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The OAHPERD Journal is published three times a year (Fall, Winter, and Spring) by the Oklahoma Association for Health, Physical Education, Recreation and Dance. The purpose of the Journal is to provide a current and constant avenue of communication among members of the Association on all professional topics, association business, and news of statewide interest. Correspondence should be mailed to the Journal Editor or to a member of the Editorial Review Board.
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President’s Message

Spring is just around the corner and so is the SHAPE America National Convention in Boston, MA from March 14-18th. OAHPERD will be well represented at the convention and in the delegate assembly. Updates will be provided after the convention concludes.

In addition, OAHPERD was well represented at the Southern District in Baton Rouge, LA in January. The members who attended had a positive experience. If you have the opportunity, I encourage you to attend Southern District in the near future. Both the experience and the connections are priceless.

The OAHPERD board and council met in February and began to plan for our state convention on October 16-17, 2017. We look forward to seeing you there; also please consider submitting a proposal for a presentation. Many of you have great ideas and strategies you use in your classrooms that would be of interest to other professionals. We want you to take this opportunity to showcase your best practices. If you don’t want to present on your own, maybe two or more of you could go in together and show different applications of the same strategy.

Remember, in order to “Expand Forward” to impact our profession, we must work together toward a common goal. The struggles you face in your classroom are similar to what others face. The solutions you have created and implemented may be different. These different solutions could make our professionals more effective, so please consider presenting and sharing your ideas.

The board and council are also taking nominations for many of the awards and scholarships we announce at the convention. Please take time to nominate someone you think is making a difference in our profession, be it an educator, leader or student.

Have a great spring semester.

Let me know if I or OAHPERD can help you in anyway,

Terry Shannon

Terry Shannon
OAHPERD
President
OAHPERD 2016-2017
Board and Council

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Editor’s Message

This is the time of the year when we need to recognize the contributions of individuals who make a difference. The nomination form for the board and council members is posted and the descriptions for our various awards and scholarships are available. Please consider nominating someone or even yourself. If you have any feedback or comments or would be interested in submitting a manuscript or other article for publication, please feel free to contact me at kdaigle@se.edu. Thanks again for your continued service and support of OAHPERD and SHAPE America!

Fall Journal
Deadline for peer-reviewed manuscripts, July 1st
Deadline for all other items, August 1st

Winter Journal
Deadline for peer-reviewed manuscripts, October 1st
Deadline for all other items, November 1st

Spring Journal
Deadline for peer-reviewed manuscripts, February 1st
Deadline for all other items, March 1st

Kay Daigle
OAHPERD
Journal Editor
In Memoriam

Nicki Keele

Robert Wayne Foster, 77, passed away Monday, Dec. 26, 2016 in Tulsa, surrounded by his family. He was born May 1, 1939 in Shreveport, LA. He graduated from Fair Park High School in 1957 and attended McNeese State University in Lake Charles, LA on a football and baseball scholarship. He competed in weight-lifting and bodybuilding, and worked as a lifeguard during his college years. He graduated from Northwestern University in Natchitoches, LA in 1962. Wayne's first teaching position was in Bartlesville at Madison Junior High School. While in Bartlesville, he worked with the Boy's Club and made a great contribution in the lives of many young men. He later taught and coached at West Monroe, LA and completed a master's degree and Doctorate in Athletic Administration from Northwestern State University.

Throughout his career he taught and coached at Rogers and Central high schools and then Hale High School where he was a coach and Dean of Students. He was the Assistant High School Principal at Miami High School and then returned to Tulsa Public as Director of Athletics and Activities. Some noted accomplishments during his career are: he was the Coordinator of Youth for the Tulsa Run, Organizer for Tulsa Public Schools participation in the Veteran's Day Parade, Organizer of the Tulsa Gymnastrada, Adjunct professor at Tulsa Community College, and Host for Elementary Physical Education demonstrations for the Tulsa State Fair. Wayne was a member of OAHPERD.

In his retirement, he held an insurance and securities license, conducting insurance license training. Wayne had many hobbies and interests. He held a private pilot and instrument license, enjoyed traveling, his dogs, reading, working out, and spending quality time with his family. He is preceded in death by his first wife of 19 years, Nancilee; Parents, JP and Jewel Foster; and Grandmother, Grace Gaudin. He is survived by his wife of 35 years of the home, Vickie Foster; Daughter, Nancy Lynne Dooley, and her husband, William Bryan Dooley of Farmington, AR; Brother, Richard E. Foster of Tulsa; Grandchildren, Crystalyn Jewel and Daxon Orion Chapman; and, Great-Grandchildren, Danica Ja'Nel Sims, Sabrina Elizabeth Davis, and Reece Michael Chapman. Services were held on Friday, Dec. 30, 2016, at Kirk of the Hills in Tulsa. In lieu of flowers, the family asked that a donation be made to the Alzheimers Association-Oklahoma Chapter at www.alz.org/Oklahoma.

Obit from Moore’s Southlawn funeral home website with addition from OAHPERD archivist.
Health Educator of the Year

This award will be given to a health educator in each of the following school levels:

- Health Education Professional of the Year Award - School (K-12)
- Health Education Professional of the Year Award - College/University

The purpose of this award is to encourage and recognize outstanding teaching and professional involvement by educators/professionals in the area of Health Education.

The candidate must be someone who:

1. Has major responsibility for teaching, programming, or administering effective health education programs.
2. Has at least five years experience in the category where they are applying.
3. Serves as a positive role model epitomizing the values and desired outcomes of health education.
4. Utilizes various teaching strategies and incorporates innovative learning experiences based on developmental social and psychological needs of students and/or clients.
5. Shows interest in and sensitivity to the needs of students, clients and fellow professionals.
6. Assumes responsibility for his/her professional growth and evidences professional commitment through membership and involvement in local, state and national health organizations.
7. Currently a member of OAHPERD, AAHPERD, AAHE, and must attend the SDAAHPERD convention.

Please send the following information:

Name:
Place of Employment:
Address:
Phone #:
E-mail:
Betty Abercrombie Scholar Award

Call for Nominations

The Betty Abercrombie Scholar Award is designed to (1) promote and stimulate scholarly productivity among professionals representing health, physical education, recreation, leisure, dance and sport, and (2) recognize scholars who have made and continue to make noteworthy contributions to the scholarly enterprise.

The following criteria are used by the selection committee. The individual selected:

1. must be a member of AAHPERD and OAHPERD.
2. should have achieved a commendable record evidenced by creative productivity to enhance the profession of health, physical education, recreation and dance.
3. shall be currently involved in the scholarship of promoting the fields of health, physical education, recreation and dance through various meaningful contribution such as:
   a. Articles in refereed journals
   b. Scholarly contributions to books
   c. Scholarly presentations to professional meetings
   d. Acquisition of grants
   e. Officer of professional organization
   f. Major projects
   g. Professional development
   h. Development of curricular and instructional activities
   i. Contributions to the profession including research
4. must be willing to assume responsibilities so designated for a period of one year to include:
   a. making a presentation at the annual OAHPERD Convention the following year.
   b. Serving as chair of the selection committee for the following year.
The Virginia Peters Higher Education Award

Criteria
The applicant/nominee must be an educator who:

1. Prepares Oklahoma public and private physical education teachers;
2. Oversees, directs and/or advises student teachers in the field of physical education;
3. Serves as a positive role model epitomizing personal health and fitness enjoyment of activity, and sensitivity to the physical and emotional needs of all students;
4. Utilizes various teaching methodologies and plans innovative learning experiences;
5. Is a current OAHPERD member, regularly attends and/or presents at state conventions/workshops;
6. Is a current member of AAHPERD and NASPE and has attended and/or presented at Southern District AAHPERD and/or National Conventions.
7. Nominees shall attach documentation for each of the criteria. Additionally, a letter of recommendation from a department chair or dean should be attached.
Recreation Professional of the Year

For the purposes of this award, a Recreation Professional is defined as a person who has major responsibility for teaching recreation pre-professional/ professionals of conducting recreation programming and/or administration in an educational, public, or private recreation setting.

The candidate must be someone who:

1. Serves as a positive role model epitomizing the values and desired outcomes of recreation.
2. Demonstrates enthusiasm for the recreation profession and his/her role in it.
3. Shows interest in, and sensitivity to the needs of students, clients, and fellow professionals.
4. Utilizes various methodologies and implements creative, innovative, safe and effective courses/recreation programs based on:
   a. The developmental, social, and psychological needs of students and clients.
   b. The philosophies, purposes, needs and resources of the sponsoring institution.
5. Assumes responsibility for his/her professional growth and evidences professional commitment through membership and involvement in local, state, and national recreation organizations.
6. Is a current member of AAHPERD and must attend the Southern District Convention.

Please send the following information:

Name:
Place of Employment:
Address:
Phone #:
E-mail:
Elementary “Physical Education” Teacher of the Year

For the purpose of this award, a Physical Educator is defined for the purposes of this award as a person who has major responsibility for teaching physical education in grades designated (PK-5) for each award.

The candidate must be someone who:
1. Has taught a minimum of six years at the school level designated by the award.
2. Serves as a positive role model epitomizing the personal health and fitness, enjoyment of activity, sportsmanship, and sensitivity to the needs of his/her students.
3. Utilizes various teaching methodologies and plans innovative learning experiences.
4. Conducts a balanced and sequential curriculum.
5. Evidences professional commitment through membership and involvement in local, state, and national physical education organizations.
6. If selected, and wishes to be moved on to the district and national competition, is a current member of AAHPERD and NASPE and must attend the AAHPERD District and possibly the National Convention.

Please send the following information:
Name:
Place of Employment:
Address:
Middle School “Physical Education” Teacher of the Year

For the purpose of this award, a Physical Educator is defined for the purposes of this award as a person who has major responsibility for teaching physical education in grades designated (6-8) for each award.

The candidate must be someone who:

1. Has taught a minimum of six years at the school level designated by the award.

2. Serves as a positive role model epitomizing the personal health and fitness, enjoyment of activity, sportsmanship, and sensitivity to the needs of his/her students.

3. Utilizes various teaching methodologies and plans innovative learning experiences.

4. Conducts a balanced and sequential curriculum.

5. Evidences professional commitment through membership and involvement in local, state, and national physical education organizations.

6. If selected, and wishes to be moved on to the district and national competition, is a current member of AAHPERD and NASPE and must attend the AAHPERD District and possibly the National Convention.

Please send the following information:

Name:

Place of Employment:

Address:

Phone #:

E-mail:
Secondary “Physical Education” Teacher of the Year

For the purpose of this award, a Physical Educator is defined for the purposes of this award as a person who has major responsibility for teaching physical education in grades designated (9-12) for each award.

The candidate must be someone who:
1. Has taught a minimum of six years at the school level designated by the award.
2. Serves as a positive role model epitomizing the personal health and fitness, enjoyment of activity, sportsmanship, and sensitivity to the needs of his/her students.
3. Utilizes various teaching methodologies and plans innovative learning experiences.
4. Conducts a balanced and sequential curriculum.
5. Evidences professional commitment through membership and involvement in local, state, and national physical education organizations.
6. If selected, and wishes to be moved on to the district and national competition, is a current member of AAHPERD and NASPE and must attend the AAHPERD District and possibly the National Convention.

Please send the following information:
Name:
Place of Employment:
Address:
Phone #:
E-mail:
Adapted Physical Education Teacher of the Year

The Oklahoma Association for Health, Physical Education, Recreation, and Dance is seeking nominees for the annual Adapted Teacher of the Year award.

For the purposes of this award, an adapted physical educator is defined as a person assigned at least 50% of his/her teaching responsibility:

1. In providing direct and/or consultative services to individuals with disabilities ages birth to adult. or
2. In providing appropriate instruction, support, and modifications to individuals with disabilities ages birth to adult.

1. Conducts an appropriate physical education program as reflected in the students’ IEP and generally accepted standards of practice for APE.
2. Utilizes various teaching methodologies and plans innovative learning experiences to meet the needs of all students.
3. Serves as a positive role model epitomizing personal health and fitness, enjoyment of activity, and sensitivity to the physical and emotional needs of all students.
4. Participates in professional development opportunities.
5. Is a current OAHPERD member.

Self-nominations are welcomed and encouraged. Please send the following information to:

Name:
Place of Employment:
Address:
Phone #:
E-mail:
OAHPERD Honor Award

Any member may submit names for consideration for an Honor Award. Resume supporting the nomination should be included.

Qualifications:
1. Must have served a minimum of ten (10) years in Oklahoma.
2. Must be a member of the National Association in their special field of interest.
3. Must be a member of OAHPERD for five (5) years preceding the award.
4. Must demonstrate ethical professional practices.
5. Must show prominence in some of the following:
   a. Excellence in teaching
   b. Outstanding administrative achievement
   c. Contribution to research and professional publications
   d. Leadership in state, district, and national professional associations
   e. Meritorious service within the professional
Emma W. Plunkett Undergraduate Scholarship Award Chair

The candidate must:

1. Be of Junior or Senior level standing planning to graduate in May.
2. Be a current member of OAHPERD.
3. Have a minimum of a 3.0 GPA on a 4.0 scale
4. Be a resident of Oklahoma

Application Checklist

☐ All required information is included.

