# the GAHPERD JOURNAL

## Georgia Association for Health, Physical Education, Recreation and Dance

## Volume 43 Number 3 Fall 2010


## KIM THOMPSON

### New GAHPERD Executive Director

Kim Thompson will become the new GAHPERD Executive Director following the GAHPERD Convention in November. Kim replaces Dr. Jacque Harbison who is retiring and has served in this position for the past eight years. Kim is the physical education department head at Alexander HS in Douglas County and is also a Past President of GAHPERD.

# GAHPERD Membership Form

Please print clearly and provide all information requested. This will help us serve you better. Make check payable to GAHPERD and send this form with payment to: Dr. Jacqueline T. Harbison, GAHPERD Executive Director, 731 Oak Mountain Road, NW, Kennesaw, GA, 30152. **You may also join or renew and pay online at www.gahperd.org**.

New: _____ Renewal: _____ Female: _____ Male: _____

Title: _____ Last Name: _____ First Name: _____

| | | (please circle) | |
|---|---|---|---|
| Classification and Membership Dues (check one) | *1-year* | *2-year* | *3-year* |
| _____ Professional (includes full time grad student) | $25 | $45 | $65 |
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_____ Middle School
_____ Secondary
_____ Two-Year College
_____ College/University
_____ City/County Administrator
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Other Memberships:

AAHPERD _____ Yes _____ No
Membership #: _____

GAE _____ Yes _____ No
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Areas of Interest:

Division (check one)

_____ Dance
_____ General
_____ Health
_____ Physical Education

Sections (check two)

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_____ NAGWS/Men's Athletics
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- Obesity among our nation's youth has tripled in the last two decades.
- On average, American children and adolescents spend nearly 4 hours watching television every day.
- Obesity and physical inactivity are major risk factors for cardiovascular disease.
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- Some experts predict that, for the first time in history, because of inactivity and obesity-related illnesses, children's life spans will be shorter than their parents'.
- A number of studies have demonstrated that increased physical activity is linked to better school performance.

American Alliance for Health, Physical Education, Recreation and Dance

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# GAHPERD

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**731 Oak Mountain Rd. NW**
**Kennesaw, GA 30150**

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## *GAHPERD Vision Statement*

The Georgia Association for Health, Physical Education, Recreation and Dance envisions a society in which an active, healthy lifestyle is valued and practiced by all Georgians. GAHPERD takes a leadership role in promoting the professions it represents by broadening public perceptions and values, through dynamic services, creative products, innovative programs and on-going research. As a leader in the state, GAHPERD seeks to unite with professional and community organizations to achieve the vision of a healthy Georgia.

## *GAHPERD Mission Statement*

GAHPERD is a nonprofit organization for professionals and students in related fields of health, physical education, recreation and dance. GAHPERD is dedicated to improving the quality of life for all Georgians by supporting and promoting effective educational practices, quality curriculum, instruction and assessment in the areas of health, physical education, recreation, dance and related fields.

# Contents

Volume 43 Number 3 Fall 2010

## Columns, News, & Departments



## Refereed Articles





## The GAHPERD Journal

The GAHPERD Journal is published three times per year (Winter, Spring/ Summer, and Fall) by the Georgia Association for Health, Physical Education, Recreation and Dance, a non-profit organization. Membership in the Association entitles one to receive all journals and newsletters for that year. Subscriptions of $30 per year are available to libraries and institutions. Single issues are $12 each. Requests for missed issues will be honored for eight weeks following the publication date. The GAHPERD Journal is listed in the Physical Education Index.



For membership information, contact:
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# PRESIDENT'S CORNER

**Stephanye Peek**
*GAHPERD President*

In just a few short days we will be celebrating our 44th Anniversary of Georgia Association of Health, Physical Education, Recreation and Dance Convention in the "Hostess City of the South," Savannah, GA.

Our President-Elect, David Worrall, and I have been teaming up as we are serving as Co-Chairs of this year's convention with the theme, "Fitness is IN, 2010." Also, we have an exceptional Convention Committee that has worked hard to make this convention one of the best for you.

