

CAHPERD

California Association for Health, Physical Education, Recreation and Dance

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2021-2022

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CAHPERD MISSION

The mission of the California Association for Health, Physical Education, Recreation and Dance (CAHPERD) is to promote healthful lifestyles through quality education for all populations and provide leadership to school, community and statewide programs in the areas of health, physical education, recreation, dance and other movement-related programs. CAHPERD is an educational organization which will achieve its mission by supporting, encouraging, and providing assistance to members statewide, as they initiate, develop, conduct and promote programs of health, physical education, recreation, dance and other movement-related programs.



PRESIDENT'S MESSAGE



To my fellow CAHPERD Members,

It is my distinct pleasure to serve as the 2021-2022 CAHPERD President. The faith and trust you have bestowed upon me is both humbling and inspiring. The CAHPERD leadership team has worked diligently for the last 18 months adapting to the many changes in the world of health, physical education, recreation and dance. Like many state and national organizations, the pandemic stressed us to the brink, but we survived, and we persevere, and we get better together.

----- Adapting -----

The year of remote, hybrid, or modified instruction has left our students with a gap in their abilities. As health and physical education professionals, we are all noticing a learning loss in our students. The pandemic affected the motor skill development, physical activity levels, and fitness of our students. The children we work with are not only struggling physically, but also emotionally. The social and emotional skills in our students have also experienced a noticeable gap. Like we have always done, we are adapting; we are modifying our lessons to suit our students needs, giving them a safe and nurturing environment for them to grow in. We are focused in on what our students need and empowering them to attain their goals. Above all, we are doing our part to get them back to a place

where they value and enjoy physical activity. As professional teachers, we know the skill development and our students' abilities will improve with time. We understand that our job is to encourage our students to be life long movers and learners, and we believe that in the end, our investment of time will lead to our students becoming successful, healthy, and active for life.

As we enter the end stages of the pandemic, we are now starting to see the light at end of the tunnel. But as cliché as it might sound, it is always darkest before the dawn. Teacher morale is at its lowest point since the pandemic began. Teachers who were once challenged to do so much with so little are now asked to do the impossible with nothing. With no subs, no prep, no support, many teachers are feeling more isolated and alone than ever before, but because you are a CAHPERD member, you are not alone. We are here for you; we can help you; we are Better Together.

----- Better Together -----

Better Together is our 2022 state conference theme and I am excited that in just a few short months, we will be given the opportunity to be together in person. The conference team has put together an amazing program highlighted by our keynote speakers Liz Kleinrock and Anne Kubitsky. Liz Kleinrock is a classroom teacher and antibias antiracist educator. In 2018, she

received the Teaching Tolerance Award for Excellence in Teaching and in 2019, she delivered her TED Talk, "How to Teach Kids to Talk About Taboo Topics." Her new book, *Start Here Start Now*, is a guide to ABAR work in schools. Anne Kubitisky is the founder and CEO of the Look for the Good Project, an organization dedicated to the social and emotional health of K-6 students and school communities. I am excited to have these extraordinary people bring their passions and expertise to our annual event, and I hope that you can join us March 3rd-5th in Los Angeles.

----- **CORE Series** -----

Being Better Together goes beyond the in person conference. It is also about providing support and professional development opportunities all year long. CAHPERD continues to bring value to your membership. Our CORE series continues to provide monthly professional development sessions that can enhance your teaching and inspire new ideas. This year, we expanded the CORE series to include a one day live professional development workshop on November 11th. This three hour professional development day featured National Board Certified Teachers from across the United States. These amazing professionals shared their wisdom, best practices, and tips and tricks.

----- **Legislative Update** -----

Professional development is just one of the benefits of a CAHPERD membership. CAHPERD's dedicated and hard working legislative action team works behind the scenes for our members. Our legislative advocate, Kathy Lynch, represents us in Sacramento, monitors the California Senate and Assembly, and keeps our team informed. I want to give special thanks to Cindy Lederer and Tim Hamel for their hard work heading our legislative team. Of course, all of their efforts wouldn't mean anything without the advocacy and voices of our general membership.

----- **Thank You** -----

Our members are the heartbeat of this organization, and without you, we could not accomplish our mission. So on behalf of the Leadership Team, I want to thank you for your continued membership and encourage you to invite your colleagues, friends, and fellow professionals to join CAHPERD. Become a part of our mission to promote healthful lifestyles through quality physical and health education for all populations.

Sincerely,
Will Potter
CAHPERD President 2021-2022



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EDITOR'S MESSAGE

It was truly an honor to serve as the Editor-in-Chief for the Fall 2021 issue of CAHPERD Journal. I must take a moment to thank my fellow Journal Editorial Board Members for their invaluable contributions and all of their guidance throughout this process.

The Editorial Board and I are excited to share the content we have prepared for you and hope you find it helpful. Similar to the Spring 2021 issue, this issue contains three primary sections: peer-reviewed articles, Discover and Disseminate research abstracts, and CAHPERD Voices.

We were thrilled to have received three manuscripts that were submitted to CAHPERD Journal and for peer-review and accepted for publication. Each cover a diverse range of topics. The first, a narrative review, discusses how teachers can safely guide those students that experience food allergies and food intolerances. The physiological differences between food allergies and intolerances are discussed along with identifying those foods that most commonly trigger severe



allergic responses. Food allergy resources are also provided. The second article analyzed data from a survey distributed to principals employed across various schools and districts throughout the state of California. The aim was to provide insight to those pursuing a physical education teaching position and potentially strengthen their application for employment. Article three addresses how the current COVID-19 pandemic has influenced visitation trends at a popular climbing and bouldering destination: Bishop, California. The economic impacts of the decline in visitation are highlighted.

Within the Discover and Disseminate section of the issue, we highlight recent findings published in other HPERD journals through brief abstract reviews. This issue features six Discover and Disseminate abstracts that cover a range of topics including two that discuss cooperative learning's contribution to

social and emotional learning within physical education among students attending primary schools, best practices for preparing physical education teachers to instruct students with disabilities, exercise intensity and its effect on appetitive hormones in adolescents, and two that summarize the perspectives of physical education teachers' and their experiences providing distance learning during the pandemic.

To promote CAHPERD members to share their insight and experience regarding specific topics of interest, CAHPERD Voices has returned for this issue. We asked members to illustrate their successes teaching during the pandemic.

We look forward to receiving your original work, whether it be in the form of a peer-reviewed article or responding to a CAHPERD Voices prompt. We look forward to hearing from you in the near future!

CAHPERD Journal Editorial Board

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CAHPERD LEGISLATIVE REPORT: FALL 2021

One important job CAHPERD does for its members is keeping watch on legislative bills that are introduced every year which affect our subject matter and education in general. The 2021 LEGISLATIVE season started in January. Under our former association's structure, Vice Presidents and Section Chairs of each discipline evaluate bills that pertain to them. These leaders and their separate committees decide which bills we will Support, Watch, Amend, and/or Oppose. Letters are written by these leaders on all Support, Amend and Opposed Bills.

This year we have Supported the following Bills:

- Assembly Bills (AB) 309, AB 312, AB 334, AB 508, AB 748, and AB 856.
- Senate Bills (SB) 17, SB 224, SB 364, SB 395, and SB 784.

The Bills that we have Opposed were:

- Senate Bills (SB) 217 & SB 425.

The content of these bills can be found at the following site: <https://leginfo.legislature.ca.gov/faces/home.xhtml>

Any questions please contact our association's office.

It is up to you, our member, to be the watchdog within your district. Decisions are made everyday at the district level that affect your subject matter. It is important to meet and form a relationship with the Directors of Elementary and Secondary Education in your district. CAHPERD is here to help guide you on policies.

I would like to thank Past-President Patti Suppe, her 2020-21 CAHPERD Leadership team and their committees' commitment to taking care of their subject matters. Also, Past President Tim Hamel and past Vice President of Physical Education, Ken Dyar for their ongoing help with general education bills each year. I welcome President Will Potter and his 2021-22 Association Council Chairs and their committees to the upcoming 2022 legislative process.

Cindy Lederer
CAHPERD Legislative and Governance & Structure Committees
CAHPERD President 2017-2018



PEER-REVIEWED

SPORTS NUTRITION FOR STUDENTS WITH FOOD ALLERGIES & INTOLERANCES: NAVIGATING THE COMPLEXITIES

By Neal Malik and Christopher Gentry

Dr. Neal Malik is an Assistant Professor in the Department of Health Science and Human Ecology at California State University San Bernardino. Dr. Christopher Gentry is an Associate Professor in the Department of Kinesiology at California State University San Bernardino. Drs. Malik and Gentry share research interests in the promotion of optimal health among students in physical education.

Abstract

Food allergies (FA) among children and adolescents are becoming more prevalent, particularly in the U.S. A significant number of adverse food reactions occur at school. As nutrition resources, trainers and coaches must be aware of common FA issues as well as providing dietary guidance that will do no harm. For physical education teachers, a curriculum-based approach like Health Optimizing Physical Education may help to increase FA awareness and serve as a potential resource for those with FA. This paper will discuss general dietary recommendations for school-aged children, the differences between FA and food intolerances, as well as important considerations when providing dietary guidance to those with FA. Additional resources are also provided.



“A need has been identified to educate health professionals and the public regarding the prevalence of food allergies as well as foods that are most likely to trigger food allergies.”