☐ Academic Progress:

☐ Institution; Degree Program; Major; Academic Advisor; Faculty Endorsement; Hours Required for Degree; Hours completed (College only); Expected Graduation Date; Cumulative Grade Point Average at Certifying Institution; Academic Honors; Awards; Intramural or Varsity Sports; Active Professional Memberships; Offices Held; Other Organizations; Offices Held; Scholarships; Related Work Experience.

☐ Application is signed by a faculty advisor or department head or a letter of endorsement is included as an attachment verifying GPA.

☐ Application is accompanied by the following:

☐ Transcript w/ letter of endorsement or official transcript w/ university seal
Helen Corrubia Undergraduate Scholarship Award Chair

The candidate must:

1. Be of Junior or Senior level standing planning to graduate in May.
2. Be a current member of OAHPERD.
3. Have a minimum of a 3.0 GPA on a 4.0 scale.
4. Be a resident of Oklahoma.

Application Checklist

☐ All required information is included.

☐ Academic Progress:

☐ Institution; Degree Program; Major; Academic Advisor; Faculty Endorsement; Hours Required for Degree; Hours completed (College only); Expected Graduation Date; Cumulative Grade Point Average at Certifying Institution; Academic Honors; Awards; Intramural or Varsity Sports; Active Professional Memberships; Offices Held; Other Organizations; Offices Held; Scholarships; Related Work Experience.

☐ Application is signed by a faculty advisor or department head or a letter of endorsement is included as an attachment verifying GPA.

☐ Application is accompanied by the following:

☐ Transcript w/ letter of endorsement or official transcript w/ university seal.
Karen J. Dowd Undergraduate Scholarship Award Chair

The candidate must:

1. Have completed a minimum of 60 hours of college credit.

2. Be a current member of OAHPERD.

Application Checklist

☐ All required information is included.

☐ Academic Progress:

☐ Institution; Degree Program; Major; Academic Advisor; Faculty Endorsement; Hours Required for Degree; Hours completed (College only); Expected Graduation Date; Cumulative Grade Point Average at Certifying Institution; Academic Honors; Awards; Intramural or Varsity Sports; Active Professional Memberships; Offices Held; Other Organizations; Offices Held; Scholarships; Related Work Experience.

☐ Application is signed (if mailed) by a faculty advisor or department head or accompanied by a letter of endorsement including a statement verifying the GPA is correct.

☐ Application is accompanied by the following:

☐ Official transcript (with letter of endorsement or if mailed official university seal) (All courses, Grades and GPA must be readable)

☐ Present vitae or resume

☐ Paper (minimum of 500 words) reflecting the applicant's personal and professional philosophy.
Valerie Colvin Graduate Scholarship Award Chair:

The candidate must be someone who:

Be a Master’s degree candidate

Have completed a minimum of 15 hours

Have a minimum GPA of 3.5 in an Oklahoma institution (based on 4.0 maximum)

Be a current member of OAHPERD

Application Checklist

☐ Form is completed by computer or in ink and signed by:
  ☐ Student
  ☐ Faculty advisor or dept/area chair letter of endorsement

☐ Form is completed and accompanied by:

☐ Academic Progress: Institution; Degree Program; Major; Academic Advisor; Faculty Endorsement; Hours Required for Degree; Hours completed (College only); Expected Graduation Date; Cumulative Grade Point Average at Certifying Institution; Academic Honors; Awards; Intramural or Varsity Sports; Active Professional Memberships; Offices Held; Other Organizations; Offices Held; Scholarships; Related Work Experience.

☐ Transcript with faculty endorsement or university seal and all grades with GPA shown (Must include all undergraduate work and graduate work) (When scanned, courses, grades and GPA must be readable)

☐ Current vitae or resume

☐ Description of Future Plans and Goals (150 words or less)
OAHPERD Journal Peer-Review Guidelines for Authors

Manuscripts involving practical applications for the HPERD readership are priority. Manuscripts that are informational and that involve scholarly research are also encouraged, but must address practical application. You may also submit manuscript materials pertaining to OAHPERD news, statewide news, national news and other items which are not peer-reviewed. The author guidelines in this document apply only to peer-reviewed manuscripts.

Submission Deadlines:

Spring Journal (mid-April):
Deadline for peer-reviewed manuscripts February 1st, all other items March 1st

Fall Journal (mid-September):
Deadline for peer-reviewed manuscripts July 1st, all other items August 1st.

Winter Journal (mid-December):
Deadline for peer-reviewed manuscripts October 1st, all other items November 1st.

Basis for Acceptance of a Manuscript for Publication:

1. Significance to the HPERD profession

2. Accuracy of the material

3. Originality of material

4. Clarity of material

5. Validity of material

6. Compliance with OAHPERD guidelines for submission
OAHPERD Journal Peer-Review Guidelines for Authors

Preparation of the Manuscript:

1. Manuscripts must be submitted using Microsoft Office Word
2. Preferred length of manuscripts submitted, including tables, graphs, references, etc., is 5-12 double-spaced, typed pages using 12 point font. Longer manuscripts will be returned to the author without review. Shorter manuscripts of interest to the readership are appropriate to submit and will be reviewed.
3. Manuscripts should be written in third person.
4. American Psychological Association (APA) format should be used throughout the manuscript.
5. Keep direct quotations, especially lengthy ones, to a minimum (see APA style for formatting)
6. Insert line numbering in the manuscript as it is helpful in communicating location if there are questions or corrections to be made. (Microsoft Word = File, Page Setup, Layout, Line Numbering, Check Line Numbering Box, Continuous, Apply)
7. Include a 500 words or less abstract.

Submitting the Manuscript:

1. E-mail manuscript and author(s) information in separate files as attachments to the OAHPERD journal editor, Dr. Kay Daigle (kdaigle@se.edu). There should be no identifying information in the manuscript itself, as they are blind reviewed.
2. Author information should include name and university or school affiliation. Please include a short biography for each author (3-5 sentences in length).
3. In the e-mail include a statement indicating the manuscript has not been submitted (simultaneously) or published elsewhere.
4. Include all original (not resized) photos, artwork, and illustrations
5. Photos, artwork, tables, illustrations, and other additions to text should be captioned and placed in the document file where they should be located in the published article.
OAHPERD Journal Peer-Review Guidelines for Authors

Review of the Manuscript:

1. OAHPERD's journal advisory board is made up of five members appointed by the journal editor, with the journal editor serving as chair.

2. Each manuscript submitted for peer review will be sent by the editor to advisory board members. Each manuscript will be reviewed by at least three advisory board members.

3. If the editor determines that the manuscript topic falls outside the expertise of board members, an outside reviewer from the field may be solicited.

4. All peer reviews will be blind. The editor will not send the authors' names or personal information with the manuscript to the journal advisory board.

5. The journal advisory board may provide corrections with regard to grammar or spelling without notifying the author as long as it does not change the meaning of the content. However, the lead author will be notified and asked to make corrections, if the errors are numerous or there are significant revisions required in order for the manuscript to be published. If the manuscript is considered of great or vital interest to the readership and the changes/corrections needed are not deemed to be overwhelming, members of the journal advisory board are encouraged to assist the authors in developing the manuscript. The lead author will be notified regarding status of their manuscript.

6. If a manuscript is selected for the journal, it will be published in the earliest available issue. (Manuscripts may be pushed to a later journal due to space and printing constraints. The lead author will be notified.)

7. If a manuscript is found to be partially or completely plagiarized: 1) it will not be published, 2) the author(s) will receive a formal letter, 3) the author(s) place of employment will receive a copy of the letter, and 4) the authors will be ineligible for OAHPERD publication for a minimum of 3 years.

8. Authors should contact the journal editor (Kay Daigle) with concerns or questions regarding issues dealing with the manuscript they have submitted. Members of the journal advisory board should not be contacted regarding manuscript submission.
Attitudes of Health Majors Toward Obese Persons

Stephanie Boss, Ed.D  
*Sports and Exercise Science*  
*Cameron University*

Amber Sturgeon, Ph.D.  
*Kinesiology*  
*Southwestern Oklahoma State University*

Mary Dzindolet, Ph.D.  
*Psychology*  
*Cameron University*

Abstract

The purpose of this research was to investigate weight bias among health majors at one southwest regional university. The Attitudes Toward Obese Persons (ATOP) scale was completed by a convenience sample of 184 health majors. ATOP scores were found to be significantly lower than the midpoint (60) of the scale, $M = 56.68$, $s = 16.75$, $t(183) = -2.69$, $p < .01$, indicating more negative attitudes toward obese persons. Women held more negative attitudes than men, $F(1,182) = 4.04$, $p < .05$, $M$-women = 54.06, $M$-men = 58.99. In addition, correlational analyses revealed that among men, the higher the Body Mass Index (BMI), the more positive attitudes there were towards obese persons, $r(96) = .31$, $p < .01$. However, among women, there was no relationship between BMI and ATOP score; the trend was in the opposite direction, $r(85) = -.10$, $p > .05$. Implications of these findings included the development of curriculum to increase awareness of weight bias in existing health-related curricula.
Introduction

Despite growing recognition of obesity as a major health concern, obesity rates continue to reach epidemic proportions and referenced by some as the last “socially acceptable” form of discrimination (Puhl & Heuer, 2009). Stigmatization of obese individuals has led to social disadvantages that extend beyond the home to include the workplace, educational systems, and even the health care industry (O’Brien, Puhl, Latner, Mir, & Hunter, 2010; Puhl & Heuer, 2010). As first responders in fighting this epidemic, health professionals hold key positions within the community to increase public awareness and education about weight stigma. However, there is an alarming amount of research that validates the existence of anti-fat biases among health-related professionals toward obese persons and children (Puhl & Heuer, 2009). Such biases have been shown to increase susceptibility for despair, anxiety, and suicidal tendencies among obese persons (Rudd Center, 2008) and more likely to develop eating disorders, avoid physical activity and less likely to seek health-related services (Gatineau & Dent, 2011; Waumsley, 2011). Of concern, weight bias has also been documented among students in health-related disciplines (O’Brien et. al., 2010; Puhl & Heuer, 2009; Vroman & Cote, 2011). Therefore, the purpose of this study was to investigate weight bias among health majors at one southwest regional university.

Methods

Participants

All participants in the study were classified as undergraduate health majors at one southwest regional university. The participants in this study were comprised of 184 health majors with a relatively equal distribution of females (n = 86; 47%) and males (n = 98; 53%). Ages ranged from 18 to 44 years with a mean of 21.03 (SD= 2.63). Most of the participants reported...
their ethnicity to be Caucasian \((n = 155; 84\%)\); others identified as African American \((n = 13; 7\%)\), or ‘other’ \((n = 16; 9\%)\). Appropriate for the study, upper-classmen were overrepresented (freshmen: \(n = 18; 11\%\), sophomores: \(n = 43; 22\%\), juniors: \(n = 60; 33\%\), and seniors: \(n = 63; 34\%)\). APA Ethical Guidelines were strictly followed.

**Materials and Procedures**

Students were provided with a consent form which doubled as the introductory letter stating the purpose and procedures of the study. Participation was voluntary, and the study was reviewed and approved by the author’s university institutional review board. Participants completed a series of demographic questions to include current year of study, gender, race, age, and height/weight (BMI) and the ATOP, which was designed to measure explicit attitudes toward obese persons. The ATOP scale has been validated as one of the main instruments for the psychometric measure of attitudes about obesity with alpha reliability ranges between .80 and .84 (Allison, Basile, & Yuker, 1991; Rudd Center, 2012). The 20-item survey used a 6-point Likert-format scale anchored from -3 (strongly disagree) to 3 (strongly agree). Participants responded to the statements by marking each item from 1 to 3 and placing a minus or plus sign (- or +) to indicate whether or not they strongly agree or strongly disagree. Total scores ranged from 0 to 120 with lower scores indicative of more negative attitudes towards obese persons.

**Statistical Analysis**

Statistical Package for the Social Sciences (SPSS) version 19.0 was used to analyze the data. A one-sample \(t\)-test was used to compare each participant’s ATOP score with the midpoint of the scale to determine if the participants, on average, held a negative bias toward obese persons. In order to explore the relationship between ATOP bias and demographic characteristics, analyses of variance (ANOVA) to measure nominal level data and correlations
to measure interval level data were used. ATOP bias was compared between men and women, among ethnicities and current year of study using ANOVAs. Pearson correlations were used to examine the relationship between ATOP bias, BMI, and age.

**Results**

Body Mass Index (BMI) was calculated based on participants’ reported height and weight (specifically, weight in kilograms divided by the square height in meter, CDC, 2014). The BMI of participants was classified using guidelines provided by the National Heart, Lung and Blood Institute (NIH, 2013). Very few of the participants were classified as underweight (BMI < 18.5; \( n = 3, 2\% \)), nearly half of the participants were healthy weight (BMI 18.5 to 24.9; \( n = 84, 46\% \)), over one-third were overweight (BMI 25.0 to 29.9; \( n = 67, 36\% \)), and 16% were obese (BMI of 30 to \( \geq 40; n = 30 \)). The mean BMI of participants was 25.85 with a standard deviation of 4.97.