The Pre-Convention Activities start on Saturday, October 30 at noon with CPR Training with Kat Richardson and then, at 3:00 for Zumba and Nutrition with Natalie Rogers. The Banquet and Awards Program will be Sunday at 6:30 PM, the Golf "Scramble" Tourney on Monday at 7:30 AM, Dance Kaleidoscope will also be on Monday at 6:30 PM at the Savannah Civic Center inside the Johnny Mercer Theater and there will be many wonderful presentations Sunday through Tuesday.

We have exemplary speakers which include our keynote speaker for our banquet Irene Cucina, Professor in the Health and Human Performance Department at Plymouth State University, New Hampshire, and then on Monday at noon she will present "Dancing toward Wellness". We look forward to sharing our southern hospitality with Irene, as she shares her passion of promoting being fit for life. Therese McGuire, GA Department of Education Supervisor of Health and Physical Education will bring words of encouragement to our Town Hall meeting at 10:30 AM on Monday. Niclaos Almonor, a Brooklyn NY native, proud FSU Seminole and resident performing artist, will be our dance artist for the convention. The Health speakers will be Dr. Harold Katner, Chief of Infectious Disease and professor of Internal Medicine at Mercer University, Dom Splendorio, District Health Education Coordinator in the Clarkstown Central School District in New York, and Debra Kibbe, Director of the Physical Activity and Nutrition (PAN) Program, Washington, DC. In addition, our very own Southeast Representative of Savannah, Michele Hartzell will speak at the Physical Education Luncheon on Monday at noon. And a special friend of mine, Natalie Rogers will share her enthralling way of teaching Zumba to all.

Please plan to attend the Exhibit Gala on Sunday afternoon from 2:00 - 3:00 PM in the Madison Ballroom.

Looking forward to seeing you at the GAHPERD Convention at the Hilton DeSoto in Savannah as we share our theme "Fitness is in, 2010: Get Fit. Stay Fit. Fit for Life."

Blessings to you!

*Stephanye Peek*

GAHPERD President

## JOIN TODAY, AND PUT AAHPERD TO WORK FOR YOU!

# AAHPERD Membership Application

☐ **YES**, I want to join AAHPERD. Please send my Association credentials, and begin my subscription to Update and the professional journal(s) I've checked below.

(Mr.) (Ms.) (Dr.)
Name _____

**Please fill out both addresses below and then tell us which one you'd like to use.**

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**Preferred Membership Mailing Address**
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Your satisfaction is 100% guaranteed. Cancel any time and you'll receive a full refund on all the months remaining on your membership. ***Join AAHPERD with confidence!***

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*AAHPERD membership includes membership in any two Associations. Please prioritize your choices. Students may join only one Association.*

**1 2** American Association for Health Education
**1 2** American Association for Physical Activity and Recreation
**1 2** National Association for Girls and Women in Sport
**1 2** National Association for Sport and Physical Education
**1 2** National Dance Association
❑ **Research Consortium** For those interested in research. (Select this in addition to your association affiliation(s) at no extra charge to you.)

### Choose your Professional Journals

❑ *Journal of Physical Education, Recreation & Dance*
❑ *American Journal of Health Education*
❑ *Research Quarterly for Exercise and Sport*
❑ *Strategies, A Journal for Physical and Sport Educators*

*You receive a subscription to one professional journal with your membership in AAHPERD. Subscriptions to additional journals are only $25 each per year.*

### Figure your dues

AAHPERD Professional Membership ($135 per year) $ _____
**OR**
AAHPERD Student Membership ($50 per year) $ _____
❑ Undergraduate ❑ Graduate
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Foreign Postage *(Outside U.S. & Canada add $12 per journal including Update.)* **$** _____

**TOTAL DUE** **$** _____

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❑ My check is enclosed for a full year's Membership.
❑ Please charge my ❑ VISA ❑ MASTERCARD ❑ AMEX
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MNSFGA