Proper nutrition is crucial for any form of physical activity and optimizing athletic performance. Fitness trainers and coaches, in particular, often serve as nutrition resources for their athletes (Torres-McGehee et al., 2012). It is estimated that as many as 79% of fitness professionals provide nutrition advice to their clients (Skopinceva, 2017). Given this, along with the relatively recent increase in food allergies (FA) particularly among children, it is imperative that coaches and fitness trainers are familiar with the epidemiology of and treatments for FA. In addition, it is important that schools create critical consumers by providing quality health and physical education. For physical education teachers, a curriculum-based approach like Health Optimizing Physical Education may help to create these knowledgeable consumers (Metzler et al., 2013a; Metzler et al., 2013b).

It is estimated that every 3 minutes, an individual is sent to the emergency room because of a FA (Clark et al., 2011). The Centers for Disease Control and Prevention (CDC) has estimated that the incidence of FA in those under 18 years of age has increased by 50% between 1997-2011 (Jackson et al., 2013). This spike in food allergies, particularly among children and adolescents, is considered by some an epidemic (Feng & Kim, 2019; Gupta et al., 2013). It has been estimated that between 16%-18% of food allergy reactions happen at school (Sicherer & Mahr, 2010) and more than 10% of schools reported at least one case of anaphylaxis (Nowak-Wegrzyn, et al., 2001; Sicherer et al., 2001; White et al., 2015).

Several theories have been proposed for this increase in FA prevalence, but no consensus has been reached. Currently, approximately >300 million individuals experience a form of FA worldwide, of which approximately 15 million are in the U.S. Among U.S. patients, approximately 6%

are children/adolescents (5-17 years) however, this estimate includes those that self-diagnose (Messina & Venter, 2020). FA may significantly reduce quality of life among both children and their caregivers (Gupta et al., 2013). Specifically, those with food allergies may be more likely to be bullied, depressed, experience anxiety or even post-traumatic stress syndrome (PTSS) (Feng & Kim, 2019). In fact, it has been estimated that only 4% of teachers reported first-hand knowledge of bullying among students with FA, despite the fact that 45.4% reported being bullied because of their FA (Rajan & Laubach, 2013). A need has been identified to educate health professionals and the public regarding the prevalence of FA as well as foods that are most likely to trigger a FA. Therefore, instructors need to be aware of these issues and serve as potential resources to their students and their families.

Food Allergies vs. Food Intolerances/Sensitivities

A food is defined as any substance intended for human consumption, regardless of the amount of processing (Boyce et al., 2011). However, other substances that may be ingested, either directly or indirectly, such as pharmaceuticals, cosmetics, and tobacco products are not considered foods.

Food Allergies. The origins of food allergies are largely unknown. Some have theorized that genetic susceptibility (particularly, the filament-aggregating protein, or filaggrin gene) in combination with early exposures to specific foods and antibiotics may contribute to the development of FA particularly in children (Collins, 2016; Tezza et al., 2013). Correlations between comorbidities and FA do exist (Boyce et al., 2011). For example, children with asthma or a history of recurring ear infections may be more likely to suffer from FA

(Boyce et al., 2011; Garg et al., 2014). However, what is known is the FA response involves the activation of the immune system and, specifically, IgE antibodies (Shils & Shike, 2006). Food allergens (which are typically naturally occurring proteins or chemical haptens found in the offending foods) trigger the production of IgE antibodies in those that are susceptible along with the rapid onset of FA signs and symptoms (Boyce et al., 2011; Messina & Venter, 2020; Shils & Shike, 2006). IgE antibodies then sensitize white blood cells, particularly mast cells and basophils (Shils & Shike, 2006). Upon re-exposure to the allergen, these sensitized cells release histamine, prostaglandins, and leukotrienes that stimulate the immune system cascade. The IgE-mediated onset of symptoms may include one or more of these systems: gastric (vomiting, diarrhea, cramping), dermal (hives, itching, eczema), respiratory (difficulty breathing, wheezing), and oral (tingling, itching). Food-induced anaphylaxis is the result of the failure of multiple organ systems likely due to the chemical mediators released by mast cells and basophils (Boyce et al., 2011). The severity of symptoms is based on two factors: i) sensitivity of the individual, and ii) amount of food ingested. Therefore, a highly sensitive individual that consumes a large serving of the offending food(s) will likely have more severe symptoms. Of note, those that experience respiratory symptoms after exposure are more likely to suffer from anaphylaxis.

Food Intolerances/Sensitivities. Food intolerances, such as lactose intolerance, do not involve an IgE-mediated immune response (Messina & Venter, 2020; Shils & Shike, 2006). Rather, food intolerances are often caused by defects in gastrointestinal enzymes and trigger an IgG- or IgA-mediated response (Ortolani & Pastorello, 2006). IgG and IgA antibodies are the most prevalent in the body and are often the body's first line of defense against foreign pathogens (Woof & Kerr, 2005). While these responses involve dif-

ferent immunoglobulins, symptoms of food intolerance may be similar to those presented during a FA. As opposed to triggering the immune cascade, these symptoms tend to be less severe and there is virtually no risk of anaphylaxis ("Food Allergy", 2021).

Common Sources of Food Allergies. There are eight common foods that trigger over 90% of allergic reactions in those sensitized (Boyce et al., 2011; Shils & Shike, 2006). These include (listed in order from highest to lowest prevalence): i) all species of shellfish, ii) milk, iii) peanuts, iv) tree nuts, including almonds, walnuts, pecans, cashews, Brazil nuts, macadamias, pistachios, hazelnuts, hickory nuts, chestnuts, and pine nuts, v) eggs (yolks and whites) of all avian species, vi) all species of fish, vii) wheat, viii) soy, and ix) sesame (Gupta et al., 2013; Gupta et al., 2019; Shils & Shike, 2006; Warren et al., 2019).

Of these, the most common FA in children are peanuts, milk, shellfish, and tree nuts (Gupta et al., 2018). Among adults, the most prevalent FA are shellfish, milk, peanuts, and tree nuts (Gupta et al., 2019).

Some milks, such as goat milk, may be less allergenic when compared to cow's milk (Roncada et al., 2002).

However, if a milk allergy has been reported, it is recommended that the individual abstain from consuming all animal-derived milks. Regarding tree nuts, coconuts, kola nuts and shea nuts are rarely allergenic (Shils & Shike, 2006).

Approximately 40% of children with a diagnosed FA are allergic to multiple foods (Gupta et al., 2018). Fortunately, many children will outgrow their food allergies over time (Boyce et al., 2011). Many children will be able tolerate eggs, soy, milk and wheat by the time they reach adulthood. However, allergies to tree nuts tend to persist.

Most allergenic foods are rich protein sources. Protein is a necessary component of a nutri-

"Approximately 40% of children with a diagnosed food allergy are allergic to multiple foods"...

tious diet and is important for optimal growth and cellular repair. The Dietary Guidelines for Americans 2015-2020 state that school-aged children and adolescents require approximately 19-52 grams of protein each day (Medicine, 2006). Given that common allergens are food-based proteins, children and adolescents with FA may avoid many common sources of dietary protein. As a result, many may not meet these recommendations. In fact, growth impairment and macro- and micronutrient deficiencies are quite prevalent in children with FA (Mehta et al., 2013). Additionally, children with FA may be smaller for their age when compared to their counterparts (Flammarion et al., 2011).

Food Allergy Diagnosis. Given there is no cure or treatments for FA, identification of offending foods and their avoidance is of utmost importance (Boyce et al., 2011). An individual's health-care provider (ideally a clinician that specializes in food allergies) should determine which allergy tests are most appropriate. The most valid and reliable methods for FA testing include skin-prick tests and food elimination diets (Niggemann & Beyer, 2007). Typically, both are used in combination to determine those foods that are most likely to lead to allergic reactions. A food elimination diet requires the removal of one or a few specific foods and monitoring onset of specific signs and symptoms after the reintroduction of foods one at a time (Boyce et al., 2011). Double-blind placebo-controlled food challenges are considered the gold standard for diagnosing FA. However, others have reported issues with both of these methods, particularly given that cross-contamination may occur as well as issues of dietary compliance (Niggemann & Beyer, 2007). Skin prick tests may also be used to determine which foods are allergenic, but this needs to be used in combination with elimination diets and oral food challenges (Boyce et al., 2011). Diagnostic blood tests are not considered to be reliable or valid due to their high false-positive rates (Boyce et al., 2011). FA blood tests are testing food-specific IgE antibodies present in the body, however, there is an estimated 50-60% false positivity rate which may be the result of undigested food proteins or food proteins with similar molecular structures ("Blood Tests", 2021).

Providing Guidance to Those with Food Allergies

As nutrition resources, trainers and coaches must be aware of the common FA issues as well as providing dietary guidance that will do no harm. Therefore, complete avoidance of foods that are known to trigger an allergic response is critical. Similarly, some oils may not be allergenic based on the methods of processing. Whereas, others may continue to be highly allergenic. The quantity of food protein removed during processing may be the most important factor. Navigating these intricacies while providing dietary guidance can be complicated and contradictory at times. However, there are some important considerations that will likely apply to all, regardless of the specific FA they may experience:

- Nutrition guidance must always involve the parent(s) or caregiver(s). Fear reduction and improving self-efficacy may be worthwhile discussions. (Collins, 2016)
- Managing food allergies should incorporate a comprehensive approach that includes prevention, caution, and preparation for a reaction. (Collins, 2016) If a student has been identified with a true FA, coaches may need to discourage all student athletes from bringing the suspect food(s) to practice, games, the locker room, and other team gatherings to avoid exposure and potential reaction.
- Food allergies are considered a disability and reasonable accommodations must be made. (Collins, 2016)
- Those with food allergies should have an Emergency Anaphylaxis Plan. (Collins, 2016)
- Encourage careful reading of Nutrition Facts Labels. Depending on the severity of the FA, trace amounts of the allergen may trigger a reaction. Therefore, it is wise to look carefully at the ingredients listed. Ingredients are listed in order by weight, such that the first ingredient listed is what the product contains most of by weight.
- Do not rely on packaging statements such as, "may contain", "does not contain", "made in a facility that processes". The Food Allergen Labeling and Consumer Protection Act (FALCPA) does not validate the accuracy of these claims. These claims are provided voluntarily



- by the manufacturer (Boyce et al., 2011)
- Encourage the client or student to speak to their doctor about whether it is safe to consume specific oils, particularly those made from foods that are allergenic. Some are safe to consume, whereas others may trigger potentially life-threatening reactions (Hefle, & Taylor, 1999; Crevel et al., 2000; Hoffman, & Collins-Williams, 1994; Taylor et al., 1981; Bush et al., 1985).