Responses to the 20 items on the ATOP scale were entered into SPSS (version 19). Following instructions by Allison and Baskin (2009), the coder multiplied the response to the following questions by -1 (to reverse score): Questions 2 through 6, questions 10 through 12, questions 14 through 16, and questions 19 through 20, and then added 60 to determine each participant’s ATOP score. ATOP scores ranged from 29 to 110. To determine if, as a group, health majors had a weight bias, a one-sample t-test was performed to compare students’ responses with the midpoint of the scale. According to the one-sample t-test, participants’ scores were statistically significantly lower than the midpoint (60) of the scale, \( M = 56.68, SD = 16.75, t(183) = -2.69, p < .01 \), indicating more negative attitudes toward obese persons.

An ANOVA showed no statistically significant differences in attitudes toward obese people among Caucasians, African American, and ‘other,’ \( F(2, 181) = .80, p > .05 \). In addition, an ANOVA showed no significant differences occurred among freshman, sophomores, juniors,
or seniors, $F(3, 180) = .53, p > .05$. Lastly, the correlational analysis revealed no significant relationship between age and ATOP score, $r(183) = .06, p > .05$.

However, an ANOVA revealed more negative attitudes about obese persons among women than men, $M$-women = 54.06, $M$-men = 58.99, $F(1,182) = 4.04, p < .05$. In addition, a correlational analysis revealed a significant correlation between attitudes toward obese persons and BMI, $r(182) = .18, p < .02$, such that the higher a participant’s BMI, the more positive the participant’s attitudes were toward obese persons. Correlational analyses were calculated separately for men and women. Among men, the higher the BMI, the more positive attitudes were towards obese persons, $r(96) = .31, p < .01$. However, among women, there was no relationship between BMI and ATOP score; the trend was in the opposite direction, $r(85) = -.10, p > .05$.

Individual items in the ATOP scale revealed that negative attitudes and stereotypical assumptions were identifiable within each the following ATOP categories (Allison et al., 1991, p. 604): (a) different personality- attribution of negative or different personality characteristics or inferior abilities of obese persons, (b) social difficulty- perception that obese persons either experience or produce social problems, (c) and self-esteem- judgment of how obese persons perceive and evaluate themselves. In particular, lower self-esteem, dissatisfaction with self, unhappiness, shame, sexual unattractiveness, and poorer health revealed a stronger bias among the participants. However, positive attitudes with regard to personality characteristics, sociability, and self-esteem were reported. Table 1 presents the means and standard deviations for each item on the ATOP scale.
Table 1
Mean and Standard Deviation Ratings of ATOP Items

<table>
<thead>
<tr>
<th>ATOP Items</th>
<th>M**</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obese people are as happy as non-obese people.</td>
<td>2.48</td>
<td>1.81</td>
</tr>
<tr>
<td>Most obese people feel they are not as good as other people.*</td>
<td>2.26</td>
<td>1.72</td>
</tr>
<tr>
<td>Most obese people are more self-conscious than other people.*</td>
<td>1.42</td>
<td>1.73</td>
</tr>
<tr>
<td>Obese workers cannot be as successful as other workers.*</td>
<td>3.63</td>
<td>1.91</td>
</tr>
<tr>
<td>Most non-obese people would not want to marry anyone who is obese.*</td>
<td>2.71</td>
<td>1.83</td>
</tr>
<tr>
<td>Severely obese people are usually untidy.*</td>
<td>2.92</td>
<td>1.85</td>
</tr>
<tr>
<td>Obese people are usually sociable.</td>
<td>3.76</td>
<td>1.53</td>
</tr>
<tr>
<td>Most obese people are not dissatisfied with themselves.</td>
<td>2.11</td>
<td>1.58</td>
</tr>
<tr>
<td>Obese people are just as self-confident as other people.</td>
<td>2.35</td>
<td>1.65</td>
</tr>
<tr>
<td>Most people feel uncomfortable when they associate with obese people.*</td>
<td>4.41</td>
<td>1.51</td>
</tr>
<tr>
<td>Obese people are often less aggressive than non-obese people.*</td>
<td>3.28</td>
<td>1.71</td>
</tr>
<tr>
<td>Most obese people have different personalities than non-obese people.*</td>
<td>3.45</td>
<td>1.87</td>
</tr>
<tr>
<td>Very few obese people are ashamed of their weight.</td>
<td>1.66</td>
<td>1.65</td>
</tr>
<tr>
<td>Most obese people resent normal weight people.*</td>
<td>3.35</td>
<td>1.74</td>
</tr>
<tr>
<td>Obese people are more emotional than non-obese people.*</td>
<td>3.24</td>
<td>1.65</td>
</tr>
<tr>
<td>Obese people should not expect to live normal lives.*</td>
<td>4.46</td>
<td>1.67</td>
</tr>
<tr>
<td>Obese people are just as healthy as non-obese people.</td>
<td>.84</td>
<td>1.48</td>
</tr>
<tr>
<td>Obese people are just as sexually attractive as non-obese people.</td>
<td>1.64</td>
<td>1.79</td>
</tr>
<tr>
<td>Obese people tend to have family problems.*</td>
<td>3.95</td>
<td>1.56</td>
</tr>
<tr>
<td>One of the worst things that could happen to a person would be for him to</td>
<td>3.11</td>
<td>2.32</td>
</tr>
<tr>
<td>become obese.*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*These items were reverse scored.

**3 was added to the responses for the individual items so that the scale ranged from 0 to 5 (rather than -3 to 3).

Discussion

In this study, health majors on average scored below the midpoint of the ATOP scale indicating more negative attitudes toward obese persons. Of significance, ATOP scores, on average, were found to be relatively lower than those reported in previous studies (Allison et al., 1991; Crerand et. al., 2007; Swami, Pietschnig, Stieger, Tov’ee, & Voracek, 2010), indicating a higher level of bias toward obese persons. ATOP bias did not differ among ethnicities or current year of study. ATOP bias was not related to age. However, women were more biased than men.
Among men, the higher the BMI, the more positive attitudes were towards obese persons. Among women, there was no relationship between BMI and attitudes. These findings are similar to other studies which reported conflicting results among these variables (Hebl & Turchin, 2005; Puhl & Brownell, 2006).

In reviewing the scores of individual items, a higher level of bias was reported among items measuring self-esteem, satisfaction with self, happiness, pride, sexual attractiveness, and health. These findings are similar to other studies (Puhl & Heuer, 2009; Vroman & Cote, 2011) which measured students’ attitudes toward obese persons. However, neutral to more positive scores were reported for other items. This suggests that while health majors may not ascribe to some of the negative stereotypes about obese persons, they are more likely to attribute more neutral to positive responses, hence potentially being unaware that they hold negative associations.

**Conclusion**

Consensus of studies examining weight bias in a variety of health-related fields (Creel & Tillman, 2011; Persky & Eccleston, 2011) concur that educational content specific to weight stigma is missing from the majority of health-related disciplines in higher education. As a result, the lack of reform to address this emerging issue has the potential to hinder the quality of care provided to obese persons. Given the moderate level of weight bias present in the current sample of health majors, it seems warranted to increase education and awareness of weight bias in existing health-related curricula.

**Implications**

Several experimental studies (O’Brien et al., 2010; Poustchi, Saks, Piasecki, Hahn, & Ferrante, 2013; Swift et al., 2013) have illustrated the effectiveness of a variety of strategies...
Attitudes of Health Majors

toward the reduction of weight bias within the health-related settings. These studies have provided evidence in support of educational interventions that emphasized self-assessment and awareness of weight bias, perceptions of, and causes related to, obesity, and bias free treatment approaches as being effective in reducing weight bias. Weight bias awareness curriculum, such as the one presented in the Appendix (Boss, 2015), may help bridge the gap by providing a deeper understanding of weight bias among health majors and ways to further improve training strategies and educational measures toward the treatment of obese persons within the health-related disciplines.
References


Overview of Weight Bias Awareness Curriculum

Learning Objectives:
- Identify and interpret personal attitudes toward obese persons.
- Assess the effect of weight bias in the health-related disciplines.
- Review policy and legal statutes surrounding weight discrimination.
- Critique the media’s role in shaping the public’s understanding and attitudes toward obesity and weight loss.
- Investigate current literature on weight related terminology and language preference of obese persons.
- Evaluate research based intervention strategies to reduce weight bias and apply findings to practice in the classroom/lab settings.

Self-Assessment Unit focuses on personal attitudes and biases toward obese individuals. This unit includes:
- Self-Assessment Surveys (ATOP and IAT)
- Analysis and Reflection of Self-Assessment Surveys
- Guided Group Discussion Questions

Awareness Unit addresses implicit and explicit bias in the home, school, and health care setting and their implication on obese persons. This unit includes:
- Prevalence of Weight Bias
- Videos (weight bias at home and school and weight bias in health care)
- Guided Group Discussion Questions
- Research Article Assignment

Perceptions of Obesity Unit discusses obese persons perceptions of, implications associated with, and legal issues surrounding discrimination of obese persons. This unit includes:
- Obese Persons Reports of Bias
- Causes of Obesity
- Portrayal of the Media Towards Obese Persons
- Weight Terminology and Language Preference
- Policy and Legal Solutions to Weight Discrimination

Bias-Free Treatment Unit provides students with a variety of effective strategies to use to minimize the instance of weight bias when interacting with obese persons. This unit includes:
- Strategies for Health-Related Professionals
- Weight Loss Counseling Strategies
- Internet Resources

Evaluation Unit offers students the opportunity to reflect upon learned experiences and provide feedback about the integration of weight bias curriculum in program course(s). This unit includes:
- Self-Reflection PPT and Feedback Survey
Rationale for the Implementation of Low-Volume, High-Intensity Exercise in School Physical Education

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Abstract

The widespread prevalence of pedagogic obesity in the U.S. combined with the inverse association between obesity and physical activity emphasizes the need for children to be involved in both physical activity and organized exercise. The inclusion of efficacious exercise programs and activities in physical education programs is essential in reversing this trend. However, public school physical education programs overall have failed to successfully address this issue. Low-volume, high-intensity exercise protocols such as high-intensity interval training (HIT), supramaximal interval training (SIT), integrated concurrent training (ICT), and the Tabata protocol are reviewed as to their efficacy in weight management, fat mass loss, and increased fat oxidation and metabolic rates. The purpose of this review is to present a research-based rationale for the benefits of low-volume, high-intensity anaerobic exercise and to outline several exercise protocols that require very little resources and can be implemented in a regular physical education setting.
Introduction

The associations between obesity and disease risk factors such as hypertension, dyslipidemia, hyperinsulinemia, and low-grade inflammation; as well as cardiovascular disease and type 2 diabetes are well documented (Eckel, Kahn, Robertson, & Rizza, 2006; Golay & Ybarra, 2005; Krauss, Winston, Fletcher, & Grundy, 1998; Strasser, Arvandi, & Siebert, 2012). In addition, obesity can also result in negative psychological, economic, and social consequences (Boutelle, Hannan, Fulderson, Crow, & Stice, 2010; Daniels, 2009; Farhat, Iannotti, & Simons-Morton, 2010; Franks, Hanson, Knowler, Sievers, Bennett, & Looker, 2010; Krukowski, West, Philyaw, Bursac, Phillips, & Reczynski, 2009; Marder & Chang, 2005; Rocchini, 2011). Since the mid-1980’s, obesity in the United States has increased at an alarming rate, with approximately 69% of all Americans being either overweight or obese (Flegal, Carroll, Kit, & Ogden, 2012). Equally concerning, the obesity rates in children and adolescents aged two to seventeen have been reported to have increased to 16.9% (Ogden, Carroll, Kit, & Flegal, 2014). With the widespread prevalence of pedagogic obesity coupled with the inverse relationship between obesity and physical activity, the need for children to be involved in both physical activity and organized exercise is accentuated.

With the majority of a child’s time spent in school, it stands to reason that a well designed and implemented physical education program has the potential for serving as the first line of defense in the prevention of childhood obesity. However, many physical education programs are hindered by a lack of time in which students are actually in a physical education class, a lack of adequate equipment and facilities, limited finances, budget cuts, and even program cuts (Barroso, McCullum-Gomez, Hoelscher, Kelder, & Murray, 2005; Boyle, Jones, &
Therefore, the purpose of this article is to provide a research-based rationale for the benefits of employing high-intensity, low-volume anaerobic exercise in a regular physical education setting and outline several exercise protocols that require very little resources and can be easily implemented.

