of existence. The financial potential of elite athletic performance has unquestionably redefined the expectations of coaches to produce successful athletes and winning teams. Unfortunately, this phenomenon permeates throughout all developmental levels of sport. While such a phenomenon could be perceived as an immovable obstacle, optimism founded in the understanding of existing coaching science enlightens the opportunity to drastically improve youth sport through the training and production of quality coaches. Indeed, organizations such as NCACE, the International Council for Coaching Excellence (ICCE), and the Association of Summer Olympic International Federations (ASOIF) are working diligently to develop frameworks and standards (ICCE & ASOIF, 2013; NASPE, 2006) that aim to provide comprehensive charters redefining the role of coaches in developing athletes, providing guidelines for coach education programs, and establishing standards for coach certification. Continued efforts by organizations, scientists, and coaches surely stand to catalyze further progress in formalizing and implementing coaching education programs that will ultimately improve youth sport experiences and retention rates.

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Garrett Beatty and Bradley Fawver, of the UF Performance Psychology Laboratory coauthored this research brief on behalf of the Aspen Institute's Project Play. Research assistance provided by Courtney Howard. Editorial observations were provided by Tom Farrey, director of the Aspen Institute's Sports & Society Program.

UF Sport Policy and Research Collaborative
UNIVERSITY of FLORIDA

The SPARC is an interdisciplinary research collaborative within the Sport Management Program in the Department of Tourism, Recreation and Sport Management at the University of Florida. SPARC is comprised of Sport Management faculty within the UF Sport Management Program, as well as research and policy experts serving as associate members from both within and external to the University of Florida. SPARC serves to bring together talented faculty, and cohesion to individual research efforts and successes. Dr. J.O. Spengler serves as the Director of SPARC and Dr. Michael Sagas provides support and oversight to the collaborative. The purpose of SPARC is to produce relevant and timely research that addresses sport as a facilitator of the physical, social, and emotional health of individuals, and the economic health of communities. SPARC is the official research partner of the Aspen Institute's Project Play.

The Aspen Institute's
PROJECT PLAY
REIMAGINING YOUTH SPORTS IN AMERICA

The Aspen Institute's Project Play is a two-year project that will lay the foundation for the nation to get and keep more children involved in sports, with a focus on addressing the epidemic of physical inactivity. The Sports & Society Program will convene sport, policy and other leaders in a series of roundtable and other events, and in late 2014 produce a framework for action that can help U.S. stakeholders create "Sport for All, Play for Life" communities. Project partners include the Robert Wood Johnson Foundation, David & Lucile Packard Foundation, ESPN, the Clinton Health Matters Initiative, Nike, and the University of Florida's Sport & Policy Research Collaborative. More: www.AspenProjectPlay.org

Table 1

NCACE accredited post-secondary programs

Institution	Location	Degree	Delivery	Emphasis	Available Courses by Subject Area					NCACE Level
					Ex. Sciences	Phys. Ed.	Pedagogy	Coaching	Practicum	
Brigham Young University	Provo, Utah	Minor	C	PE	5	2	0	3	1	3
		B.S.	C	PE	6	5	6	3	1	3
Clarion University	Clarion, PA	B.S.	C	LS	3	0	0	2	1	3
		M.Ed.	C	ED	3	0	0	1	0	3
Emporia State University	Emporia, Kansas	Minor	C	CE	2	0	0	4	1	3
Georgia Southern University	Statesboro, GA	Certificate	C	CE	2	0	0	3	0	3
		M.S.	V	CE	3	0	2	6	1	3
James Madison University	Harrisonburg, VA	Minor	C	CE	3	1	0	2	1	3
Kutztown University	Kutztown, PA	B.S.	C	SM	2	1	0	3	1	3
University of Southern Mississippi	Hattiesburg, Mississippi	B.S.	C	CE	5	1	1	6	1	3
		M.S.	C	CE	4	0	0	5	1	3
Western Michigan University	Kalamazoo, Michigan	Minor	C	CE	3	0	0	2	1	5
		B.S.	C	PE	3	12	2	3	1	5
		M.A.	C	CE	5	0	0	5	1	5
Winona State University	Winona, MN	Minor	C	CE	3	0	0	5	1	3

Note. V = Virtual; C = Campus; CE = Coaching; ED = Education; LS = Liberal Studies; PE=Physical Education; SM = Sport Management

Values represent estimated number of courses based on curriculum webpages. Credit hours per course vary by institution.