To avoid cross-contamination between allergenic and non-allergenic foods, proper hand washing after contact with allergenic foods is important. Soap and running water appear to be most effective. Hand sanitizers may not be as effective and therefore are not recommended. When cleaning commonly used food preparation surfaces (countertops, sinks, cutting boards, etc.), cleaning sprays and sanitizing wipes appear to be most effective. (Perry et al., 2004). However, it should be noted that in order to be most effective, cleaning wipes should contain a commercial cleaning detergent such as Clorox® or Lysol® (Perry et al., 2004). Additionally, cleaning sprays that contain detergents

(i.e., Formula 409®) appear to be more effective. If cross-contamination is a recurring issue, separate food storage and food preparation spaces for use by those with FA may be needed. (Collins, 2016).

Fitness trainers and coaches often serve as nutrition resources for their athletes. Given this, along with the relatively recent increase in FA particularly among children and adolescents, trainers and coaches can better serve clients and students by providing accurate nutrition education while supporting their self-efficacy and overall quality of life. In addition, schools provide an important role in preparing both athletes and non-athletes in proper physical activity and nutrition practices through health and physical education. A curriculum model that is well outlined, such as Health Optimizing Physical Education that encourages collaboration among teachers (ex. physical education and health) and experts (ex. teachers, local and state health agencies, coaches, dietiticians, etc.) may be beneficial to create critical consumers during school age and beyond (Metzler et al., 2013a; Metzler et al., 2013b).

Additional Resources

- Center for Disease Control and Prevention Voluntary Guidelines for the Management of Food Allergies in Schools and Early Childhood Education
- Food Allergy Management and Education by St. Louis Children's Hospital
- Food Allergy & Anaphylaxis Connection Team's Food Allergy School Curricula Programs: http://www.foodallergyawareness.org/education/school_curricula_program-2/

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PEER-REVIEWED

PRINCIPALS' CRITERIA FOR HIRING TEACHING APPLICANTS IN PHYSICAL EDUCATION

By Grant M. Hill and Carlos Alvarez

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Abstract

The purpose of this study was to determine criteria principals prioritize when hiring physical education teachers. From an initial list of 619 elementary and secondary principals in a county in a southwestern state, 202 completed a 5-point Likert scale survey that included items from a previously validated survey (Wiley, 2016). The highest rated desired criteria were: the ability to create a fun and stimulating environment for students; demonstrate enthusiasm for teaching; strong classroom management skills, and the ability to provide a positive role model. Criteria that were rated the lowest included gender of candidate, residence that is located close to the school, possession of an MA or other advanced education degree, and cumulative college GPA. No significant differences were found when responses were compared by gender of principal for the top 16 criteria, suggesting these criteria are both objective and pervasive. The results also indicate the most highly ranked hiring criteria for physical education are very similar to other subject areas.



School principals are central in the hiring of new teachers. They are considered to be experts in teacher evaluation and bear primary responsibility in orienting new teachers to their building and providing helpful in-service education. Because there are normally multiple candidates competing for open teaching positions, principals are expected to utilize specific, uniform criteria when evaluating their qualifications. Since effective teaching is a staple of an effective school learning environment, hiring decisions may be the most important duty of principals. Consequently, it is imperative principals are able to accurately identify the best candidates based on interviews and application materials (Kimbrel, 2019).

I n order to help teacher candidates who are searching for a job, The National Education Association (Hart, 2016) has provided specific steps they can follow, such as organizing the portfolio, starting each day with a job hunt schedule, substitute teaching, adding a second area of certification, applying in locations that need new teachers, and preparing for a successful interview. The National Comprehensive Center for Teacher Quality (2007) has identified universal characteristics all teachers should possess including, classroom management skills, pedagogical knowledge, enthusiasm, and creating a fun and stimulating learning environment.

A number of studies have utilized surveys of principals to answer the generic question: Which criteria are most important to consider when hiring teachers in all subject areas? Wiley (2016) found the highest ranked characteristics for teacher candidates were enthusiasm for teaching, ability to provide a positive role model, ability to raise test scores and good classroom management skills. Other highly rated characteristics were: the ability to relate well with parents and colleagues, ability to increase student achievement of class objectives, and creating a stimulating classroom environment that engages students. Characteristics that were evaluated as low in priority included having a MA or other advanced degree in education, having traditional versus an alternative certification, distance of primary

residence from the school and gender. Stier and Schneider (2007) found that principals prefer candidates with prior successful teaching experience, but place much less importance whether candidates have an advanced degree because it does not guarantee they are a better teacher. Interestingly, almost half of the principals found that it is highly desirable to find candidates who can also coach. Cranston (2012) found that letters of reference are very important to principals in the hiring decision. Ziebarth-Bovill, Kritzer, and Bovil (2012) reported that the highest principal rated hiring criteria were enthusiasm for teaching, staff collaboration, professional responsibility, willingness to accept additional duties, classroom management skills, positive personality traits, motivational skills, maturity, self-reflection and self-management. Kono (2010) identified four domains principals consider when hiring new teachers: 1) personal traits and skills: sense of responsibility, honesty, punctuality, trustworthiness, and emotional stability; 2) professional traits and skills: communication skills and commitment to education; 3) school wide traits and skills: enthusiasm, professionalism, positive attitude, good judgment, and strong problem solving skills; and classroom traits and skills: 4) classroom management skills, planning and preparation, purposeful lessons, and respect for students. Balter and Duncombe (2006) reported that school administrators in New York public schools rated as very important, references and recommendations, teaching philosophy, pedagogical/subject knowledge, certification in subject to be taught and classroom management. In contrast, GPA, teaching portfolio, distance of the school to where the candidate lived, and potential involvement in extracurricular activities were rated as low priority.

While there are generic skills all teachers should possess, some teaching skills are specific to teaching physical education such as classroom management skills, educational background in kinesiology, and knowledge of the state standards for physical education (Graham et al., 2016). Specific skills needed to be a successful physical education teacher may vary by school, based on the principal, the facilities, the existing physical education staff, and the priorities of the physical education program. Dillon, Rocco, McCaughtry, and Hum-



mel (2010) found that physical educators are evaluated on interpersonal skills more so than on teaching capabilities, extracurricular experiences, or technology skills. In addition, they found school hiring committees normally lack physical education teachers' membership and are often comprised of just one person rather than a group of individuals.

Since school principals are primary decision makers in the teacher hiring process, it appears important to determine specific criteria they deem to be the most critical when hiring physical education teachers. By soliciting the perceptions of principals, prospective physical education teaching candidates will gain insight into the hiring process and, potentially, better prepare specifically focusing on skills and attributes that have been identified. In addition, school personnel on selection committees will be better able to develop or refine a set of uniform criteria that can be consistently applied during the selection process.

Methods

In order to develop a set of criteria, a previously validated survey, "Urban School Principals' Preferred Teacher Characteristics and How They Influence Practices" (Wiley 2016) was selected. This 16-item validated survey instrument was previously used for multiple school subjects. After a review by a panel of Physical

Education Teacher Education (PETE) faculty, including a former high school principal, one of the items was modified from "ability to raise student test scores" to "articulates specific strategies to increase student fitness scores." Nine additional items were added because they have been deemed by past researchers to be important to the physical education teacher selection process (Dillon et al., 2010): 1) knowledge of the State Standards for Physical Education, 2) recommended by others who have seen the candidate teach, 3) has a degree in Kinesiology or PE, 4) appears to be fit/athletic, 5) has past athletic playing experience, 6) is able to coach one or more sports, 7) is on-time for the interview, 8) is professionally dressed for the interview, and 9) has a high college cumulative GPA. A 5-point Likert scale was utilized to allow participants to rate each of the 24 items separately. The scale was: 1 = no priority, 2 = low priority, 3 = moderate priority, 4 = high priority, 5 = essential priority. As a result, the final survey was a combination of two previously validated instruments. The survey was tested for reliability using a test/retest format with a group of 25 physical education teachers and yielded a reliability coefficient of above .85 for each item. An eventual rank order of characteristics was determined when the means for each item were calculated.

An email list of 619 principals who were employed in a county public, elementary, middle or high school in the State of California was

obtained. An e-letter describing the study was sent, soliciting their participation in the study. Eventually, 202 of the principals agreed to participate and completed the survey using a Google form link that was provided. Principals received a follow up reminder to complete the survey two weeks after the initial email.

Data Analysis

Descriptive statistics were used to calculate the means for each item, along with the percentage of “High Priority” and “Essential Priority” selected for each question. This allowed for a prioritized list of characteristics ranked from highest to lowest. For the demographic section, the participants indicated their gender, years of teaching experience, subject taught, years of administrative experience, approximate student enrollment at the school, school level they work, participant’s ethnicity, student’s population ethnicity, and degree earned.