**Literature Review**

The conventional approach to aerobic exercise prescription for fitness and weight management has been to perform high volumes of continuous, moderate-intensity exercise. Underlying this approach is the implication that a dose-response relationship exists between aerobic exercise volume and fat mass (FM) loss. The American College of Sports Medicine (ACSM) exercise guidelines recommend up to 300 minutes/week of moderate-intensity aerobic exercise for overweight and obese individuals (ACSM). While it seems logical that increased exercise volume, and hence greater caloric expenditure, would translate into greater weight loss (given there is no compensatory increase in caloric intake), this conventional exercise model for FM loss has been questioned recently based upon the unanticipated findings from multiple studies that have challenged this weight loss paradigm and have suggested that less may be more with respect to exercise and the prevention or treatment of obesity. Rosenkilde et al. (2012) compared the FM loss in two groups of healthy men following a 13-week aerobic exercise program involving running and cycling. Mean caloric expenditure for the low-volume group was 335 kcals per exercise session while the high-volume group expended 653 kcals per session. Interestingly both groups experienced approximately a 14% loss in FM despite the disparity in
exercise energy expenditure. Caloric intake and exercise intensity were similar in both groups and thus could not explain the findings. This phenomenon has also been observed with the performance of resistance exercise training. Heden et al. (2011) compared the resting energy expenditure (REE) of untrained college-aged men following the performance of a single bout of both a high-volume and low-volume resistance training (RT) in a randomized, counterbalanced order separated by seven days. Despite a three-fold differential in the volume of RT performed, post-exercise elevation of REE was essentially the same for both the low-volume RT group (10 sets) and the high-volume RT group (30 sets) measured at 24, 48, and 72 hours post exercise. While the physiological mechanisms for the observed phenomenon in both studies are unclear, there does appear to be an exercise volume threshold at which further increases in exercise volume does not induce a concomitant increase in post-exercise resting energy expenditure or FM loss. The implications of these findings suggest that a possible “law of diminishing returns” exists with respect to the performance of higher volumes of exercise and the subsequent attenuation of FM in humans. Consequently, high volumes of exercise may not only be unnecessary for significant long-term FM reduction, but might even be counterproductive. Conversely, these and other studies have demonstrated that the performance of low-volume, high-intensity anaerobic exercise may be more efficacious in FM loss than traditional high-volume, moderate-intensity continuous aerobic exercise (W.J. Davis, Wood, Andrews, Elkind, & W.B. Davis, 2008; Heden, Lox, Rose, Reid, & Kirk, 2011; McRea, et al., 2012; Paoli, et al., 2012; Rosenkilde, Auerback, Reichkendler, Ploug, Stallknecht, & Sjodin, 2012; Tabata, et al., 1996; Talanian, et al., 2010).

While high-volume aerobic exercise appears to be a superfluous requirement for effective weight management, high-intensity interval training (HIT) and supramaximal interval training
(SIT) protocols have elicited significant increases in fat oxidation. Interval training has been a mainstay of sports training programs for decades and more recently associated with a positive impact on weight management (Knuttgen, Nordesjo, Ollander, & Saltin, 1973; Rosenkilde, et. al, 2012; Rotstein, Dotan, Bar-Or, & Tenenbaum, 1986). Both HIT and SIT protocols are types of interval training, however, HIT training tends to be just below $VO_{2\text{max}}$ and performed for intervals lasting from one to four minutes while SIT protocols are performed at intensities above $VO_{2\text{max}}$ and require maximal exertion from the individual performing the exercise typically lasting less than 30 s. In a study examining the effects of HIT, female volunteers experienced a 36% increase in whole body fat oxidation during a 60-min bicycle time trial following the performance of 7 sessions of HIT over a two-week period (Talanian et al., 2007). The protocol consisted of the performance of 10 sets of 4-min bicycle intervals at 90% $VO_{2\text{max}}$ with each interval separated by 2 min of recovery. Whyte, Ferguson, Wilson, Scott, & Gill, (2010) reported an 18% increase in resting fat oxidation in overweight and obese men after only six bouts of SIT on a bicycle ergometer performed over a two-week period. Each bout consisted of 4 – 6 maximal sprints on a bicycle ergometer for 30 s with a 4.5 min recovery. Significant decreases in waist and hip circumferences were also observed.

Similar findings have also been reported with high-intensity resistance training (HIRT). Paoli et al. (2012) randomly assigned study participants to a single bout of either a traditional RT protocol or a HIRT protocol. The traditional RT session (4 x 8 at 75% 1RM) lasted for 62 min and subjects performed a total volume of 7835 kg. The HIRT group trained for only 32 min and lifted a total volume of 3872 kg. While the traditional RT group performed approximately twice the volume, the resting metabolic rate (RMR) in the HIRT group was 18% greater than the traditional RT group at 22 hr post-exercise. Furthermore, fat oxidation was 2.9% greater in the
HIRT group versus the traditional RT group as measured by the respiratory exchange ratio (RER) at 22 hr post-exercise. Collectively, these findings reinforce the notion that high-intensity training (both aerobic and resistance modes) provides greater reductions in FM or increases in fat oxidation in much less time than does the performance of higher volumes of lower intensity exercise in humans.

While it is clear that high-intensity modes of exercise training are effectual methods in increasing fat oxidation in a research setting, the realization of such training in a physical education class may prove to be somewhat challenging. Physical educators are limited in the mode of HIT that can be utilized, most likely limited in resistance exercise equipment, in many cases limited in time and space, and most probably facing limited student interest in running “boring” intervals. Two novel variations of low-volume, high-intensity anaerobic exercise that may prove to be suitable for physical education classes have been recently examined (Davis et al., 2008; Emberts, Porcari, Dobers-tein, Steffen, & Foster, 2013; McRea et al., 2012; Tabata et al., 1996). Serial concurrent training (SCT) is the combining of aerobic exercise with resistance exercise within the same exercise session. These modes of training are performed sequentially (performance of a warm-up, resistance exercise training at a low heart rate (HR), aerobic exercise training, and a flexibility exercise training cool down). While SCT could be adapted to a physical education setting, it might prove to be cumbersome due to time constraints. However, a modified version of SCT, known as integrated concurrent training (ICT), may provide a satisfactory vehicle by which intense exercise can be performed in a physical education class. Integrated concurrent training differs from SCT in that each resistance exercise set is alternated with one set of an aerobic interval. Hence, for every resistance exercise set performed, a single set of an aerobic interval is performed in an alternating manner. This effectively keeps the heart
rate elevated for the entire duration of the exercise bout while simultaneously training for muscular endurance or strength. Davis and associates (2008) compared a SCT and an ICT program. Both protocols yielded significant improvements in strength and muscular endurance, however the ICT protocol resulted in significantly greater losses in FM (-5.7 vs. 1.1%) compared to SCT.

Potentially the most adaptable low-volume, high-intensity exercise is the Tabata protocol. The Tabata protocol was first described by the Japanese researcher Izumi Tabata, and consists of performing a single total-body weight exercise for 8 sets of 20 s alternating with 10 s of rest (Tabata et al., 1996). McRea et al. (2012) compared the Tabata protocol to a traditional aerobic exercise protocol. Twenty-two college-aged women participated in exercise training 4 days per week for 4 weeks (16 total sessions). Participants were assigned to one of three different groups: traditional aerobic exercise on a treadmill (TM) at 85% HR\textsubscript{max} for 30 min, high-intensity body weight resistance training (Tabata protocol) performing a single total-body exercise for 8 sets x 20 s separated by a 10 s rest intervals for each set, or a control group which performed no exercise. Peak VO\textsubscript{2} was increased in both the TM and Tabata groups by 6.6 and 7.0% respectively. Exercise time to exhaustion on the treadmill was also improved in both groups (12.1 and 9.1% respectively) despite the Tabata group performing no work on a treadmill during the course of the study. While cardiovascular improvements were similar in both groups, the Tabata group realized greater muscular endurance improvements compared to the TM group. Emberts et al. (2013) investigated the caloric expenditure of a 20-minute Tabata workout protocol in 16 trained men and women. The 20-min bout consisted of body weight and plyometric exercises. The average VO\textsubscript{2} during exercise bout was 74% of the subjects’ VO\textsubscript{2}\textsubscript{max}. The average heart rate during the exercise bout was 156 beats per min or at approximately 86%
of their heart rate maximum. Caloric expenditure averaged 14.5 kcals/min and the caloric expenditure for the total 20-min bout ranged from 240 to 360 kcals. These results of these findings indicate that the performance of the Tabata protocol may provide a very time-cost efficient method of expending calories in a very brief time period.

On a side note, the health benefits of high-intensity training are not limited to just weight management. High-intensity type training protocols have yielded improvements in other health-related physiologic measurements such as resting blood glucose (Adams, 2013), insulin sensitivity (Sandvei et al., 2012), and mitochondrial content of skeletal muscle (Jacobs, et al., 2013).

In summary, low-volume, high-intensity anaerobic and resistance training have exhibited a greater effectiveness in weight management and other health benefits than traditional continuous aerobic exercise. The performance of high-volume aerobic exercise appears to play a diminished role than previously thought with respect to fat loss. Conversely, exercise intensity has been established as the preeminent factor composing an exercise program for fat mass reduction.

**Implementation and Practical Applications**

Based on the aforementioned research, there are several possible approaches for the implementation of a low-volume, high-intensity training program into a school physical education setting. The choice of the type of program to use when introducing low-volume, high-intensity anaerobic training depends on many factors: facility availability, equipment availability, the fitness level of the students, the age of the students, the ease in the implementation of the program, the interest the students have in the program, and the ability of the instructor to “sell
the program to the kids” to name just a few. This type of program can easily be accomplished in the recommended time period given to fitness in the typical physical education lesson.

**High-Intensity Interval Training Protocol**

The traditional HIT protocol is the most basic of the high-intensity protocols. This type of interval training is simple to implement in a physical education class but is quite limited in the choice of modalities available. Still, this type of interval training can be effective utilizing aerobic modalities such as running or jump roping. Table 1 illustrates a sample 6-week exercise prescription and progression for an adolescent HIT running protocol. It should be noted that caution should be exercised when administering the HIT workout. It is strongly recommended that these training variables be adjusted when initiating a HIT program with students or to accommodate less conditioned children. Short rest intervals do not permit the student a full and complete recovery between sets. A 1:4 work-to-rest ratio is a reasonable goal. However, initial training may require a longer work-to-rest ratio of at least 1:5. The initial session should be 2 – 4 sets x 30 s with at least a 120 s recovery between sets.

<table>
<thead>
<tr>
<th>Exercise Variable</th>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
<th>Week 5</th>
<th>Week 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode</td>
<td>Run</td>
<td>Run</td>
<td>Run</td>
<td>Run</td>
<td>Run</td>
<td>Run</td>
</tr>
<tr>
<td>Intensity (% sprint maximum)</td>
<td>75</td>
<td>80</td>
<td>85</td>
<td>90</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>Duration (seconds)</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>35</td>
<td>40</td>
</tr>
<tr>
<td>Volume (repetitions)</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Work: Rest Ratio</td>
<td>1:4</td>
<td>1:4</td>
<td>1:4</td>
<td>1:4</td>
<td>1:4</td>
<td>1:4</td>
</tr>
</tbody>
</table>

*Table 1
Sample 6-Week Exercise Prescription and Progression HIT Program*
Supramaximal Interval Training Protocol

A similar high-intensity exercise option for adoption into a school physical education program is the SIT protocol. The SIT protocol requires much less time than the HIT protocol and therefore is recommended over the HIT protocol if well tolerated by the students. Exercise intensity is maximal and should be performed for 4 – 6 sets of 20 – 30 s. The rest-to-work ratio is much greater than HIT protocols ranging from 6:1 to 10:1.

Integrated Concurrent Training Protocol

A third high-intensity exercise option is the ICT protocol. With an ICT program, resistance exercises and aerobic intervals are not performed sequentially (i.e. resistance training first followed by aerobic training or vice versa). Rather, for every resistance exercise performed, a single set of an aerobic exercise interval is performed in an alternating manner. This effectively keeps the heart rate elevated for the entire duration of the exercise bout while simultaneously training for muscular endurance or strength. There has been little research on this method of exercise training so the existence of an ICT protocol template has not been established. The classic study on the ICT protocol (Davis et al., 2008), weight machines and a treadmill were employed as the resistance and aerobic modes respectively. While the implementation of the Davis study protocol into a public physical education setting is highly implausible, the substitution of body weight exercises for resistance machines and either jogging, jump roping, or bench stepping for the treadmill permits a wide variety of ICT protocol options available to be introduced into the curriculum. A sample ICT exercise prescription and 6-week progression for elementary children is illustrated in Table 2.
Table 2
Sample 6-Week Integrated Concurrent Training Exercise Prescription and Progression

<table>
<thead>
<tr>
<th>Exercise and Duration</th>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
<th>Week 5</th>
<th>Week 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional warm-up (minutes)</td>
<td>5 – 10</td>
<td>5 – 10</td>
<td>5 – 10</td>
<td>5 – 10</td>
<td>5 – 10</td>
<td>5 – 10</td>
</tr>
<tr>
<td>Jump Rope (seconds)</td>
<td>30</td>
<td>30</td>
<td>35</td>
<td>35</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Push-ups (seconds)</td>
<td>30</td>
<td>30</td>
<td>35</td>
<td>35</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Jump Rope (seconds)</td>
<td>30</td>
<td>30</td>
<td>35</td>
<td>35</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Bodyweight Squats (seconds)</td>
<td>30</td>
<td>30</td>
<td>35</td>
<td>35</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Jump Rope (seconds)</td>
<td>30</td>
<td>30</td>
<td>35</td>
<td>35</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Crunches (seconds)</td>
<td>30</td>
<td>30</td>
<td>35</td>
<td>35</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Flexibility Exercises (minutes)</td>
<td>5 – 10</td>
<td>5 – 10</td>
<td>5 – 10</td>
<td>5 – 10</td>
<td>5 – 10</td>
<td>5 – 10</td>
</tr>
</tbody>
</table>