# 2010 GAHPERD CONVENTION PRE-REGISTRATION FORM

**October 30-November 2, 2010, SUNDAY-TUESDAY**

**Hilton Savannah DeSoto, 15 East Liberty Street, Savannah, GA 31401**

Registration fees are reduced for members who pre-register for the 2010 GAHPERD Convention. If you work or teach in Georgia, you must be a member to attend the convention. Please complete this pre-registration form and send it to the address below. Y**our envelope containing your completed form and check must be postmarked on or before October 1, 2010. Housing information and this form will be available on the GAHPERD website soon: www.gahperd.org .** You may renew membership online now or when you arrive at convention. Checks must be made payable to GAHPERD for the total amount indicated on this form, and submitted along with this form to:

**Dr. Jacqueline T. Harbison, GAHPERD Executive Director, 731 Oak Mountain Road, NW, Kennesaw, GA 30152.**

| **Convention Registration** | **Pre-registration By October 1** | **After October 1** | **Membership Fees** | **Amount Enclosed $** |
|---|---|---|---|---|
| Professionals | $90* | $115* | Professional/Graduate Student | Pre-registration _____ |
| Undergraduate Students | $45* | $60* | 1 year $25 | Spouse/Guest _____ |
| Full-time Graduate Students | $45* | $60* | 2 years $45 | Extra Banquet Ticket _____ |
| Retired Professionals | $40* | $50* | 3 years $65 | GAHPERD Membership _____ |
| Spouse/Guest | $40* | $50* | Undergrad Student $8 | |
| Extra Banquet Ticket | $35 | $35 | | |
| CD of Presentations | **Free** | **$5.00** | Retired $12 | **Total** $_____ |
| | *** Includes Sunday evening banquet ticket** | *** Includes Sunday evening banquet ticket** | | |

**Please print all requested information**

If you are joining for the first time, or renewing membership, please complete the membership form found in this publication and return it with this form and your check. All of the information on the membership form is needed for our records.

Name (as you would like it to appear on badge): _____

School System/College/University/Other: _____

Work/School Mailing Address: _____ _____
Street City State Zip

Home Address: _____
Street City State Zip

Work Phone: _____ Fax: _____ Home Phone: _____

Cell Phone: _____ E-Mail: _____

**Must be postmarked on or before October 1, 2010.**

# GAHPERD '10 Convention Schedule at a Glance

**Saturday, Oct. 30, 2010**
10:00 AM - 11:30 AM
Registration - Foyer

*Pre-convention Workshops*
12:00 - 3:00 CPR Training
with Kat Richardson (12)

3:00 - 5:00
Zumba/Nutrition for all ages
with Natalie Rogers

**Sunday, Oct 31, 2010**
7:00 AM - 4:00 PM
Registration

8:00 AM- 9:00 AM
Zumba with Natalie Rogers

12:00 - 12:50 PM
Moving with Objects, Outdoor skills;
Win In A Minute;
Multicultural Education in Physical Education Teacher Education;
ING Running Grant;
Physiological Aspects of Recovery, Detraining and Overtraining

1:00 - 1:50 PM
Moving with Objects, Pt 2;
Some Consequences, and how PE Could Make a Real Difference;
Math and PE: Making it all add up;
Let's Talk about Sex;
Inclusive Recreation Fun:
A Coordinated approach to Fitness Assessments and Supporting Curriculum;
Health and Physical Activity as a Vehicle for School Improvement

2:00 - 3:00 PM
Exhibits Gala

3:00 - 6:00 PM
Exhibits Open

4:00 - 4:50 PM
Inclusive Intensity in Physical Activity;
Dance guest artist -
Niclaos Almonor "Walk It Out!";
Exercise Physiology: Back to the Basics of Exercise Program Design;
Integrating Physical Activity, Nutrition and Health Concepts into Academic Content;
Anaerobic Exercise in the Heat;
Periodization: Is it Only for Athletes?