A Qualtrics link to the survey was sent to each of the respondents. Several follow-up reminder emails were sent. The data was later downloaded into an Excel spreadsheet. Data analysis included descriptive statistics and T-tests comparing responses by gender.

Results

All 202 participants were current principals of schools in one county, ranging from elementary to high school. Of those who reported their school level (N=196), 74 worked at an elementary school (37.8%), 61 at a middle school (31.1%), 46 at a high school (23.5%), 8 at a K-8 school (4.1%), and 7 at a 6-12 school (3.6%). Principals averaged 15.4 (S.D.=8.7) of teaching experience, prior to being an administrator and had an average of 11.2 years of administrative experience (SD=6.1). Of those who indicated their ethnicity (N=190), 83 were Caucasian (43.7%), 74 were Latino/Hispanic (38.9%), 19 were African American (10.0%), 8 were Asian (4.2%), and 6 were mixed (3.2%). Of the 192 respondents who indicated their gender, 119 (62.0%) were females and 73 (38.0%) were males.

In Table 1 the ratings of the characteristics by the principals using a Likert scale are displayed with scores arranged from highest (5.0) to lowest average score (1.0). Classroom management skills (4.73), demonstrate enthusiasm for teaching (4.63), ability to create a fun and stimulating environment for students (4.53), and ability to provide a positive role model (4.47) were the highest rated characteristics. In order to compute percentages of strong agreement, the Likert scale responses, “4- High Priority” and “5- Essential Priority” were combined. This resulted in four characteristics that were rated at the ‘4’ or ‘5’ level by over 90% of the respondents: 1) the ability to create a fun and stimulating environment for students, 2) demonstrate enthusiasm for teaching, 3) classroom management skills, and 4) ability to provide a positive role model.

The lowest rated characteristics in terms of both average Likert scores and percentages of “High Priority” or “Essential Priority” were: 1) gender of candidate (1.63 and 3.4%), 2) candidate lives reasonably close to the school (1.89 and 4.4%), 3) college grades (cumulative GPA) (2.10 and 7.4%), and 4) earned an MA or other advanced education degree (2.15 and 8.4%).

A one-tail t-test was used to compare the Likert scale means by gender for all 24 items. No significant differences for any of the top 16 of the 24 items, however, the means for males were significantly greater ($P < 0.05$) than females for three items: 1) Candidate lives close to the school (2.11 vs. 1.73), Gender of the applicant (1.89 vs. 1.47), and Applicant can coach a sport (3.15 vs. 2.70).

Discussion

The results of this study are similar to Kono (2010), Maynes and Hatt (2013), and Wiley (2016) who also found that principals rated a teacher candidate’s enthusiasm for teaching, classroom management skills, and the ability to provide a positive role model as highly desired traits. The consistency of these findings suggests the criteria principals utilize for selecting physical education teachers and teachers of other subject areas are quite simi-

Table 1. Principals' 5-Point Likert Scale Ratings of Criteria for Prospective Physical Education Teachers

Teacher Characteristics	Likert-Scale		% who rated item as High (4) or Essential (5)	
	Mean	S.D.	N	%
Classroom management skills	4.73	0.49	198	97.5
Enthusiasm for teaching	4.63	0.54	196	96.6
Able to create a fun and stimulating classroom environment	4.53	0.57	194	95.6
Provide a positive role model	4.47	0.60	191	94.1
Is on time for interview	4.25	0.83	168	82.1
Relates well with colleagues	4.18	0.71	169	83.3
Philosophy of learning is a good fit with school mission statement	4.16	0.80	162	79.8
Articulates specific strategies to increase student achievement	4.14	0.77	154	75.9
Knowledge of the state Standards for Physical education	4.05	0.86	156	76.8
Professionally dressed for interview	4.02	0.96	149	73.4
Articulates specific strategies to increase student fitness scores	3.98	0.85	154	75.9
Relates well with parents	3.95	0.85	144	70.9
Recommended by others who have seen the candidate teach	3.83	0.88	136	67.0
Has a degree in Kinesiology or PE	3.11	1.24	83	40.9
Has documented prior successful teaching experience	3.04	0.96	60	29.6
Has completed a high-quality undergraduate or graduate program	3.00	1.06	64	31.5
*Is able to coach one or more sports	2.89	1.21	67	33.0
Completed a traditional rather than alternative teacher cert. program	2.75	1.20	48	23.6
Appears to be fit/athletic	2.63	1.16	48	23.6
Has past athletic playing experience	2.39	1.09	39	19.2
Has earned an MA or other advanced education degree	2.15	0.93	17	8.4
High college cumulative GPA	2.10	0.93	15	7.4
* Lives reasonably close to school	1.89	0.89	9	4.4
* Gender of participant	1.63	0.98	7	3.4

*Indicates significantly higher means for males than females, $P < 0.05$

lar. The results are also consistent with other studies that found low priority was given to such factors as college GPA, the possession of an advanced degree such as an M.A. and how close the candidate lives to the school (Balter & Duncombe, 2006; Cranston, 2012).

The findings indicate principals want physical education teachers who can keep students engaged in a positive manner and maintain control of their classroom. Keller et al., (2014) stated when there's a positive enthusiasm towards teaching and students, student interest increases as well, as opposed to teachers who do not show enthusiastic behavior or enjoyment. Consequently, it appears as though principals believe if a teacher is enthusiastic about their subject area, they will be more likely to generate student interest and engagement in their classrooms.

It is encouraging no statistical differences were found by gender for any of top 16 items. This result suggests that both male and female principals, in general, share a desired set of characteristics for teaching candidates. This finding also suggests objectivity, rather than subjectivity, among principals in regards to the primary criteria used to select physical education teachers.

It is encouraging that over 75% of the principals rated the candidates' knowledge of the state standards for physical education and ability to articulate specific strategies to increase student fitness scores as a high or essential priority in the hiring decision. This finding suggests most principals understand the central purposes of physical education curricula and want to hire individuals who can help students develop competencies in all three domains of learning and live more physical active lifestyles. In contrast, low percentages of principals rated having a degree in Kinesiology or PE, appearing to be fit/athletic, or having past athletic playing experience as high or essential hiring criteria. A possible explanation for this finding is that the

principals felt that even if a candidate possess these attributes/experiences, there is no assurance they will be effective teachers.

The study was limited to only principals who were administrators for schools in a large county area school district. Over 600 emails were sent to principals and 202 completed on-line surveys; a 33% return rate. The return rate may not have been representative of the entire county and consequently, limits the generalizability of the findings to other groups.

Future research could include assistant principals, since they often sit on interview panels for hiring potential teaching candidates and many will eventually become principals. A qualitative study with open-ended question could be implemented so principals could more fully

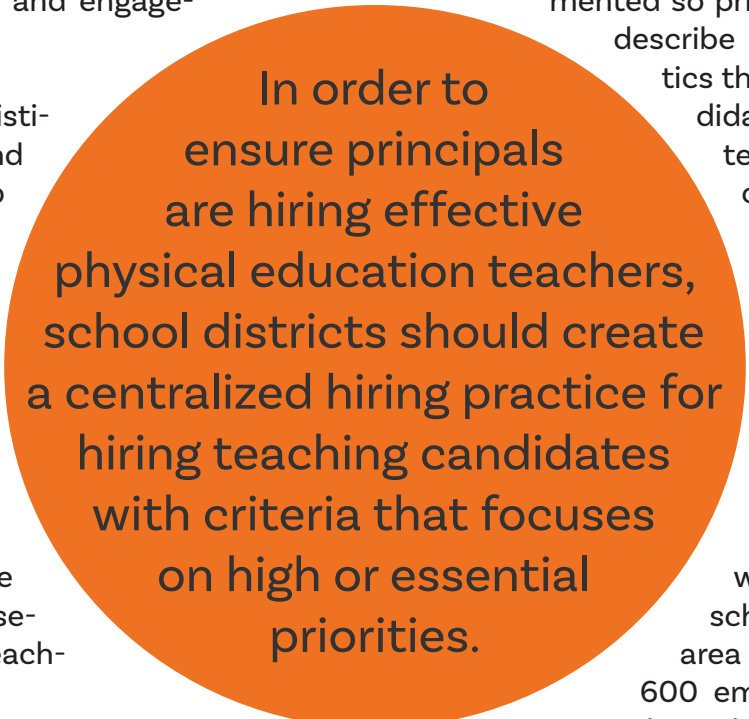
describe important characteristics they seek in teaching candidates. It would also be interesting to determine the composition of interview committees candidate possesses these attributes/experiences, there is no assurance they will be effective teachers.

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surveys; a 33% return rate. The return rate may not have been representative of the entire county and consequently, limits the generalizability of the findings to other groups. Principals could also be asked about their knowledge and/or experiences in physical education, including the national and state content standards to see if that impacts their hiring decisions.

Recommendations for Professional Practice

In order to ensure principals are hiring effective physical education teachers, school districts should create a centralized hiring practice for hiring teaching candidates with criteria that focuses on high or essential priorities. School districts



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should also evaluate the quality of past hiring decisions to determine whether those teachers were later effective in the classroom. If some of those hires turned out to be less than satisfactory, then school districts should reexamine the hiring criteria as well as the composition of the interview committees. It also appears to be important to list the specific criteria in physical education job announcements and emphasize the importance of documented competency for each of the criteria.

Physical education candidates can use these findings to better prepare for interviews for potential openings and/or while completing their teaching credential program. During their student-teaching, teaching candidates can practice implementing and developing the characteristics principals have identified as essential.