In this example, jump ropes are the only equipment requirement. The actual ICT program is only three min in duration (excluding the warm-up and flexibility cool down) with the entire bout (including warm-up and flexibility cool down) lasting no more than 13 – 23 min. Each exercise (both aerobic and resistance) is performed for 30 - 40 s with a rest interval of 20 – 30 s between exercises; permitting a new set to be initiated every min. Frequency for ICT is 2 – 3 days per week. Shortening the amount of exercise-to-recovery ratio to only 20:40 s recovery for each exercise can serve to modify the ICT program for poorly conditioned students. Additional one-min resistance and aerobic components can be added to lengthen the duration of the program as students’ conditioning improves. Obviously other aerobic and resistance exercises could be substituted for the ones mentioned in the example. Listed below in Table 3 are just a few of the possible choices for both the resistance and aerobic interval components of an ICT program.
Table 3
Potential Alternate Exercises for Integrated Concurrent Training

<table>
<thead>
<tr>
<th>Aerobic Component Exercises</th>
<th>Resistance Component Exercises</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jump rope</td>
<td>Push ups</td>
</tr>
<tr>
<td>Jog in place</td>
<td>Body weight squats</td>
</tr>
<tr>
<td>Bench stepping</td>
<td>Crunches/curl ups</td>
</tr>
<tr>
<td>Jumping jacks</td>
<td>Sit ups</td>
</tr>
<tr>
<td>Mountain climbers</td>
<td>Light dumbbell exercises</td>
</tr>
<tr>
<td>Jog</td>
<td>Chins</td>
</tr>
</tbody>
</table>

Tabata Protocol

The final and perhaps the most amenable low-volume, high-intensity exercise protocol to a physical education classroom is the Tabata protocol. Only one exercise is selected for each bout, little to no equipment is required (since most exercises are total-body bodyweight exercises), and the entire bout can be as short as four min. A sample of a beginning (performed 3 days/week) Tabata protocol program for elementary children is illustrated in Table 4.
### Table 4
**Sample Tabata Protocol for Physical Education Classes**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional Warm-Up</td>
<td>5 – 10 minutes</td>
<td>5 – 10 minutes</td>
<td>5 – 10 minutes</td>
</tr>
<tr>
<td>Exercise 20 Seconds</td>
<td>Burpees</td>
<td>Vertical Jumps</td>
<td>Split Squats</td>
</tr>
<tr>
<td>Inter-Set Recovery 10 seconds</td>
<td>Recovery</td>
<td>Recovery</td>
<td>Recovery</td>
</tr>
<tr>
<td>Exercise 20 seconds</td>
<td>Burpees</td>
<td>Vertical Jumps</td>
<td>Split Squats</td>
</tr>
<tr>
<td>Inter-Set Recovery 10 seconds</td>
<td>Recovery</td>
<td>Recovery</td>
<td>Recovery</td>
</tr>
<tr>
<td>Exercise 20 seconds</td>
<td>Burpees</td>
<td>Vertical Jumps</td>
<td>Split Squats</td>
</tr>
<tr>
<td>Inter-Set Recovery 10 seconds</td>
<td>Recovery</td>
<td>Recovery</td>
<td>Recovery</td>
</tr>
<tr>
<td>Exercise 20 seconds</td>
<td>Burpees</td>
<td>Vertical Jumps</td>
<td>Split Squats</td>
</tr>
<tr>
<td>Inter-Set Recovery 10 seconds</td>
<td>Recovery</td>
<td>Recovery</td>
<td>Recovery</td>
</tr>
<tr>
<td>Exercise 20 Seconds</td>
<td>Burpees</td>
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</tr>
<tr>
<td>Inter-Set Recovery 10 seconds</td>
<td>Recovery</td>
<td>Recovery</td>
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<tr>
<td>Exercise 20 seconds</td>
<td>Burpees</td>
<td>Vertical Jumps</td>
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<tr>
<td>Inter-Set Recovery 10 seconds</td>
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<tr>
<td>Exercise 20 seconds</td>
<td>Burpees</td>
<td>Vertical Jumps</td>
<td>Split Squats</td>
</tr>
<tr>
<td>Inter-Set Recovery 10 seconds</td>
<td>Recovery</td>
<td>Recovery</td>
<td>Recovery</td>
</tr>
<tr>
<td>Stretch/Flexibility Cooldown</td>
<td>5 – 10 minutes</td>
<td>5 – 10 minutes</td>
<td>5 – 10 minutes</td>
</tr>
</tbody>
</table>
Modifications in the Tabata program to accommodate poorly conditioned students can be accomplished by shortening the amount of exercise time to only 15 s with 15 s recovery for each exercise. Additional 20 s exercise/10 s rest sets can be added as students improve conditioning.

In addition to bodyweight exercises such as burpees, vertical jumps, and split squats; other exercises that recruit relatively large amounts of skeletal muscle mass may also be utilized.

Listed in Table 5 are several bodyweight resistance exercises that can be incorporated into a Tabata protocol workout with links to video demonstrations.

Table 5

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Web Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary P.E. Class Tabata Sessions</td>
<td><a href="https://www.youtube.com/watch?v=SrWrm5dd7B4">https://www.youtube.com/watch?v=SrWrm5dd7B4</a></td>
</tr>
<tr>
<td>Burpees</td>
<td><a href="https://www.youtube.com/watch?v=JZQA085JjnM">https://www.youtube.com/watch?v=JZQA085JjnM</a></td>
</tr>
<tr>
<td>Split Squats</td>
<td><a href="https://www.youtube.com/watch?v=I5rub0u6pig">https://www.youtube.com/watch?v=I5rub0u6pig</a></td>
</tr>
<tr>
<td>Wall Ball Shots</td>
<td><img src="https://www.youtube.com/watch?v=iKBv9XPBMME" alt="Links" /> <img src="https://www.youtube.com/watch?v=ZzUwNL0tyKc" alt="Links" /> <img src="https://www.youtube.com/watch?v=AddDkpGSLjE" alt="Links" /></td>
</tr>
<tr>
<td>Medicine Ball Slams</td>
<td><a href="https://www.youtube.com/watch?v=aCMmAP0Qzdo">https://www.youtube.com/watch?v=aCMmAP0Qzdo</a></td>
</tr>
<tr>
<td>Mountain Climbers</td>
<td><a href="https://www.youtube.com/watch?v=De3Gl-nC7lI">https://www.youtube.com/watch?v=De3Gl-nC7lI</a></td>
</tr>
<tr>
<td>Squat Thrusts</td>
<td><a href="https://www.youtube.com/watch?v=kMzEuaBniZs">https://www.youtube.com/watch?v=kMzEuaBniZs</a></td>
</tr>
<tr>
<td>Box Star Jumps</td>
<td><img src="https://www.youtube.com/watch?v=KhQ9ZoJZ11Q" alt="Links" /> <img src="https://www.youtube.com/watch?v=BKXhpaxz1FA" alt="Links" /> <img src="https://www.youtube.com/watch?v=0YSthtwHNPC" alt="Links" /></td>
</tr>
<tr>
<td>Other Resources</td>
<td><img src="https://www.youtube.com/watch?v=Hp9ghfJZ11Q" alt="Links" /> <img src="https://www.youtube.com/watch?v=0YSthtwHNPC" alt="Links" /></td>
</tr>
</tbody>
</table>

In conclusion, low-volume, high-intensity exercise, regardless of the chosen protocol, is a time-cost efficient mode of physical activity that can be adapted to a school physical education setting. The only limitation to the number of variations of this mode of training is the physical educator’s imagination. It is recommended that a warm-up of at least five min should be
performed prior to high-intensity training; a flexibility cool down following the bout should be included; and modification in the program to accommodate less-fit students is strongly encouraged.
References


Low-Volume, High-Intensity Exercise in School PE


Comparative Analysis of Recreation Management Curricula Among Doctoral-Granting Universities

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*St. Ambrose University*

**Abstract**

Currently, there are 16 universities granting doctoral degrees in recreation or leisure in the United States. These universities offer differing degrees amongst differing colleges and with different names; each university requires a specific number of total credit hours, research/statistic credit hours, and a “core” set of classes to complete for graduation. This study explores the various programs. Mixed methodology is used to derive meaning from the data; central tendencies for credits and qualitative coding to produce salient themes among the core classes. Threshold Capability Integrated Theoretical Framework was applied to make greater sense of curriculum development in a recreation setting. Finally, a geographic analysis of degree programs was conducted to add richness to the study.
Introduction

The rapid growth of doctoral programs in the United States has created a need to determine demographic attributes of the academic program, admission criteria, and curriculum standards (McEwen & Bechtel, 2000). There are many universities offering degrees in recreation management or leisure studies throughout the United States. These many institutions vary from public to private, small to large, and research to teaching schools. There are, however, far fewer universities that offer a doctorate (The Doctor of Philosophy, Ph.D. or The Doctor of Education, Ed.D.) in recreation management or leisure studies. Currently, there are sixteen universities in the U.S. offering doctoral programs in some aspect of recreation/leisure programs. Although these universities offer similar degrees, are their curricula similar? This study will examine the potential similarities and differences among the curricula from universities offering a doctoral degree in recreation management as well as the implications for students and universities at-large.

The intended purpose of higher education has evolved over many centuries. Modern higher education is perhaps far removed from the initial Greek interpretation of the Academy being “charged with addressing the Trivium (literally, “the three roads) consisting of grammar, logic, and rhetoric” (Powell, Johnson, Anderson, & Paisley, 2013, p. 11). Rather, current public opinion of education looks for a more rounded approach to teaching. This opinion consists of: research, intellectual property, and a student who graduates with specific skills needed to successfully perform a job/career (Powell, et. al. 2013). Higher education advocates go on to outline best practices for quality education. Among them includes “signature, unique experiences that can be defining, such as study abroad, internships, research opportunities with faculty, or experiential learning” (Powell, et. Al. 2013, p. 12); this is especially true with recreation...
management degrees. Although the evolution of higher education is primarily meant for undergraduate degree seekers, there are takeaways for doctoral students. Much like the undergraduate, the modern doctoral candidate in recreation management needs to produce research and intellectual property, obtain signature experiences, all while developing the skills needed to successfully perform the duties of professorship.

Perhaps the most important aspect surrounding the issue is that of consistency. Maintaining the consistency of curricula among doctoral programs in the country will be a benefit for the development of the program (McEwen & Bechtel, 2000). Is it appropriate to assume that new graduates with recreation management doctoral degrees from across the country should/would have faced similar degree requirements? If the primary prerequisite for attaining an assistant professor position at a university is a doctoral degree, there should be some assurance that doctoral degrees are educating at a reasonably consistent level.

**Theoretical Framework**

In order to more lucidly examine this question, theoretical framework was applied. Developed by Baillie, Bowden, and Meyer (2013) the Threshold Capability Integrated Theoretical Framework (TCITF) is an appropriate tool for use. The TCITF was developed in 2013 and was a combination and expansion of two previous frameworks involving the development and implementation of curricula. TCITF uses pieces of Threshold Concepts Framework (Land & Meyer 2003) and Capability Theory (Bowden & Marton 1998), while Threshold Concepts Framework involves curriculum in terms of variation and phenomenon. Capability Theory is more concerned with analyzing what constitutes a concept for learners. What is produced in TCITF is “the dynamic linking the two theoretically underpinned approaches is the progression from attaining understanding of threshold concepts to developing
threshold capabilities and thence to knowledge capability” (Baillie, Bowden, & Meyer, 2013, p. 236). In more practical terms, the TCITF creates a seven-step model to creating a sound curriculum:

(1) What should the learner be capable of doing at the end, given the need to deal with an unknown future?

(2) What threshold concepts are important to understand to enable the development of such capability?

(3) What kinds of learning experiences and in what combination would best assist the learner to develop interim threshold capabilities and ultimately build on them to develop the capability to handle the unknown future after graduation?

(4) How can the learning environment be best arranged to provide access to those optimal capability development experiences?

(5) How can the differing needs of individual students be catered to?

(6) What, specifically, is the role of teachers in supporting such learning by students?

(7) What kinds of assessment of student learning will motivate learning of the kind desired and authentically measure the levels of achievement of the intended learning outcomes? (Baillie, Bowden, & Meyer, 2013, p. 237)

These steps will put into context the analysis of recreation management curricula among doctoral-granting universities. The TCIFT is intended to be a framework with which university staff can evaluate their curriculum or create new curriculum. By using the tools outlined, greater and deeper scrutiny of the varying universities may take place.
Review of Literature

As the literature is explored regarding recreation management curricula among doctoral granting universities, few examples are found. There is very little that specifically addresses the topic. There is, however, literature containing recreation studies at the undergraduate level as well as literature that consists of the development of doctoral curriculum in general terms. Although not specific to doctoral recreation curriculum, these two branches of the literature offer insight and richness to the topic.