6:30 - 8:30 PM
1st General Session and Banquet and Awards Program with Irene Cucina, guest speaker

9:00 - 11:00
Ghost Tours of Savannah

**Monday, Nov. 1, 2010**
7:00 AM - Noon
Registration - Foyer

7:00 - 8:00 AM
Walk/jog/run & more

7:30 - Scrabble Golf - 9 holes/$25

**8 AM-10 AM & 12-2 PM - *VOTE***
for 2010-2011 GAHPERD Board Members

8:30 - 10:00 AM
Jump Rope and Hoops for Heart Breakfast
(invitation only)

8:00 - 8:50 AM
Fitness in Physical Education;
"Cross the River" Integrating Mental Health and Physical Education;

Move it… Learn It Integrated Learning through Meaningful Movement; Zumba-For Any Fitness Level, Age and Mobility Clarkdale Field Day; Balance Your Game; Classroom Activities that Address the Six Risk Behaviors of Youth

9:00 - 9:50 AM
Fitness Stations in Physical Education with the FITNESSGRAM; Kettle Bell Workouts for High School Students and Athletes; Outdoor Skills; Dance - Mastering Horton Basics; Fun & Fitness; The Decline of African-Americans in College Baseball - The Burden on High School Coaches

10:00 - 10:30 AM
Visit Exhibits

10:30 - 12:00
2nd General Session &
Town Hall Meeting

12:00
Registration closes

12:00 - 12:50
Dr. Michele Hartzell - PE Luncheon, Dancing Toward Wellness; Health Luncheon with Dr. Katner; General Luncheon; Young Professionals Luncheon

12:30 - 1:30 PM
Past Presidents Luncheon

1:00 - 2:50 PM
**SUPERSTARS Challenge**

1:00 -1:50 PM
Cups, Cups, Everywhere; HIV/STD; "A Just World?" Mental Health Stigma in Contemporary Culture; PE PALOOZA; Never Let them see you sweat! Creating a positive learning environment in Physical Education; Teen Driver Safety

2:00 - 2:50 PM
Quick, Easy and Original Health Lessons for the Middle School; Fun Nutrition Activities; Contemporary Groove Niclaos Almonor; Do we need a ratings system for Youth Sport? Outreach Program

3:00 - 3:50 PM
Games for Big Groups and Jump Rope and Hoops for Heart Ideas; Strategies for Engaging Students; Line Dances; National Board Certification and GA Master Teacher Certification: Are they worth it?; Elephant in the Gym- Current Trends in Assessment for Georgia Physical Educators

4:00 - 4:50
PE Palooza; FitnessGram Frenzy; Moving To Success: Teaching Locomotor Skills for Transfer; Folk Dances for grades 5 -12; Pediatric Obesity Prevention; Promoting Physical Activity among K-12 Students, Faculty, and Staff

5:00 - 5:50 PM
Part II PE Palooza - Small & Large Group games; Incorporating Diverse Lab Experiences Into a Nutrition Class; Moving with Purpose; Rev up Physical Education Lessons with "Low Tech" using a LCD Projector and a Digital Camera; National Archery in the Schools; Future Professionals in Action

6:30 - 8:00 PM
Join us for a enthralling evening of Dance Kaleidoscope at Johnny Mercer Theatre in Savannah Civic Center
(Let's walk - only .3 mile from Hotel)

8:30 PM - Midnight
Socials and free time on the Riverfront

**Tuesday, Nov. 2, 2010**
6:30 - 7:30 AM
Fitness is IN - walk, jog, run

8:00 - 11:00 AM
CPR

8:00 - 9:50 AM
Play Rugby USA

8:00 - 8:50 AM
Creative Cues Makes
Learning MS easy and fun!

9:00 - 9:50 AM
How Yoga can be incorporated into your Teaching Curriculum; Cooperation Games are More Than Just Fun and Games; Teaching for Effectiveness in Physical Education

10:00 - 10:50 AM
Aerobics made Simple; All for Fun

10:00 - 11:50 AM
Health Poster Sessions; All for Fun

12:00 - 1:00 PM
**GRAND FINALE &**
**FINAL GENERAL SESSION**
You must be present to win prizes!