University PETE faculty can reinforce the importance of implementing classroom management skills and emphasize the importance of creating a stimulating and engaging learning environment while physical education teacher candidates are under their supervision. University supervisors should also observe teaching candidates during their pre-service field experiences to determine whether they are being enthusiastic about their teaching, providing a positive role model, and utilizing a classroom

management system that fully engages students in activities. In addition, participating in mock interviews will allow teaching candidates to receive feedback from PETE faculty regarding how effectively they can explain what they have learned through practice lessons, field work and student teaching, as well as their teaching philosophy. The Society for Health and Physical Educators America (SHAPE, 2015) created a guidance document which includes many suggested job interview questions for prospective physical education teachers. Hopefully, by incorporating these practices, prospective physical education teachers will be better prepared and interview teams will make prudent hiring decisions.

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PEER-REVIEWED

THE ECONOMIC IMPACT OF ROCK CLIMBING IN BISHOP, CALIFORNIA

By James N. Maples, Michael Bradley, Mary Boujaoude,
Mora N. Rehm, & Tim Golden

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Abstract

This study examined the economic impact of rock climbing in Bishop, California. Bishop is a popular climbing and bouldering destination located in Inyo County. The authors estimated Bishop receives 88,890 climbing-related visits annually alongside \$15.6 million in climbing community expenditures. However, the authors estimate that visitation was reduced by 65% from 2019 to 2020 due to pandemic travel closures and reluctance to travel. This equates to roughly \$10 million dollars in lost expenditures.



“Bishop climbing-related visits were reduced by 65% from 2019 to 2020 due pandemic travel closures and reluctance to travel. This equates to roughly \$10 million dollars in lost expenditures.”

Outdoor recreation represents a valuable form of economic activity across the United States (OIA 2017). Rock climbing’s economic impact has demonstrated particularly valuable in rural transitional economies (Maples et al., 2017; Maples et al., 2019). However, these studies have mainly focused on the Eastern half of the nation, leaving gaps in climbing literature.

The purpose of this study is to examine the economic impact of rock climbing in Bishop, California, establish climber visitation estimates there, and consider how COVID-19 may have impacted climber spending patterns. The authors utilized a 2019-20 field survey of Bishop climbers to collect data on climber expenditures and use patterns and a 2019-20 car count to model out annual visitation patterns. Using IMPLAN to analyze the data using Inyo County as a study area, results indicate climbers spend an estimated \$15.6 million annually in Bishop and the surrounding area based on 88,890 climbing visits per year. COVID-19 restrictions and concerns over travel likely reduced expenditures by an estimated \$10 million in 2020, however.

Outdoor recreation is an important part of the United States economy, creating \$887 billion in expenditures in 2017 (OIA, 2017). In 2019, outdoor recreation supported an estimated 578,480 jobs in California, roughly 2.4% of the jobs in the state (USBEA, 2019). Climbing is a fast-growing economic sector in outdoor recreation (Maples et al., 2019; Maples et al., 2017). Nationwide, climbing contributes \$12.45 billion to the American economy (AAC, 2017). Climbing also represents a form of sustainable tourism for rural and transitional economies (Maples, 2021). However, these studies have largely focused on Eastern states, leaving a need for more research on West Coast destinations and particularly in California.

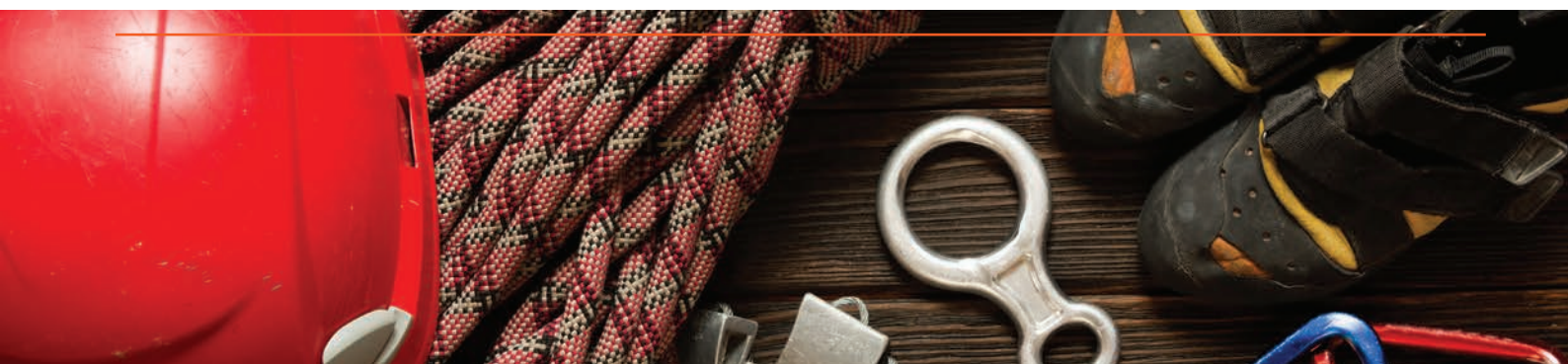
In 2019, California ranked first among all states in Outdoor Recreation Satellite Account (ORSA) value added, and 25th among all states in value added growth (USBEA, 2019). Since 2018, ORSA value added has grown alongside the rest of the US at 3.7%. Much of this value (52%) derives from ORSA supporting activities, which include construction, travel and tourism, local trips, and government expenditures, that contribute to core/conventional activities such as camping, hiking, boating, and hunting (listed at 27% for value-added composition). Further, a total of 578,480 jobs are supported by such economic activities (USBEA, 2019).

Inyo County, where Bishop is located, is a largely rural area along the Nevada-California border. Although it is the second largest California county, around half of that land is part of Death Valley National Park. In 2019, Inyo County had 17,333 residents, roughly half of which were in still in the labor force (8,593) per the Census Bureau’s American Community Survey 2019 results (Census Bureau, 2019). The largest industries in Inyo County are education and health care (1,975) and recreation and accommodations (1,190). The latter includes campgrounds and motel workers as well as parks and recreation jobs that support outdoor recreationists visiting the region.

Bishop is located in the northern end of Inyo County along the Sierra Nevada mountains. The region is home to the Paiute and Shoshone people and is well-known for its climbing. Located in the region natively known as Payahuunadü, mining and ranching interests developed Bishop on Indigenous lands in the 19th century (Bishop Paiute Tribe, n.d.). Today, Bishop is the largest populated place (3,875 as of 2020) in Inyo County and is also its only incorporated city (Census Bureau, 2019). Over the last two decades, Bishop gained fame as a climbing and bouldering des-

Table 1: Economic Expenditures for Bishop Climbing Area Visitors Between November 1, 2019 and March 15, 2020

Variable	Count	Expenditures inside Inyo County/Bishop				Expenditures Beyond Inyo County but within CA		IMPLAN Category
		Min (\$)	Max (\$)	Mean (\$)	SD (\$)	Mean (\$)	SD (\$)	
Hotel	41	7.50	210.00	83.54	58.40	-0.00	-	507
Camping	44	2.50	70.00	20.88	14.92	1.38	5.83	508
Cabin/Rental	7	3.00	166.00	71.61	55.17	-0.00	-	508
Gas	184	0.00	160.00	52.28	37.53	37.17	75.70	408
Fast Food	184	0.00	50.00	6.82	13.03	1.74	5.34	510
Dine-In	179	0.00	133.00	35.21	31.81	6.76	19.99	509
Convenience Food	182	0.00	30.00	5.26	7.51	2.09	5.40	408
Groceries	179	0.00	150.00	34.92	35.90	12.05	36.56	406
Retail	185	0.00	50.00	4.66	11.59	-0.00	-	411
Rec Retail	184	0.00	120.00	16.71	29.54	1.16	7.80	410



tionation featuring massive quartz boulders in an area known as the Buttermilks and sport climbing in the Owens River Gorge. Bishop's relative proximity to San Francisco and Los Angeles offered an ideal regional climbing hub while nearby airports encouraged climbers to visit from around the globe.

Research on climbing indicates it is a thriving part of the outdoor recreation economy. In recent years, researchers have examined the economic impact of climbing in Tennessee, Nevada, West Virginia, and Kentucky to name a few (Bailey & Hungenberg, 2020; Christensen, 2016; Maples et al., 2019; Maples et al., 2017;). These studies consistently find climbing communities generate millions in expenditures from their visits to climbing areas. Recent work also posits climbing presents a form of sustainable rural tourism that can be a centerpiece for rejuvenating transitional economies (Maples, 2021). However, one ongoing issue among these studies is a minimal examination of Western states, particularly in California, which holds many established climbing areas.

Methods

Economic impact study areas are built around the location where the activity being studied (climbing) occurs and the cities and towns where visitors are most apt to spend funds as part of their trip. For this analysis, Inyo County, California is being used as the study area. This study area was constructed by locating and examining economic activities and services available in the region, major roadways, and visitor destination locations based around the event being studied.

Researchers collected data via in-person surveys of climbers visiting Bishop from November 1, 2019 through March 15, 2020. As economic impact studies focus on persons visiting the region, data were only collected from persons living outside of Inyo County (White, 2017). In all, 216 persons responded to the survey. The survey included a series of expenditure questions designed to understand visitor purchases while climbing in Bishop and the surrounding 35 mile area (Maples et al., 2019). Questions examined expenditures in lodging (hotel/motel, camping, and cabin/home rentals), food

(fast-food restaurants, dine-in restaurants, convenience store food, grocery stores), gasoline purchases, and retail purchases (general retail and recreation retail). The survey asked respondents to note estimated expenditures (in dollars) first within a 35 mile radius of Bishop (which is represented by using Inyo County as the study area) and again outside of Inyo County but within California during their current trip. Note that the surrounding area of 35 miles was included to cover travel throughout Bishop as well as stops at campgrounds, restaurants, gas stations, and the nearby airport. However, the researchers argue expenditures are decidedly focused on Bishop as spending options beyond Bishop are very limited.