Iglesias-Martinez and colleagues (2012) looked at undergraduate students and their reasons for choosing recreation/leisure studies as a major. This study took place at a large, Midwestern university and used undergraduate recreation students for sampling purposes. Perhaps unsurprisingly, the majority of students chose the major based on future career aspirations (Iglesias-Martinez, Martinez Ruiz, & Tortosa-Martinez, 2012). Although this may be common among many different university majors, it is especially true of majors directly tied to a profession or career. Within this study, the researchers also looked at the factors that make a recreation curriculum especially effective. Among these factors was “collaborative learning conducted in communities and situated learning experiences that allow a high degree of transference” (Iglesias-Martinez, et. Al., 2012, p. 687). In other words, a successful curriculum includes real-word experiences such as internships which are geared towards obtaining a successful career.

The literature regarding doctoral curriculum varies between the need to emphasize research to future teacher preparation. According to Gilbert (2004), the main shift in doctoral pedagogy has been from the completion of a dissertation to the actual skills and training needed to conduct independent research. This research, however, tends to have some technical issues...
including that the “investigation of doctoral preparation tends to yield small sample sizes with inconclusive results” (Stumbo, Carter, Wilder, & Greenwood, 2013, p. 180). Nonetheless, literature exists addressing doctoral curriculum and preparation.

Not always at the forefront of curriculum development is the issue of cultural sensitivity, which could prove to be potentially problematic in doctoral curriculum. According to Sanzgiri (2006), cultural sensitivity should be present in a doctoral curriculum. Sanzgiri (2006) conducted a case-study at a Northern California University during the development of a new doctorate program. The study produced new recommendations that move from no cultural awareness to multiculturalism, as well as a firm belief in educational hierarchy to a belief that education should support several and varying models of curriculum implementation (Sanzgiri, 2006).

Finally, Bass (1993) explored the bridge that exists between the doctoral degree as purely research-focused to one that holistically prepares future professors to teach and research. In other words, “activities, programs, evaluations, and supports we develop to enhance the pedagogical training of the future professoriate should be generated by the same ethos and rhetoric that currently govern scholarly training” (Bass, 1993, p. 29). This sentiment sheds light onto the idea that not all doctoral candidates are preparing for work as future researchers, rather the curriculum should include at least some focus on pedagogy. “The increasing diversity of the Ph.D. degree blurs the often cited distinctions between the ‘pure’ research of the thesis-only Ph.D. and the professional orientation of the specialist degrees” (Gilbert, 2004, p. 302).

In order to explore the topic further, research questions were developed:

R1: Are universities granting doctoral degrees in recreation management offering curricula that have a common core of classes?

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R2: What differences are found within the various curricula?

R3: Do universities offering a degree in “leisure” have a different curricula than those offering “recreation”?

**Methods**

With approximately 16 recreation management doctoral granting universities, obtaining an adequate sample required a high number of data sets from the universities. The curricula from ten universities were analyzed for the purposes of this study. All data were obtained from publically available sources such as departmental websites. The captured data consisted of total credit hours of each doctoral program, course descriptions, research credit hours, statistics-related courses credit hours, cognate credit hours, dissertation credit hours, and the designation and title of the degree. Degrees included: Ph.D., Re.D (The Doctor of Recreation), or Ed.D as well as recreation management, recreation administration, leisure services, etc..

In order to compare and contrast the curricula, a mixed method approach was administered: both qualitative content analysis on course descriptions, as well as central tendencies on credit hours will be processed. To measure the differences between Central tendencies were produced using SPSS 22.0 software. Content analysis coding was also done by the researchers. Themes were identified, compared and contrasted using the “Constant Comparison” method of qualitative research. This method produces salient themes until the point of data saturation.

**Results**

For the purposes of this study, mixed methods analysis were utilized. A total population of data from recreation doctoral granting universities were gathered. Table 1 included the doctoral granting universities with a degree in recreation management (or similar).
Table 1
Universities Offering a Doctoral Degree in Recreation or Leisure Studies

<table>
<thead>
<tr>
<th>University</th>
<th>Degree</th>
<th>Degree Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arkansas</td>
<td>Ed.D.</td>
<td>Recreation &amp; Sport Management</td>
</tr>
<tr>
<td>Arizona St.</td>
<td>Ph.D.</td>
<td>Community Resources &amp; Development</td>
</tr>
<tr>
<td>Baylor</td>
<td>Ph.D.</td>
<td>Kinesiology, Exercise Nutrition, &amp; Health Promotion</td>
</tr>
<tr>
<td>Clemson</td>
<td>Ph.D.</td>
<td>Parks, Recreation, &amp; Tourism Management</td>
</tr>
<tr>
<td>Florida</td>
<td>Ph.D.</td>
<td>Health &amp; Human Performance</td>
</tr>
<tr>
<td>Georgia</td>
<td>Ph.D.</td>
<td>Natural Resources, Recreation, &amp; Tourism</td>
</tr>
<tr>
<td>Illinois</td>
<td>Ph.D.</td>
<td>Recreation, Sport, &amp; Tourism</td>
</tr>
<tr>
<td>Indiana</td>
<td>Ph.D.</td>
<td>Leisure Behavior</td>
</tr>
<tr>
<td>Middle Tennessee St.</td>
<td>Ph.D.</td>
<td>Human Performance</td>
</tr>
<tr>
<td>North Carolina St.</td>
<td>Ph.D.</td>
<td>Natural Resources, Recreation, &amp; Tourism</td>
</tr>
<tr>
<td>Northern Iowa</td>
<td>Ed.D.</td>
<td>Allied Health, Recreation, &amp; Community Service</td>
</tr>
<tr>
<td>Oklahoma St.</td>
<td>Ph.D.</td>
<td>Health, Leisure, &amp; Human Performance</td>
</tr>
<tr>
<td>Pennsylvania St.</td>
<td>Ph.D.</td>
<td>Recreation, Park, &amp; Tourism Management</td>
</tr>
<tr>
<td>Texas A&amp;M</td>
<td>Ph.D.</td>
<td>Recreation, Park, &amp; Tourism Science</td>
</tr>
<tr>
<td>Utah</td>
<td>Ph.D.</td>
<td>Parks, Recreation, &amp; Tourism</td>
</tr>
<tr>
<td>West Virginia</td>
<td>Ph.D.</td>
<td>Forestry &amp; Natural Resources</td>
</tr>
</tbody>
</table>

All but two universities (Northern Iowa and Arkansas) offer the doctoral degree as a Ph.D. North Iowa and Arkansas currently offer only an Ed.D. Total credit hours as well as credit hours dedicated to research/statistics were also explored. This data are represented in Table 2.

Table 2
Credits at Doctoral Granting Recreation Universities

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Credit Hours</td>
<td>60</td>
<td>96</td>
<td>72.88</td>
<td>13.41</td>
</tr>
<tr>
<td>Research/Statistics Hours</td>
<td>9</td>
<td>18</td>
<td>13.38</td>
<td>2.63</td>
</tr>
</tbody>
</table>
Finally, courses required of all doctoral students were collected for analysis. Considered to be “core” curriculum, these courses generally consisted of 2-4 classes involving such topics as: teaching methods, philosophy, and many others. Using grounded theory, themes of classes were identified. These themes include:

- Issues/Problems
- Overview/Foundations
- Teaching/Curriculum
- Human Behavior
- Management
- General Seminar

**Discussion**

The data show some interesting findings. For example, total credit hours range from 60-96 total for a doctoral degree. Although these universities all make mention of some master’s level coursework being accepted towards graduation, there was no connection to total credit hours and mention of master’s credits. Most programs listed a 3-4 year completion rate at full-time study. It is likely that most programs on the lower end of the credit hours are not including master’s credits and those at the high end are, but the data did not expressly show this.

Total statistics and research coursework credit hours ranged from 9-18 credits. A mean credits of 13.3 paired with a relatively small standard deviation of 2.63 suggest that most programs are similar in the statistics and research required. The lowest of required research/statistics was Northern Iowa at 9 while Utah sat atop the list at 18. It should be noted that Northern Iowa is one of the two programs offering an Ed.D degree which sometimes suggest less emphasis on research than the traditional Ph.D.
Recreation Management Curricula

As the core curriculum is considered, several interesting things emerge. The six themes (Issues/Problems, Overview/Foundations, Teaching/Curriculum, Human Behavior, Management, General Seminar) were found in the data. In other words, each doctoral program had some core classes that fit into at least one of these themes. This suggests that although each program has a sense of unique identity, which is consistent with the idea of a “core curriculum”, or foundational set of classes.

The next thing considered about the programs was the actual labeling of the doctoral degrees. With 16 total programs, a total of 13 distinct names of doctoral degrees can be earned by students. Although the name differences can be subtle, there are some degrees with widely varied names under larger departmental degrees; “Human Performance” or “Forestry” for example. As the different names of degrees are considered, several themes are discovered: First, recreation as a key component of the programs. Second, tourism and parks are the next highly used labels as key components, and third, recreation as a specialization of another degree name such as “human performance”. To further highlight these findings, please see figure 1. Each word appearing in the degree names is found on the figure. The relative size and darkness of the word indicates the frequency of its use among the 16 degree programs.
Figure 1. Frequency of Degree Names Among the 16 Institutions
Finally, it is interesting to note the geographic location of the universities. The geographic breakdown of the universities is found in Figure 2.

![Geographic Breakdown of the 16 Institutions](image)

*Figure 2. Geographic Breakdown of the 16 Institutions.*

The distribution shows a concentration of universities offering a doctorate in recreation or leisure studies in the Southern and Eastern portions of the United States with a strong representation in the Southeast. This concentration of universities is not especially convenient for students wanting to study in the Western portions of the country. With large population centers in locations in California, Oregon, Nevada, and Washington, there are no opportunities for doctoral students to attend local universities.
Future Research

This study begins the discussion about universities granting doctoral degrees in recreation or leisure by presenting the current status of the industry. By exploring core coursework, credit hours, research/statistics credit hours, and geographic location, academics and students alike can have a more well-rounded understanding of the opportunities across the nation. Potential for future research includes a more detailed exploration of coursework through interviews and surveys to institutions listed above, as well as a comparative analysis of coursework to National Recreation and Parks Association requirements for agency accreditation. Furthermore, future research should include an examination of actual academic position descriptions compared to the curriculum being offered by various doctoral-granting institutions.
Recreation Management Curricula

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A Private vs. Community Aquatic Programming Comparison

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Abstract
The purpose of this study was to investigate if instructors in a private aquatic training program can advance students to the point of optimal readiness to achieve aquatic skills more quickly than instructors from a community aquatic training program. In this study, the Aquatic Readiness Assessment (ARA) was utilized for determining optimal readiness for advancement in aquatic education which potentially may lead to a safer aquatic experience. The students were divided into two groups and scored by five instructors designated by the aquatic training program they attended for lessons. The first sixty students who scored below twenty-seven on the ARA in each facility were assigned to stage one of the aquatic program. This assured that all students began at the same aquatic skill level. A pre-test and post-test were administered, with three weeks between each test. The private program advanced thirty-eight students to level two with an average score change of 6.82, while the community program advanced forty-seven students to level two with a score change of 7.13. The results were not significantly different in scores among advancing students to level two. The results did demonstrate an improvement among the students at both facilities and showed the value of aquatic training.
Introduction

Children have long been measured by their ability to achieve certain physical milestones based on a developed maturation level. When examining physical ability, Gallahue and Ozmun (1989), stated that a child’s biological age provides a rough guide of developmental level (Brady, 2004). In contrast, Magill’s (1988) Optimal Readiness Theory (ORT) states that a child is ready to learn a skill when maturation, prior experiences and motivation coincide (Smoll, Magill & Ash, 1988). Therefore, a four-year old child may be able to jump on one foot, but actually may have reached the physical milestone earlier yet not given the opportunity to indicate the skill at a younger age (Scurati, Michielon, Longo, & Invernizzi, 2010). There is very little evidence to suggest that the readiness to learn specific motor skills can be identified through biological maturation (Scurati, Michielon, Longo, & Invernizzi, 2010; Smoll, Magill, & Ash, 1988). Applied to this study, the ORT will consider the instructor’s view of the optimal readiness period for children in a private program versus a community program to indicate their aquatic readiness to move from one level of an aquatic training to the next (Blanksby, Parker, Bradley, & Ong, 1995).

Blanksby, et al. (1995) determined that successful achievement of skills is not dependent on the earliness of instruction but on the timeliness of that instruction. Specific indicators such as water orientation, water entry, and/or breath control can be examined to determine a child’s readiness to achieve aquatic skills. Research has suggested that learning is more rapid and more enjoyable when readiness exists (Aicinena, 1992).

In this study, the Aquatic Readiness Assessment (ARA) method was utilized for determining optimal readiness based on instructor’s scores of the students in a private versus community programs. The ARA contains nine components which relate to Magill’s ORT in the following manner: (1) water orientation, (2) water entry and (3) breath control components consider a student’s motivation to approach the water, enter/exit the pool voluntarily, and ability to control their breathing. These correspond to Magill’s (1988) definition of motivation which includes the confidence level of the student. The ARA
components of (4) buoyancy/flotation and (5) body position in a water environment relates to Magill’s category of prior experiences (see Figure 1). Finally, Magill’s (1988) category of maturation umbrellas the final four components of the ARA’s physical categories of (6) arm propulsion, (7) arm recovery, (8) leg action, and (9) combined movement. Magill’s ORT states that maturation, prior experience, and motivation must all be present and are co-dependent upon one another to predict readiness in a student (Scurati, Michielon, Longo, & Invernizzi, 2010; Smoll, Magill, & Ash, 1988). In Costa et al. (2012), instructors scored the instrument based upon their observation of the student’s ability to complete the required aquatic skills to indicate that student’s optimal readiness to advance from one aquatic skill level to another.