**Mark your calendars for**
**GAHPERD**
**G-4 Summit**
**2011 in Atlanta**
**Oct. 22 - Oct. 24!**
***www.gahperd.org***

## CONVENTION HOUSING INFORMATION
## October 30 - November 2, 2010

Your web page address is:
http://www.hilton.com/en/hi/groups/personalized/SAVDHHF-GAH-20101030/index.jhtml?WT.mc_id=POG

| | |
|---|---|
| Group Name: | 2010 GAHPERD Annual Conference |
| Group Code: | GAH |
| Check-in: | 30-OCT-2010 |
| Check-out: | 03-NOV-2010 |
| Hotel Name: | Hilton Savannah DeSoto |
| Hotel Address: | 15 East Liberty Street<br>Savannah, Georgia 31401-3979 |

# REFEREED ARTICLE

## Body Image Perceptions Among Sorority and Non-Sorority Women at a Rural Southeastern University

**By Kiley Winston Morgan, Joanne Chopak-Foss and Laura Gunn**

*Georgia Southern University*

**ABSTRACT**

The purpose of this study was to examine the relationship of sorority affiliation on body image perceptions and body dissatisfaction in a sample of Caucasian college women at a rural, mid-size southeastern university. Data were obtained from a sample of sorority (n = 303) and non-sorority (n = 178) college women at a rural, mid-size southeastern university during Spring 2006. Independent samples t-tests showed that sorority women reported significantly higher body dissatisfaction ($p<0.002$) and poorer body image perceptions ($p<0.002$) compared to their non-sorority counterparts. Results of a backward elimination stepwise regression procedure showed that Body Mass Index (BMI) and Greek affiliation were significant predictors of both body dissatisfaction and poor body image. Results of this study will be valuable to Caucasian college-aged women, university administrators in the Offices of Greek Life, Residence Life, and Campus Health Education and Promotion, and indicate the need to continue body image education regardless of individual group affiliations.

***Keywords:*** body image, body dissatisfaction, Eating Disorders Inventory-3 Body Dissatisfaction, Body Image Assessment, sorority women, college women

Body image describes a person's perceptions, feelings and thoughts about his or her body (Grogan, 2006). This internalized image, whether realistic or unrealistic, is created from self-observation, the feedback from outside sources, and a complex interaction of attitudes, emotions, memories, and experiences, both conscious and unconscious (Cash, 2004; Stuhldreher & Ryan, 1999). It also includes how a person senses his/her body while in movement (NEDA, 2004). Within this multifaceted paradigm of body image, much of the research has focused on the construct of body dissatisfaction, particularly the desire to be thinner than one's current body size (Grogan, 2008).

Body dissatisfaction refers to negative perceptions of body size, shape, muscularity/muscle tone, and weight, and it usually involves a discrepancy between a person's evaluation of his/her body and his/her ideal body (Cash & Szysmanski, 1995). While body dissatisfaction is most often embedded within negative body image, it is difficult to ascertain whether the root cause of negative body image is only related to one's perception of his/her physical self, rather than a result of other external factors such as parents, peers and the media. Regardless, body image is central to us as human beings, at once affecting how we feel, hold ourselves, and interact with those around us, all the while capable of influencing how we live our lives. According to Grogan (2006), body image is elastic and open to change through new information and experiences. Therefore, the promotion of positive body image is important in improving quality of life and physical health and can be implicated in a number of health related behaviors (Grogan, 2006).

In Western societies, where slenderness is associated with happiness, success and social acceptability, women appear to be most vulnerable to negative perceptions of both body image and body dissatisfaction (Grogan, 2008; Stuhldreher & Ryan, 1999). This is especially true for college-aged women. In one study in which a sample of collegiate women were presented with a set of body image silhouettes, the women perceived their own figures to be heavier than those that they identified as most attractive to men, ultimately identifying their "ideal" figure as leaner than the female figure men found to be most attractive (Grogan, 2008). These negative body image perceptions often occur in environments in which social comparisons between groups is considered the norm. Such is the case of the sorority environment in which social comparisons might contribute to an increased risk of developing such negative body image perceptions (Basow, Foran & Bookwala, 2007).