The researchers estimated visitation using parking lot counts from 2019 and 2020 during the height of the climbing season to create an estimate of visitation in 2019. This included all parking options for Bishop: the Buttermilks, Happies, Sads, and three lots at the Owens River Gorge. These lots are almost universally used by climbers. Car counts for an entire year were not fiscally possible so the researchers focused on select observations of the heaviest visitation period (roughly mid-November through mid-April) as little climbing occurs the rest of the year. Lot counts were provided by the Bishop Area Climbers Coalition. As cars may come and go during the day, the researchers assessed what percent of the parking lot was full each day based on the available number of spaces. These percentages were extrapolated to similar days: for example, February weekdays could be based on two observations indicating 30% of the parking lots were full during the week. Using this process, the researchers built an entire year's visitation patterns. These patterns were later fact-checked in climber focus groups to reduce risk of estimation error.

Using this approach, the researchers estimate approximately 49,433 cars are parked in climbing parking lots during a typical year. Researchers estimate 1.8 climbers per car, based on survey responses and group observations, which leads to an estimated 88,890 climber visitors per year to Bishop. Based on interviews with Bishop/Inyo County residents who climb, the researchers estimated 7.5 percent of these visits are from persons living in-

Table 2: Economic Impact Summary

Impact Type	Employment	Labor Income (\$)	Value Added (\$)	Output (\$)
Direct	107.7	4,278,402.00	6,169,534.00	9,703,997.00
Indirect	9.0	399,194.00	608,960.00	1,262,783.00
Induced	10.8	456,561.00	1,088,027.00	1,755,737.00
Total Effect	127.5	5,134,156.00	7,866,521.00	12,722,517.00

ers per car, based on survey responses and group observations, which leads to an estimated 88,890 climber visitors per year to Bishop. Based on interviews with Bishop/Inyo County residents who climb, the researchers estimated 7.5 percent of these visits are from persons living inside Bishop or the Inyo County study area. This results in an estimated 82,223 climber visits by persons living outside of the study area. Given survey lodging data, the researchers also estimate 90% of visitors (74,000 visitors) stay at least one night because of their visit. Based on survey responses, the researchers attribute 45% of these to camping use, 45% to hotel/motel use, and 10% to cabin or rental homes (N=216).

Table 1 notes mean climbing expenditures in this study area. Climbers choosing to stay in hotels spent an average of \$83 per person in lodging, while those camping spent an average of \$21. Climbers using rental cabins typically spend around \$71. On average, climbers visiting Bishop spent \$52 inside Inyo County on gasoline during their visit. Climbers are also frequent visitors to local restaurants as well as getting a quick bite at local gas stations, spending nearly \$7 per trip on fast food, \$35 at dine-in restaurants, around \$5 per trip on quick food from gas stations, and almost \$35 per trip on groceries at local grocery and farmer markets. Table 1 also includes expenditures beyond Inyo County but within California. There, most expenditures were minimal, save gasoline.

Table 1 also includes IMPLAN categories used for modeling these activities. IMPLAN (IMPacts

for PLANning) is a leading economic impact estimator that utilizes inputs (such as a climber buying pizza) to estimate outputs (how money from that pizza purchase supports local wages). In IMPLAN analyses, the researchers assign spending values to specific sector categories (see Table 1). These patterns are then analyzed in IMPLAN using their proprietary dataset and historical knowledge of economic patterns, as well as any visitation patterns included by the researchers. The result is a measure of how spending supports local wages and so forth.

Results

Economic Impact. Table 2 summarizes the economic impact analysis of climbing in Bishop using Inyo County as a study area. There, the researchers estimated climbers spend \$15.6 million annually in a typical year. This estimate comes from \$4 million in lodging and \$11.5 million in food/gas/retail expenditures during a typical climbing season plus \$102,675 in festival expenditures from two annual festivals (the Highball and the Women’s Climbing Festival) which were examined in a separate study. Table 2 highlights what occurs when these funds were spent inside the study area. Focusing on labor income (the most conservative measure of economic impact of the three listed), climbing generates an estimated \$5.1 million in labor income inside Bishop and Inyo County. Table 3 further highlights how these expenditures impact taxation in the study area. Climber expenditures produce taxes at the local, state, and

Table 3: Annual Estimated Taxation Generated

Tax Type	State/Local Amount (\$)	Federal Amount (\$)
Employee Compensation	\$19,738.00	\$436,893.00
Proprietor Income	\$0.00	\$61,839.00
Tax on Production and Imports	\$809,573.00	\$156,944.00
Households	\$210,511.00	\$418,227.00
Corporations	\$18,660.00	\$32,675.00

federal levels. In all, climbers' estimated expenditures supported \$1,058,482 in local/state taxes and \$1,106,578 in federal taxes.

Climbing expenditures also support jobs in the study area. Note IMPLAN reports jobs related to economic expenditures in portions of jobs rather than whole jobs. The idea is few jobs would be entirely dedicated to climbers as clientele. Likewise, jobs estimated can include a mix of part and full-time jobs, as well as proprietors. With these explanations in mind, the researchers estimated climbing expenditures support around 127 jobs in the study area. Table Four notes what kinds of jobs are supported by climbers' expenditures in the study area. These include jobs in full-service restaurant jobs (including wait staff and kitchen work), hotels and motels (such as cleaning, desk staff, and attendants), other accommodations (including campgrounds and rental cabins/houses), grocery stores, fast-food restaurants, gas stations, and sporting goods stores.

Impacts of COVID-19. In 2020, public lands inside Bishop's climbing community closed from March 16 through June 15 due to the pandemic. Much of this closure occurred as Bishop's climbing season ended. Returning to the parking and visitor estimates used earlier in this study, the research team argues this closure resulted in approximately 23,700 fewer visits, or around a quarter of annual visitation. As recreation areas across the nation reopened over the 2020 summer months, climbers remained

hesitant to return after the closures. Compared to the previous year's data, 2020 data indicated visitation was reduced approximately 40% for the remainder of the year. This accounted for a reduction of an estimated 33,300 visits from mid-June through the end of the year. When totaled, the researchers estimate the pandemic resulted in a reduction of approximately 57,000 visits. This decreased visitation by nearly 65% to approximately 32,000 visitors. This change in visitation negatively impacts typical climber expenditures. Based on these pandemic visitation patterns, climbers spent an estimated \$2.6 million less in lodging and \$7.4 million less in daily expenses like gas and restaurant visits. As a result, Bishop and indirectly Inyo County likely lost over \$10 million in potential climber expenditures in 2020 because of the pandemic.

Conclusions

The findings of this study add new evidence to the claim that rock climbing is a valuable form of economic impact in outdoor recreation. What is perhaps most notable in this study is the effect of closures in reducing economic expenditures. As a result of the pandemic, the early closure, climbers' overall hesitance to travel, and the cancellation of one of the two festivals, the typical expenditures by climbers precipitously dropped. This links to the ongoing concerns about unexpected closures in climbing areas. Due to potential state

Table 4: Labor Income Generated

Employment Sector Type	Jobs Supported	Labor Income in Sector (\$)
Full-service restaurants	41.4	\$1,253,735.00
Hotels and motels	26.0	\$1,047,505.00
Other accommodations	16.8	\$734,195.00
Retail-food and beverage stores	11.2	\$492,819.00

the ongoing concerns about unexpected closures in climbing areas. Due to potential state policies, public climbing areas can be closed on short notice, leading to reduced climbing opportunities. However, this conversation may be lost in the long-term economic consequences for the areas where these climbing expenditures ceased. This study provides an early example of how the pandemic impacted outdoor recreation areas while also quantifying the negative effects of reducing outdoor recreation-related tourism.

Climber expenditures in this study also indicate climbers are finding the services they desire locally. In every case, expenditures were larger inside the county, which indicates climbers are finding the services they need locally. For example, grocery expenditures were almost a third of what was spent in Inyo County. Likewise, lodging and retail expenditures were minimal, and in some cases effectively zero. This data indicates climbers overall do not feel a need to stop in towns or cities before Bishop to stock up for their trip. Instead, they are keeping their purchases local to Bishop, which means that climbers are likely interested in spending money in their climbing areas. This trend supports conducting further studies of climbing areas on the West Coast to support providing an aggregate national picture of climber expenditures across the nation.

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DISCOVER AND DISSEMINATE

The CAHPERD Editorial Board is proud to present the 4th issue of Discover and Disseminate. This literary work is designed to succinctly offer original abstracts from previously published articles for the CAHPERD membership to discover research, teaching tips, and other ideas from the HPERD

Abstract #1

Article: Dyson, B., Howley, D., & Shen, Y. (2021). 'Being a team, working together, and being kind': Primary students' perspectives of cooperative learning's contribution to social and emotional learning. *Physical Education and Sport Pedagogy*, 26(2), 137-154. DOI: 10.1080/17408989.2020.1779683

Background: There has been a growing amount of interest in cultivating social and emotional learning (SEL) in physical education. However, how SEL skills can be taught and measured in physical education (PE) needs further exploration. In PE there are several model-based approaches that have emerged as potentially effective in developing SEL which include adventure-based learning, cooperative learning (CL), sport education, and teaching personal and social responsibility. There are five non-negotiables that need to present for CL to emerge: (a) positive interdependence, (b) individual accountability, (c) face-to-face interaction, (d) interpersonal skills, and (e) group processing.