Both programs of instruction focus on aquatic skill improvement, yet there are discrepancies in cost, class size, and availability of classes. Private programs are typically higher in cost and will limit class size to small groups of less than four students or provide individual instruction (Miller Swim

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**Figure 1. The Relationship of Optimal Readiness Theory (Smoll, Magill and Ash, 1988) = Aquatic Readiness Assessment (Costa et al., 2012; Langendorfer & Bruya, 1995).**
Aquatic Programming Comparison

School, 2014). Community programs rarely have groups with less than ten students, and almost no individual training opportunities (YMCA, 2014). Private programs offer classes year round (Miller Swim School, 2014), while community programs are typically seasonal (YMCA, 2014).

**Literature Review**

**Optimal Readiness**

The ORT states that the key to success in development does not lie in how early a participant gets involved in a particular activity, but rather the correct timing that focuses on the period of optimal readiness. What some swimming instructors may interpret as poor skill or lack of future potential may actually be a lack of optimal readiness (Smoll, 1988).

Optimal readiness is heavily dependent upon motivation as a factor. Magill (1988) defines motivation as a state of being energized to engage in an activity. Ausubel (1968) proposed that simply introducing the participant to an activity may increase the motivation to learn the new skill and foster the interest necessary to produce the intrinsic value that promotes motivation. However, Aicinena (1992) indicated that a participant should express a desire to participate in an activity and that expression should be independent of external influence. Pierce, Cameron, Banko, and So (2012) and Abuhamdeh and Csikszentmihalyi (2012) agreed that a participant will be intrinsically motivated by a balance of challenges and skills. Aicinena (1992) further proposed that a participant with a sibling or friend who engages in the activity will demonstrate a higher level of motivation to attempt the activity.

Maturation, also referred to as developmental age, is another important factor in determining readiness in a participant. While developmental age or maturation is significant, it often does not correspond with chronological age. Purcell (2005) discussed that sport readiness involves the evaluation of the participant’s cognitive, social and motor development to determine ability and maturation. In addition, Malina (1988) discussed the connection of maturation and motivation. Malina (1988) stated that “both biological and social factors contribute to the development of athletes beginning very early in life” (Smoll, 1988). Also, Malina (1988) determined that while “training” for a sport can affect bone, tissue
and fat content; there is no influence on stature, skeletal or sexual maturity in a child’s development. Therefore, he concludes that participation should not be determined by biological age rather by maturation displayed. Langendorfer and Bruya (1995) agreed that age is a very poor predictor of when a child can learn to swim or perform any motor skill and maturation should therefore drive the decision regarding a child’s participation in an activity. Rogers, Morris, and Moore (2008) concluded that better learning with less training will result when the child’s maturation level is adequate for the skill to be learned. Choi, Seongkwan and Jinyoung (2013) confirmed this conclusion and stated that evidence indicates that the key to success in a sport lies in the child getting involved when he or she is optimally ready to get involved.

The third element of ORT is prior experiences. Magill (1988) states that evidence exists that early exposure contributes to differences in skills as varied as violin training and infant swim programs. Although neither program encouraged the instruction of either violin or swimming, the research encouraged the introduction of violin music and water play. Equally as important as maturation or motivation, prior experiences may be the easiest element to manipulate. Without engaging in formal education, a child should be exposed to environments or experiences that will foster the knowledge of the desired skill acquisition. Stodden, True, Langendorfer and Gao (2013) found some indication that a child’s knowledge of a sport may have an effect upon their ability to learn motor skills related to those sports. Additionally, Smith, Smoll and Cumming (2007) determined that the knowledge base of children may be an important factor in the execution of motor skills.

Aquatic readiness

Langendorfer & Bruya (1995) emphasized the importance of aquatic readiness which is the concept of “optimal readiness” applied to aquatic skills. He advocated that a participant should be taught skills when the participant’s behavior indicates that he or she is ready to learn them. According to Langendorfer & Bruya (1995) aquatic readiness includes foundational skills, attitudes, and understandings that precede the acquisition of more advanced aquatic skills such as swimming strokes.
and water safety. He calls this process of addressing prerequisite needs as “aquatic readiness”.

Langendorfer & Bruya (1995) identifies basic attitudes as lack of fear, respect for rules, eagerness to participate, and listening to instruction. To indicate aquatic readiness, a participant must also understand class procedures, pool rules, language of instruction, and rules of the games and activities. Lastly, Langendorfer & Bruya (1995) identified fundamental motor skills that indicate aquatic readiness, including: water entry, water buoyancy, breath control, water balance, leg and arm movements.

**Aquatic Readiness Assessment**

Langendorfer and Bruya (1995) developed the Aquatic Readiness Assessment (ARA) to fill a void they thought existed in the area of aquatic measurements. This instrument has been utilized over the years in numerous studies. For example, Kjendlie and Mendritzki (2012) used this instrument to examine movement patterns in free water play after swimming lessons with flotation aids. Costa et al. (2012) used this instrument to examine the deep and shallow water effects on developing aquatic skills. One specific characteristic that set apart the ARA was that it assessed water orientation and adjustment. Prior to this, researchers had acknowledged the need for water orientation and adjustment but assumed students began the aquatic training program already possessing these components (Langendorfer & Bruya, 1995). The ARA added these components to the formal assessment checklist. Proper administration of the ARA included observing multiple trials and in varying conditions to achieve satisfactory results. In addition, administrators must have established an adequate level of objectivity. Objectivity meant general agreement both with other instructors and within the single instructors on different occasions. Agreement of a score of twenty-seven or higher on the ARA is required for a student to be considered successful on the ARA. In addition, Langendorfer & Bruya (1995) encouraged video documentation of students who are assessed to further validate objectivity and reliability of the instrument.

The instrument was not intended to have age norms. Norms often have been misused to compare students with other students of a same chronological age (Langendorfer & Bruya, 1995). The ARA is meant to be used to assess an individual student’s progress, not to compare students.
Aquatic Programming Comparison

Community Aquatic Training Programs

The American Red Cross (ARC) has a very popular program for swim lessons that has been widely accessible since 1914 (Vontroba, 2011). The Young Men’s Christian Association (YMCA, 2014) also offers a highly utilized program of swim instruction with numerous facilities available nationwide. In addition, some communities have addressed the need for aquatic skill acquisition by offering free lessons. Programs like the ARC and the YMCA focus on teaching swimming readiness skills whereas other community programs limit instruction to water survival skills. In addition, most community programs include a component that addresses character development of citizenship skills.

Private Aquatic Training Programs

Private facilities that offer aquatic skill acquisition are less numerous than community programs. Swim America (Swim America, 2014) operates learn-to-swim programs globally. While Swim America does offer learn-to-swim instruction, the program additionally trains coaches to look for stroke mechanics and identify participants who indicate a propensity for talent and might benefit from inclusion on swim teams and competition. Infant Swimming Resource (2014) focuses on teaching infants to roll onto their backs and scream for help. This program requires intense training for instructors and boasts a hefty cost thereby limiting students (Vontroba, 2011).

Community vs. Private Aquatic Training Programs

Both programs seek to increase aquatic skill acquisition; however, there are distinct differences in cost of participation, class size, and the availability of classes.

Community programs typically have minimal cost to participate often based on income. New York City Parks offers free lessons, but selection is based upon a lottery system and courses are offered only sporadically throughout the year (NYC Parks, 2014). The YMCA pricing is based upon membership. Membership fees are determined by income level and membership includes swim lessons along with other amenities (YMCA of greater Tulsa, 2014). As a result, there is difficulty in determining cost equivalency to private instruction. Classes are a ten-to-one ratio, focusing on group-, rather than
individual-instruction. The ARC (Eastern Oklahoma Red Cross, 2014) offers a similar program to the YMCA, but additionally offers certification courses for lifeguards and swim instructors. The YMCA focuses on learn-to-swim courses while the ARC has increased the higher level skill acquisition courses leading to certification of the student. Within the class curriculum, both the YMCA and the ARC include aspects of character development which is another component unique to public aquatic programs.

Community programs often face the challenge of facility availability. Most community pools are outside thereby limiting access to the warmer months. If a facility has an indoor pool, it is often shared with open-swim times and non-aquatic training programs. The YMCA (2014) offers classes based upon five skill levels, moving participants through with no minimum number of hours suggested, but a minimum age range. ARC (2014) indicates six levels of aquatics ranging from introduction to the aquatic setting to swimming and skill proficiency. ARC also suggests a minimum age range, but also provides parent and child aquatics for participants under the minimum age range (American Red Cross, 2014).

By contrast, private programs are contained within their own facility so more control is available. Private facilities boast smaller class ratio. Miller Swim School offers a four-to-one ratio (Miller Swim School, 2014). Infant Swim Resource offers one-on-one instruction in the setting of the student’s choice (Infant Swimming Resource, 2014). Swim America (2014) offers both lessons at their facility and lessons at the facility of the student’s choice: private pool, neighborhood pool, or other facility (TeamUnify, 2014). The student is also allowed to choose the size of the class. In addition, each of these private facilities is self-contained and indoor, so classes are available year round at a variety of times throughout the week. Public access is restricted which can be appealing to more reluctant students. Robertson (2010) found that fifty-nine percent of learn-to-swim programs utilize their own facility, but did not delineate between dedicated (private) and shared (community) facilities.
Methodology

Selection of Participants

A convenience sample of students was utilized from a private program as well as a community program. The data was collected over a three-week period, during the month of June, 2014, in two separate facilities: a private aquatic center and a community aquatic center, in the same city. Facilities were selected because each had the largest number of students attending their aquatic training programs, which made it easy for the researcher to gather data and each facility’s willingness to participate in the study.

The progress of each student for both programs was scored by the ARA checklist (Costa et al., 2012; Langendorfer & Bruya, 1995). Murcia and Perez’s (2008) research demonstrated that male and female motor and cognitive development are similar; they will be combined in the study. The facilities and instructors were asked to sign a consent form to participate in this study. The research design, methodology employed, and the contact with the sample were approved by the Institutional Review Board for protection of human subjects.

Research Design and Variables

A convenience sample pre-post-test between/within students design was utilized for this study. Instructors who met the study criteria and agreed to participate did so by signing a consent form. Instructors were provided the ARA instrument to collect data from the students. A script was provided to the aquatic center directors to discuss and describe the nature of the study as well as what would be required from the instructors’ ARA optimal readiness scores (dependent variable) and facility (independent variable), with instructors (intermediate variable).

Analysis of Data

This study used a non-parametric statistical analysis utilizing the SPSS statistical package, with pre-determined alpha set at p<.05. A convenience sample pre-test between/within participants design was
utilized for this study. The specific data analysis techniques was a Mann-Whitney U for the repeated measures between groups, because it is equivalent to the t-test for two independent samples parametric procedure for utilizing rank order data (Gravetter & Wallnau, 2013) or ordered ratings, and Wilcoxon T for the repeated measure within because it also uses rank order data (Gravetter & Wallnau, 2013). This allowed the data analysis to be consistent. A chi-square analysis was used to see if there was a difference in individual scores over the three weeks.

Results

Instructors scored each student in a pre-test format to determine the student’s aquatic readiness level. Students who scored below twenty-seven as evaluated by two or more of the instructors were placed in level one aquatic training. Each student attended six aquatic training lessons over a three-week period. Each aquatic training lesson lasted forty minutes in duration.

Students were again scored on the ARA during a post-test at the end of three-week period. Students who scored twenty-seven or above by at least 80% of the instructors, or four out of five instructors, advanced to level two aquatic training. Students who still scored below twenty-seven remained in level one aquatic training.

Facility Comparison

A cross-tabulation and chi-square statistic was utilized to examine and compare the advancing number of students between the private and community programs.

The private program showed thirty-eight students who scored twenty-seven or above, and the community program saw forty-seven students score twenty-seven or above using the ARA.

The chi-square was used to test the difference in the pass rate between the private and community programs. The analysis indicated there was not a significant difference in the pass rate between the private facility vs. community facility at p≤.05 with a result of p=.071.

The Mann-Whitney U analysis was used to test the change in instructors’ scores from pre-test to post-test. The analysis indicated a significant difference in the change in instructor’s scores at the private facility.

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facility vs. community facility at \( p \leq .05 \) with a result of \( p = .046 \). There was also a significant difference in the change in instructor’s scores within the facility at \( p \leq .05 \) with a result of \( p = .012 \).

**Comparison of Instructor’s Scores**

The Mann-Whitney U test was used to analyze between groups, private vs. community facilities, because it utilizes ordered ratings. The descriptive statistics showed the total mean change from pre-test to post-test for all five instructors’ scores within the private facility was 6.82 compared to the community facility’s 7.13.