Table 2

Post-secondary programs identified by USAcoaching.org

Institution	Location	Degree	Delivery	Emphasis	Available Courses by Subject Area				
					Ex. Sciences	Phys. Ed.	Pedagogy	Coaching	Practicum
American Public University	Charles Town, WV	Certificate	V	CE	1	0	0	2	0
Barry University	Miami Shores, FL	B.S.	C	PE	5	7	3	4	1
Boston University	Boston, MA	Minor	C	PE	1	3	2	2	0
		Certificate	V	CE	0	0	0	4	0
		M.Ed.	C	CE	0	0	0	6	1
University of Central Florida	Orlando, FL	B.S.	C	ES	9	1	0	5	1
		M.S.	C	CE	2	0	0	7	1
East Tennessee State University	Johnson City, TN	M.A.	C	ES	5	0	0	2	0
Indiana State University	Terre Haute, IN	Minor	C	CE	2	1	0	5	0
		M.A. / M.S.	C	CE	4	0	0	6	1
Michigan State University	East Lansing, MI	Specialization	C	CE	1	0	0	5	1
		M.A.Ed.	C	CE	0	0	0	4	0
		M.S.	C	CE	0	0	0	7	1
		Certificate	V	CE	0	0	0	4	0
Montana State University	Bozeman, MT	Minor	C	ES	8	0	0	6	0
		M.S.	C	CE	1	0	1	2	0
Ohio University	Athens, OH	Minor	C	CE	1	0	0	4	1
		M.S.	C, V	CE	2	0	0	10	0
Shippensburg University	Shippensburg, PA	Minor	C	ES	3	0	0	2	0
Smith College	Northampton, MA	M.S.	C	CE	7	0	0	7	2
United States Sports Academy	Daphne, AL	B.S.	V	SM	5	0	0	5	1
		M.S.	V	SM	2	0	0	2	1
Virginia Commonwealth University	Richmond, VA	M.Ed.	C, V	SM	0	0	0	3	1
West Virginia University	Morgantown, WV	Minor	C	CE	1	1	0	4	1
		B.S.	C	CE	7	4	0	10	3
		M.S.	C, V	CE	4	0	0	8	1

Note. V = Virtual; C = Campus; CE = Coaching; ES = Exercise & Sport Sciences; PE=Physical Education; SM = Sport Management

Values represent estimated number of courses based on curriculum webpages. Credit hours per course vary by institution.

Table 3

NCACE accredited programs offered through sport organizations.

Organization	Location	Delivery	Available Courses by Subject Area			NCACE Level	Price[c]
			Foundations	Safety	Sport / Age Specific		
American Sport Education Program (ASEP)	Champaign, Illinois	V	4	1	25	3	$20 - $50[d]
American Youth Soccer Organization	Fruit Heights, Utah	V	1	0[a]	7	1	NR
National Federation of State High School Associations (NFHS)	Indianapolis, Indiana	V	8	6	16	3	$30 - $100[e]
Professional Tennis Registry	Hilton Head, SC	V, P	0[a]	0[a]	7	3, 5	$120 - $160[e]
Special Olympics North America	Wilmington, NC	P	0[a]	0[a]	3[b]	3	$0 - $35[e]
USA Football	Indianapolis, IN	V	1	0[a]	6	1	$25 - $60[d]
USA Track & Field	Indianapolis, IN	P	2[b]	0[a]	3[b]	3	$215[d]
Virginia High School League	Charlottesville, Virginia	V	3	0[a]	0[b]	3	$30 - $40[e]

Note. V = Virtual; P = In Person; NR = Not Reported; a = Content included in other courses; b = Courses offered in collaboration with other organizations (e.g. NFHS);
c = Prices reflect an estimate of cost for minimum education level courses offered by the respective organization;
d = Cost for certification; e = Cost per course
Course values represent estimated number of available courses by topic area based on organization website.
Specific breadth and depth of content varies within courses by organization.

Table 4

Programs offered through various sport organizations.

Organization	Location	Delivery	Available Courses by Subject Area			Price[c]
			Foundations	Safety	Sport / Age Specific	
American Coaching Academy	Carson City, NV	V	7	1	0	$97[d]
National Youth Sport Coaches Association	West Palm Beach, FL	V, P	2	3	12	$20 - $40[d]
Positive Coaches Alliance	Mountain View, CA	V, P	3	0[a]	0	$30[e]
US Lacrosse	Baltimore, MD	V, P	3	2	3	$70[e]
US Soccer	Chicago, IL	V, P	0[a]	1[a]	4	$100 - $125
USA Hockey	Colorado Springs, CO	V, P	0[a]	0[a]	7	$50[d]
USA Rugby	Boulder, CO	V, P	0[a]	2[b]	4[b]	$0 - $250[d]
USA Swimming	Colorado Springs, CO	V, P	2	1	0[a]	$40[d]
USA Volleyball	Colorado Springs, CO	V, P	2	0[a]	2	$50 - $425[d]
USTA	Boca Raton, FL	P	0	0	2	$250[e]
Youth Enrichment in Sports	N/A	V, P	1	0	0	$0 - $25[e]

Note. V = Virtual; P = In Person; a = Content included in other courses; b = Courses offered in collaboration with other organizations (e.g. NFHS);
c = Prices reflect an estimate of cost for minimum education level courses offered by the respective organization;
d = Cost for certification; e = Cost per course
Course values represent estimated number of available courses by topic area based on organization website.
Specific breadth and depth of content varies within courses by organization.
Table is not an exhaustive list of available coaching education programs

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