Purpose: This qualitative study, using an SEL framework from Jones et al. (2012), sought to explore how CL cultivated SEL outcomes in PE.

Methods: Case study methodology was implemented for the design and included use of field notes (n = 48) and focus group interviews (n = 32) as means to collect data. The study occurred over two years, which established prolonged engagement. Participants included PE students from grades 3-5 at four primary schools in New Zealand. Teachers taught PE using a CL approach to enhance SEL skills. Data were analyzed using constant comparison and inductive processes. Trustworthiness was found through techniques that produced credibility, dependability, confirmability, and transferability (Lincoln & Guba, 1985).

Findings: Four themes were discovered from the data corpus: (a) being part of a team, (b) learning how to listen, (c) helping and encouraging each other, and (d) making physical education fair. Being part of a team was represented by data that demonstrated students' enjoyment and responsibility for working as a team in PE. Learning how to listen was found through students' acknowledging and describing how they were able to listen, coupled with field observations of them displaying such behavior in class. The third theme of helping each other emerged through the students' ability to use encouraging words and feedback to members of their small group. Fairness was found through students acknowledging the need for teams to include balanced ability level (i.e., heterogeneous grouping).

Implications: CL was seen to be a valid model-based approach for the teachers to promote SEL outcomes with students (e.g., teamwork, listening, encouragement, and fairness). Teaching PE with CL is not always easy and successful. Teacher training (e.g., courses, workshops, and other forms of professional development) and practice using model-based practices, such as CL, is recommended to provide the best possible delivery of such instruction.

Submitted by Paul T. Stuhr, California State University San Marcos

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Abstract #2

Article: Fernandez-Rio, J. & Casey, A. (2021). Sport education as a cooperative learning endeavor, *Physical Education and Sport Pedagogy*, 26(4), 375-387. DOI:10.1080/17408989.2020.1810220

Background: Sport Education (SE) is one of the most widely researched instructional models in the field of sport pedagogy. SE is a pedagogical approach that empowers students to take part in an authentic sporting/movement experience. As such, research involving SE points to physical education student outcomes associated with social, physical, and cognitive learning.

Purpose: This quasi-experimental study sought to determine whether SE could be used as a model-based practice to improve five cooperative learning characteristics (interpersonal skills, group processing, positive interdependence, promotive interaction, individual accountability, and global cooperation) among student participants.

Methods: A pre-test, post-test research design involving 90 high school students was implemented using two groups of students (experimental and control). SE served as the intervention (independent variable). Through the use of a validated questionnaire the researchers sought the perspectives of the students as it related to the five elements of cooperative learning (dependent variable). Group A consisted of 48 students who were randomly assigned to the experimental group. Group B included 42 randomly selected students and were part of the comparison class. Both groups of students received a 12-lesson football unit using SE. Following the football unit, group A continued receiving SE for a 12-lesson SE basketball unit, while group B was taught using a teacher-directed, traditional instructional approach. Thus, group A experienced 24 SE lessons, while group B were taught 12 SE lessons.

Findings: Based upon the analysis of the questionnaires, the post-test scores showed significant differences between both groups in relation to the dependent variables (five cooperative learning measures). Group A had significantly higher scores related to interpersonal skills, group processing, positive interdependence, promotive interaction, individual accountability, and global cooperation. Findings indicated that SE did have a positive impact on students in group A when comparing the five cooperative learning measures to group B.

Implications: SE can be seen as a viable model-based practice to help students acquire an assortment of valuable psychomotor, cognitive, and affective skills. This study sheds additional light on SE as a viable method of instruction that physical educators can use to help promote cooperative learning skills in the classroom. As such, the authors of this study conclude that cooperative learning is a “side effect of using SE” in the physical education environment.

Submitted by Paul T. Stuhr, California State University San Marcos



Abstract #3

Article: Piletic, C. K., & Davis, R. (2019). Adapted physical education pre-professional preparation: Shifting the paradigm. *Journal of Physical Education, Recreation & Dance*, 90(7), 22-28. DOI: 10.1080/07303084.2019.1637307

Background: The current model of pre-professional training for adapted physical education (APE) and general physical education (GPE) includes lectures and practical-based fieldwork. Presently, collaboration with an interdisciplinary team is only available after employment, resulting in physical educators feeling underprepared to work with students with disabilities (SWDs).

Purpose: The Adapted Physical Activity motor clinic's model offers practica experience guided by faculty professionals in providing services to SWDs for physical education teacher education (PETE) students. During this experience, the PETE students work alongside interdisciplinary pre-professionals from an array of related fields. This arrangement informs the teaching practice of the PETE students for working with SWDs and provides collaborative experience for future work with related service providers.

Methods: Activities for each week are prepared by the lab director which the PETE student then develops a lesson plan based upon. One week prior to implementation, the PETE student shares each lesson plan with their team of pre-professional students for input from the various interdisciplinary fields. An average of 45 SWDs participate in the lab that meets once per week over a seven-week period for approximately 55 minutes of motor skills activities and 30 minutes of aquatics. These students are divided into eight groups of five or six participants with a ratio of 1:1 for SWDs to pre-professionals.

Implications: Physical educators have reported feeling unqualified to teach SWDs (Mader, 2017). Practica experience for PETE students providing services to SWDs while learning alongside pre-professional peers from related service disciplines can equip them with necessary training to feel qualified in teaching SWDs. Additionally, the experience with interdisciplinary students can season pre-professional physical education teachers for interdisciplinary collaboration, contributing to the education of the child in addressing the psychomotor, cognitive, and affective domains within a motor setting.

Submitted by Christopher Bouffard, Brandon Arima, and Melissa Bittner, California State University Long Beach



Abstract #4

Article: Prado, W.L., Lofrano-Prado, M.C., Oyama, L.M., Cardel, M., Gomes, P.P., Andrade, M.L., Freitas, C.R., Balagopal, P., Hill, J.O. (2015). Effect of a 12-week low vs. high intensity aerobic exercise training on appetite-regulating hormones in obese adolescents: A randomized exercise intervention study. *Pediatric Exercise Science*, 27(4), 510-517. DOI: 10.1123/pes.2015-0018.

Background: It is estimated that only 1% of scientific publications have focused on the health of adolescents. Studies examining the association between exercise and appetitive hormones among adolescents are even more sparse. Appetitive hormones (e.g., leptin, peptide yy3-36, and ghrelin) have been studied among adults with obesity and may contribute to feelings of hunger and satiety where higher ghrelin, lower leptin, and lower peptide yy3-36 levels are associated with overeating.

Purpose: Do Prado et al. aimed to identify the relationship between exercise intensity, appetitive hormones and food intake among adolescents with obesity.

Methods: 43 adolescents between the ages of 13 and 18 years with obesity (BMI > 30.0 kg/m²) were randomly assigned to either a high-intensity or low-intensity training group and followed for 12 weeks. The researchers collected energy intake and appetitive hormone data at baseline and after the 12-week intervention.

Results: The authors concluded that high-intensity training among obese adolescents led to decreased energy intakes and increase peptide yy3-36 levels.

Implications: Current exercise guidelines state that children and adolescents participate in 60 minutes of vigorous intensity activity each day to reduce future chronic disease risk. However, the effects of exercise intensity on appetitive hormones particularly among obese adolescents has not been well-studied. Based on these results, it is plausible that high-intensity exercise may decrease hunger feelings and consequently, energy intake. Given that obesity rates among adolescents have been increasing, these results highlight the importance of exercise intensity on appetite. Those in physical education may consider adding high-intensity training activities into their curricula.

Submitted by Neal Malik, California State University San Bernardino



Abstract #5

Article: Vilchez, J. A., Kruse, J., Puffer, M., & Dudovitz, R. N. (2021) Teachers and school health leaders' perspectives on distance learning physical education during the COVID-19 pandemic. *Journal of School Health*, 91(7), 541-549. DOI: 10.1111/josh.13030

Background: The COVID-19 pandemic required schools, including physical education, to transition to online learning. Despite the transition, there are no studies exploring the perspectives of physical education teachers and school health experts regarding physical education and best practices when using distance learning.

Purpose: The purpose of this study was to describe the perspectives of physical education teachers' and school health experts' on physical education through distance learning during the pandemic.

Methods: California physical education teachers (N=15) and school health experts (N=5) across grade levels and school systems took part in semi-structured interviews. The interview guide focused on current best practices, student engagement, barriers, and facilitators for delivering physical education, along with future recommendations. Participants also completed a demographic survey. Interviews were recorded and transcribed with analysis following using a grounded theory approach.

Results: Four major themes emerged from the data. First, successful implementation of online physical education is possible and critical. Second, creating a quality learning environment required personalization, creativity, and inclusiveness. Third, due to the quick transition to online learning, professional development (technology training and physical education curricula), administrative support, and student equipment were all valuable for success. Fourth, there were lessons learned from distance learning that can be applied when returning to campus. Additionally, distance learning allowed for an examination of practices and adjustment where needed, such as the utilization of physical education standards.

Implications: This information will assist physical education teachers and school health experts to limit the negative impacts of the pandemic for both distance learning and returning to school.

Submitted by Chris Gentry, California State University San Bernardino



Abstract #6

Article: Centeio, E., Mercier, K., Garn, A., Erwin, H., Marttinen, R., & Foley, J. (2021). The success and struggles of physical education teachers while teaching online during the COVID-19 pandemic. *Journal of Teaching in Physical education*, 40(4), 667-673. DOI: 10.1123/jtpe.2020-0295

Background: During the COVID-19 pandemic, schools were shut down with limited notice and teachers shifted their curricula online. It is likely remote learning will remain after the pandemic ends. Yet, the research related to distance learning within the field of physical education is limited.