To examine the descriptive statistics further, the Wilcoxon test was used to analyze within groups, private vs. community programs instructors’ scores. Instructor one and two in the community program had change scores significantly different from the other eight instructors: three within the community and five in the private program. Change in the community program of instructor one’s score was 8.08 and instructor two’s score was 7.10.

The Kruskal-Wallis test was used to conduct deeper analysis within the groups and calculate the chi-square. The private program instructor score mean rating range was 143.78 for instructor two to 160.26 for instructor one. The chi-square indicated this was not significant \( p \leq .05 \) with a result of \( p = .836 \), indicating that the instructors in the private program scored the ARA more consistently as a group.

When running the same test on the community program, the instructor’s score mean rating range was 135.36 for instructor three to 180.54 for instructor one. The chi-square indicated this was a significant difference \( p \leq .05 \) with a result of \( p = .029 \), indicating that the instructors in the community program did not score the ARA consistently as a group.

**Conclusions**

In conclusion, the results of the study did not show a significant difference in scores among advancing students to level two aquatic training. The cross-tabulation chi-square analysis indicated there was not a significant difference in the pass rate between the private program vs. community program at \( p \leq .05 \) with a result of \( p = .071 \). In this study the private program advance students, thirty-eight out of sixty,
and the community program, forty-seven out of sixty. The change in instructors’ score from pre-test to post-test indicated an improvement by the students in both the private, 6.82, and community, 7.13, programs. These positive results should encourage students to attend some type of aquatic training program, private or community.

As stated earlier, eight of the ten instructors in this study were within the mean range of 6.73 to 6.97. The two instructors in the community program that may have skewed the findings had mean change scores of 8.08 for instructor one, and 7.10 for instructor two. This probably can be explained by the fact the two instructors with the outlying scores had a better understanding of the assessment process during the post-test than they did during the pre-test. According to Kjendlie and Mendritzki (2012) aquatic skill acquisition is crucial for water safety. While other prevention strategies can be employed, Kjendlie and Mendritzki (2012) stated that learning a variety of aquatic skills will reduce the risks associated with drowning.

The results between the private facility and the community facility was not what the researcher expected at the beginning of the study. The alternative hypothesis stated that there is a difference in the instructor’s scores of student’s optimal readiness to learn aquatic skill between students from a private program and a community program. The researcher expected the private aquatic training program would advance students at a higher rate. The results indicate no significant difference in the advancement of students to level two aquatic training between the two programs, private vs. community.

The private and community programs, the instructors, and the students expressed appreciation for the opportunity to participate in the study. The programs discovered a method to determine instructors who may need additional training in the evaluation process of student’s aquatic skill levels. Instructors indicated they gained a better understanding in scoring students using the ARA. Students commented that they now understood the importance of each skill instructors were teaching in the aquatic training lessons.
References


Abstract

Social competence is a necessary type of socializing which refers to the ability to get along with other people and knowing what kinds of behaviors are considered acceptable in various places and situations to avoiding embarrassing oneself or make others feel uncomfortable. As a result of social and cultural changes in the process of how children gain and develop social competence, more research is needed to determine where and how social competence is learned. Therefore, the purpose of this study was to see if social competence was different for college students who attended recreation camp consistently as children as compared to college students who never attended recreation camp when they were children. Participants were 48 college students split between those who did or did not attend a summer recreation camp during their youth. Each participant completed the Self-Efficacy Scale. There was no statistical difference between participants on Total Self-Efficacy and General Self-Efficacy, but participants who attended a recreation camp scored significantly higher on the Social Self-Efficacy subscale. Findings suggest that utilizing a well-organized recreation camp program can potentially produce long-term social and personal benefits to individuals, but further research is necessary with larger, and more diverse samples.
Literature Review

Developing the skills necessary for socializing with “strangers” is essential for parks and recreation professionals, specifically those working in recreation camp settings. Parks and Recreation directors have suggested that recreation camps have a deeper meaning. For example, one director stated,

I have worked in parks and recreation since 2002 and have seen several instances especially in a recreation camp setting where a child enhanced their self-confidence in a short time; the “nerd” trying a new sport like fencing and beat the “jock”; the “jock” learning how to play Chess or Mancala proving that they are more than just a good athlete; the “misfit” showing off their art skills and praised by their peers; and the “overweight” child who refused to take off their shirt at the pool, but went onto lose 40 lbs. in one summer and then has the confidence by the end of the summer to take off their shirt at the pool. I have had a few past participants or their parents reach out to me and tell me what a difference the recreation camp environment made for them and their child (A. Dobson, personal communication, July 7, 2016).

Social Competence

Research has suggested that social competence is an essential component to developing social skills for children in recreation camp settings (Belois & Mitchell, 2009). Social competence is a necessary type of socializing which refers to the ability to get along with other people and knowing what kinds of behaviors are considered acceptable in various places and situations to avoiding embarrassing oneself or make others feel uncomfortable.

Social competence includes characteristics such as self-efficacy, self-confidence, courtesy, and compassion. People can possess either high and low social competence. When
people possess high self-efficacy they often exhibit higher social competence and tend to develop positive relationships and achieve greater success in life when compared to individuals who lack appropriate social skills and social competencies (Belois & Mitchell, 2009; Gilmour & McDermott, 2008).

Social competence is a trait in children not frequently evaluated in today’s society (Gilmour & McDermott, 2008), and studies have demonstrated social competence and self-efficacy as a predictor for children to grow into adults better prepared to positively contribute to society. Therefore, social competence is a skill that can not only benefit the individual, but can benefit communities and society at large (Belois & Mitchell, 2009; Gilmour & McDermott, 2008). Self-efficacy as an indicator of social competence can be a predictor of disruptive behavior in classrooms, and a predictor of acceptance by peers, which is correlated with positive attitudes toward school and social adjustment through life (Colyn, DeGraaf, & Certan, 2008; Jalongo, 2006). These findings demonstrate the importance of understanding and developing self-competence throughout childhood.

**Benefits of Recreation Camps**

Summer recreation camps allow children to step out of their ordinary everyday lives and develop their own identity. Presence in nature allows children to feel a sense of peace, which assists with the therapeutic aspect of recreation, allowing children to more freely accept change (Groves, 1981). Additional skills and attributes reported to have developed from attending recreation camp include: increased teamwork skills, leadership skill development, self-confidence boosts, taking responsibility for oneself, and growth of specialized skills such as horseback riding, tennis, dance, and photography (Dworken, 2001). Past recreation campers have also reported that their experience provided them with lifelong skills, such as learning how to
have fun in nature without the use of technology, building confidence in trying new skills, and managing free time (Dworken, 2001). Additional aspects of social competency that can be developed in a recreation camp setting include self-concept/self-confidence, making good first impressions, values and morals, the ability to reciprocate appropriately, graciousness, respect, manners, character, courtesy, responding appropriately to authority figures, living and working well with others, compassion, and empathy (Gilmour, 2008).

It is a common belief that parents are the reason, and main resource, for positive youth development. However, even parents realize that it takes a village to assist in the process of nurturing and guiding children into adulthood in both educational and non-educational settings (Henderson et al., 2007). In the past, summer recreation camps have been known to contribute to a child’s education and recreational activity as well as working as a therapeutic environment (Groves, 1981). As society changes, recreation camps have to adjust their objectives and goals to meet the needs and goals of society (Groves, 1981). Parents have reported their children developing self-confidence and higher self-efficacy while away at recreation camp, and the children return home noticing changes in numerous aspects of their lives, including goal setting, being able to handle new and uncomfortable situations, being brave and willing to try new things, and how to rely and trust others within the community (Dworken, 2001). Colyn et al. (2008) proposed that skills needed in society are also needed in a summer recreation camp setting; therefore, recreation camps should look for ways to teach children the skills needed to be actively engaged in their communities and society, not only for themselves, but for the betterment of their neighborhoods, communities, and society as a whole.
Purpose of the Study

As a result of social and cultural changes in the process of how children gain and develop social competence, more research is needed to determine where and how social competence is learned. As well, further studies examining how professionals in the field of leisure and recreation can target the development of social competence through youth programs are needed. Therefore, the purpose of this study was to see if social competence was different for college students who attended recreation camp consistently as children as compared to college students who never attended recreation camp when they were children.

Method

This study examined the self-efficacy of 48 college students, aged 18 to 22, who did and did not attend a summer recreation camp during their childhood. Participants completed a nine-item demographic survey in addition to the Self-Efficacy Scale, which consisted of 23 items, with 7 items focused on Social Self-Efficacy and 16 items focused on General Self-Efficacy. The construct validity for the Self-Efficacy Scale was reported by Sherer et al. (1982) to be correlated with measures of several other personality characteristics to assess construct validity. These measures included the Internal-External Control Scale (Rotter, 1966); the Personal Control Subscale of the I-E Scale (Gurin et al., 1969); the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1964); the Ego Strength Scale (Barron, 1953); the Interpersonal Competency Scale (Holland & Baird, 1968); and a Self-esteem Scale (Rosenberg, 1965). The correlations between the Self-Efficacy Scale and the other measures were obtained in prior research; all were moderate in magnitude in the appropriate direction (Sherer et al., 1982).
This scale consists of 23 items assessing expectations in terms of willingness to initiate behaviors, willingness to expand effort in completing behaviors and persistence despite difficulties (Rice et al., 1997). Participants are asked to rate each of the 23 statements on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), indicating the extent to which the statements describe themselves. Fourteen of the items in the Self-Efficacy Scale are reversed scored; 16 of the items are directed towards general self-efficacy and 7 items are directed towards social self-efficacy. Examples of statements in the Self-Efficacy Scale include, “I feel insecure about my ability to do things,” and “I have acquired my friends through my personal ability to make friends.”

**Results**

Data in this study were analyzed using a One-Way Analysis of Variance, in order to analyze the scores and data collected by the instruments listed above. This will compare the means of the competence scores within and between the categories of respondents: students who attended summer camp, and students who did not attend summer camp.

Forty-eight college students (11 males, 37 females) completed the survey, 35 of which reported attending summer recreation camp between the ages of 7 and 18. A variety of recreation camp types were reported including day recreation camps, residential recreation camps, church recreation camps, sports recreation camps, art recreation camps, and scout recreation camps. The average scores of all participants for the Self-Efficacy Scales revealed the following: Total Self-Efficacy ($M = 80.71$), General Self-Efficacy ($M = 45.58$), and Social Self-Efficacy ($M = 20.69$). One-way ANOVA statistical analysis revealed that college students who attended summer recreation camps as children scored higher on the Social Self-Efficacy subscale scores.
Recreation Camp Attendance

than those who did not attend recreation camps ($p < .05$). No statistical differences were found between the groups for Total and General Self-Efficacy.

**Discussion**

Summer recreation camp settings have potential for providing opportunities for recreation campers to positively develop emotionally, mentally, and socially (Gilmour, 2008). Although a small study sample, we found that summer recreation camp attendance had a positive impact on social competence as measured by Social Self-Efficacy scores. Social competence is viewed as a universal concern of parents and families, and a predictor of acceptance by peers, which is in turn correlated with positive attitudes toward school and social adjustment through life (Jalongo, 2006). While further research is needed, our findings suggest that recreation camp experiences may impact the development of social competence and self-efficacy of attendees.

Given the benefits of a socially competent society, parks and recreation professionals should consider programming, including recreation camps, that specifically target the development of self-efficacy and social competency skills for staff, students, interns and participants. Social competence is sometimes taken for granted in parks and recreation camp settings. Therefore, self-efficacy and social competence could be a focus instead of assumed outcomes. For example, according to Aaron Dobson, Parks and Recreation Director of Maryville, Missouri, the impact a recreation camp may have on kids as they grow and go to college can be profound:

Parks and Recreation programs give a participant the opportunity to work with others (peers, coaches, counselors, officials, and others), experience new things (field trips, games, activities, crafts, and sports), learn the value of sportsmanship through winning and losing (athletics, recreation camp, programs, etc.), and how to adapt to new
surrounding and situations (athletics, recreation camps, aquatics, programs, etc.). All of these can help foster an increase of self-confidence in a participant and all our experiences we have as a child help mold us into the adult we will become. So, it would lead me to believe that the lessons learned through a program could stay with someone consciously or subconsciously into our adult years.” (A. Dobson, personal communication, July 7, 2016)

It is important to recognize that there are a variety of factors that affect an individual’s self-efficacy and social competence. Our study examined only the variable of recreation camp attendance and measured the self-efficacy of college students. The small sample size may have also impacted the results of the current study and therefore limits its generalizability. Therefore, future studies should consider different designs. Specifically, utilizing a pre-test/post-test design at the time of recreation camp attendance to examine immediate changes in the self-efficacy of recreation campers may be of value. Similarly, this proposed design eliminates the long wait period between recreation camp attendance and survey administration, better controlling for the possibility that other life experiences will not have impacted social competence, either negatively or positively.

In closing, we recognize that even though children consistently attending recreation camps, they may not be more socially competent or have higher self-efficacy while attending college. However, the results of this study suggest that utilizing a well-organized recreation camp program can potentially produce long-term social and personal benefits to individuals who are seeking undergraduate education.
References