Purpose: To investigate physical education teachers' perceptions and needs related to implementing physical education programming during the COVID-19 pandemic.

Methods: Participants included 4,302 physical educators, mostly at the elementary level. Data were collected via online survey. The survey included four open-ended questions. Participants were recruited from the Online Physical Education Network (OPEN) listserv.

Results: Data were presented using three themes: (1) Proud moments: teachers were proud of their accomplishments overcoming technology, learning new technology skills, engaging students online and creating engaging content for students, (2) Obstacles: teachers identified a need for continued professional development, struggling with students who did not turn in assignments or participate, and struggling to meet the needs of students who lacked technology access, and (3) Upcoming challenges: the uncertainty of how to plan for future instruction and, for some teachers, the lack of communication from their district. Additionally, teachers struggled with how to conceptualize physical education that kept the students safe while adhering to social distancing and mask guidelines.

Implications: Understanding physical educators' experiences during the COVID-19 pandemic helps guide future professional development, inform best-practices, and develop curricular resources should a similar event occurred in the future.

Submitted by David N. Daum, San Jose State University



CAHPERD VOICES

CAHPERD Voices is a section in our journal where members get to share their viewpoints and experiences. The responses in this issue discuss successes CAHPERD members have had with teaching and learning during the COVID-19 pandemic.

Technology Revolution

Who would have thought the use of tech apps such as iMovie or platforms like Google Slides would come in handy during a pandemic and for Adapted Physical Education (APE) work for students with disabilities? I first started teaching when the CDC started investigating the mysterious Ebola virus and when Microsoft first released “Word 95.” Years later, I discovered the advantages of Google Suite’s tools like Drive, Docs, Forms, Slides, and Sites were indispensable during At-Home instruction. I could work on them anywhere. On the Muni. Waiting for an espresso.

Of course, Zoom teleconferencing facilitated it all. With Zoom telephony and suites, I had software weapons to wage pedagogical engagement. With the popular movie editing application, iMovie, I became a movie editor. As an “experienced” teacher, it wasn’t challenging to keep it humorous. I embedded self-created iMovies onto slides to teach fundamental motor movements. A comical whiffle ball bat strike-out or demonstrating leaping form like a ballerina. Bicep curls with a resistance band slapping my face - In slow motion. I posted them on my own site created via Google Sites. Even uploaded videos to my Youtube channel. A fellow teacher joked that I should become a TikTok influencer. We both laughed. Especially after I injured a hip joint demonstrating bad and good running form to the tune of Eye of the Tiger. I could warm-up students with “Doja Cat’s” Say So, become a wannabe Yogi, make kids laugh by having them mirror my facial expressions. Even for a teacher who first started when the first Wiki was published, I will be continuing to use these apps in-person because student-athletes can review locomotor skills on iPads, learn iMovie editing, and revisit slide presentations full of exercise demos. The Physical Fitness Test was paused for 20-21’ as a result of SB 820, but it’s back this Spring. I’ll be on the CA PFT Panel of Experts this fall contributing my two cents on integrating tech for students with disabilities.

**Submitted by Eddie Arias, M.Ed - Adapted Physical Education, Physical Education Teacher
Jefferson Elementary School District and Jefferson Union High School District**

Useful Technology

During my online instruction last year, I used:

- Student Lap Tracker (<https://www.studentlaptracker.com/>) - an application I used for taking attendance and logging workouts
- IDOCEO app (<https://www.idoceo.net/index.php/en/>) - Best app EVER (for iPads). A digital grade-book that makes the life of a teacher less stressful. It has EVERYTHING right at your fingertips. I used it for grading, attendance, assignments, fitness tracking, communication, and student data.
- Google suite - I used Google Classroom, Google Slides, Google Forms, Google Docs and Google Sheets.
- MOTE extension (<https://chrome.google.com/webstore/detail/mote-voice-notes-feedback/ajphl-blkfppdpkgokiejbjfohfohhmk>) - a Google Chrome browser extension. I used it for providing voice responses for grading, commenting, and giving directions
- Sworkit (<https://sworkit.com/>) and Down Dog (<https://www.downdogapp.com/>) - Fitness applications that students can easily access and complete at home. Students can customize their own workouts for their desired fitness needs

Submitted by Bridgette Kennedy - James Workman Middle School

Flipping the Classroom

While I have been teaching online at the graduate level for over a decade, most of my undergraduate courses have been Face-to-Face (F2F). Fortunately, I already had a lot of resources online for my F2F classes, but in moving them to online, I realized that I had not been as intentional as I should have been in directing students to review the material. Especially in activity courses, it's beneficial for students to review the activity prior to class so that they can be prepared to go beyond merely practice. This is beneficial for both novices and more adept students alike. Many students are afraid of dance, for example, and given the opportunity to practice by themselves in advance of class allows them to feel more comfortable, competent, and motivated. This also benefits those students who are already familiar with the activity as the entire class can advance more quickly as we don't have to practice the beginning activities for so long. Flipped Instruction can be done with online as well as F2F or Blended classes.

My 'Ah ha' moment came with the opportunity to better know and understand my students through online interactions. During F2F classes, we don't have too much time to talk about how the students are feeling in general, and how they feel with regard to the activity that we will be working on. Having online forums allowed me to hear from the students about different activities, how much individual practice they needed before coming to class and what areas were the most difficult for them. The forums also allowed the students to connect with one another on a more personal level. Using the journal function allowed for private conversations with students. I will be using these online resources with my F2F Classes this year.

Submitted by Fay Nielsen, PhD - Fresno State University

GIF It Up!

The last school year taught me the importance of trying new things. Graphics Interchange Format (GIFs) is something that I heavily relied on last year. I found three ways to use GIFs for everyday use.

First, I started making GIFs to demo the correct form of a skill. I would explain while the GIF was playing and displayed during instructions and practice times.

Second, I had an idea for breaking down a skill into parts. For my kindergarten kicking unit I created five GIFs: 1) looking at the ball, 2) moving towards the ball, 3) planting my non-kicking foot next to the ball, 4) using the inside of my foot to kick the ball, 5) follow through. This was a great way to provide a breakdown of my instructions.

Third, I used GIFs to assess my students. For my K-2 students I would display the correct GIF and an incorrect GIF and ask which GIF was correct. The students could easily show me on the screen using their fingers. For my 4-7th grade students I placed an incorrect GIF on the screen and asked what was wrong. They would type in the answer into the chat. I also placed four GIFs on the screen (one correct, three incorrect) and asked them to identify the correct one. All of these allowed me to check for understanding.

As I look toward the new school year and back to face to face instruction, I'm starting to think about the uses that GIFs can continue to play in my class. New large screens can help me continue to display GIFs in a wide variety of ways through visual instructions or assessing students. Download some GIFs from cbhpe.org. Learn how to make your own and more: <https://tinyurl.com/BassettCAH-perdGIFs>.

Submitted by Matthew Bassett, NBCT - San Jose Charter Academy, West Covina (California)

For future issues of the journal, we would like to hear from you. Let your voice be heard! To participate, all we need from you is the following:

- A 300 word (max) response answering the provided prompt or question
- Your name (or anonymous if you wish)
- Your school/district/affiliation and grade level(s) you teach (or anonymous if you wish).

The prompt or question for the next Journal issue is: behavior management-related issues have been problematic for many teachers during the 2021-2022 school year. What are some strategies that have worked for you to address the social/emotional needs of your students and manage behavior related to students returning to the classroom?

For consideration please submit replies by April 1, 2022 to david.daum@sjsu.edu or by completing this Google Form, <https://forms.gle/d9kNC32GhxbADjFg6>. CAHPERD Journal editors will review and select up to 10 responses to be published in the next issue of the journal.



SHARE YOUR
STORY!

CALL FOR PAPERS

CAHPERD issues this call for papers anticipated to appear in the Spring 2022 edition of the Journal. The Journal contains two types of articles: (a) practical manuscripts related to teaching, professional practice or performance, (b) research articles in the HPERD disciplines. All submissions will be subject to a blind peer review process.

Authors who are professionally engaged in the study of HPERD and related fields, including professors, teachers, and others, are encouraged to submit articles for review and potential publication. Authors need not be professional writers. Graduate students in the HPERD disciplines are also encouraged to submit. The editors will give priority consideration to those articles that relate directly to HPERD issues confronting California professionals. This includes articles that provide expert teaching strategies. Authors may not submit the same article to this Journal and other publications for simultaneous review. Previously published content should not be submitted.

Authors seeking publication in the e-Journal should include the following materials: (1) Cover letter indicating the desire to have materials reviewed for possible publication. The cover letter should indicate acknowledgement that CAHPERD will hold the copyright to all information published in the e-Journal. (2) Email attachment of the desired publication as a word document only. (3) Biographical information about the author(s) (not to exceed 25 words).

Manuscripts should not exceed 2500 words (not including references or graphics). Authors are expected to follow APA formatting. The order of information included in the manuscript should be as follows: (1) Cover letter, (2) Title Page, (3) Title page with author(s) and affiliation information, (4) Abstract, (5) Text, (6) References, (7) Tables, (8) Figures, and (9) Acknowledgements, if appropriate.

Papers for the upcoming issue may be submitted to David Daum at david.daum@sjsu.edu. Submission deadline for consideration in the Spring 2022 Journal is March 1. All other submissions will be reviewed for Fall 2022.



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