The research concerning body image perceptions and body dissatisfaction among sorority women has heretofore been embedded within eating disorder development (Alexander, 1998; Allison & Park, 2004; Basow *et. al*., 2007; Becker, Ciao & Smith, 2008; Berkowitz & Padavic, 1999; Lee, Keough & Sexton, 2002; Schulken, Pinciaro, Sawyer, Jensen & Hoban, 1997). Specifically, sorority women reported higher levels of body dissatisfaction, fears of becoming fat, and more weight preoccupation and concern with dieting when compared to women from other college samples (Alexander, 1998; Allison & Park, 2004; Basow et. al., 2007; Becker, *et al*., 2008; Lee *et al*., 2002). This would suggest that sorority women are at-risk to a greater degree than their non-sorority counterparts for developing and maintaining a drive for thinness, negative body image perceptions, and body dissatisfaction, due to a distinct set of social pressures that are designed to attain uniformity (Allison & Park, 2004; Barrow *et al*., 2007). For instance, first impressions (*e.g*., appearance) are critical – and often emphasized – during sorority recruitment (Barrow

*et al*., 2007; Lee *et al*., 2002). The "group dynamics" of sororities have often been instrumental in contributing to, and exacerbating, negative body image perceptions, body dissatisfaction, and disordered eating behaviors (Allison & Park, 2004; Barrow *et al*., 2007; Berkowitz & Padlovic, 1999; Guzman, 2003).

Although the literature has many examples of research on college women who belong to sororities (Allison & Park, 2004; Basow *et. al.,* 2007; Becker *et al*., 2008; Berkowitz & Padavic, 1999; Lee *et. al*., 2002; Schulken *et al*., 1997) earlier research has not considered whether sorority affiliation serves as a basis for negative body image perceptions specifically among Caucasian college women. Therefore, the purpose of this study was to examine the relationship of sorority affiliation on body image perceptions and body dissatisfaction in a sample of Caucasian college women at a rural, mid-size southeastern university.

## METHODS

***Sampling***. The data for this paper were collected as part of a larger study of college-age females attending a mid-sized university in the southeastern United States. Two groups were recruited for the study. The first group of students (sorority group) included those who were members in one of the five active chapters on campus belonging to the National Panhellenic Conference (NPC). Due to the small number of members in the only active chapter under the umbrella of the National Pan-Hellenic Council (NPHC), which represents historically black fraternities and sororities, the decision was made to exclude them from the study. For the remaining NPC groups, the chapter president in each sorority group (N = 5) was contacted to discuss the parameters of the study; all agreed to participate. Attempts were made to obtain an exact population size for the sorority group, however inconsistencies between the number of active and inactive members provided by chapter presidents compared with that provided by the university's Office of Greek Life prevented the investigators from determining the exact population. Nonetheless, chapter presidents strongly encouraged sorority women to complete the survey. The primary investigator distributed and collected the surveys, reminding women not to complete a survey if they had already done so in one of their classes (see below). Data collection was purposely scheduled just prior to each sorority's required weekly chapter meeting during Spring 2006 to maximize participation, so the true response rate for the sorority group, although unknown, is estimated to be high.

The second group (non-sorority group) included those students enrolled in classes to best reflect the university's population of female students regarding year-in-school and other key demographic indicators. To achieve this, classes from nutrition, child and family studies, and early childhood education were selected due to their high concentration of female students. However, since the majority of women in these courses were upperclassmen, it was necessary to offset the sample by additionally selecting females from the university's required health education courses, which most students take during their first year or two of college. A course list was obtained from the university Registrar's office; from this list, six classes (two within each area) among nutrition, child and family studies, and early childhood education were randomly selected for sampling. Furthermore, four classes among the required health education (i.e., Healthful Living) classes were also selected for sampling. The rationale for choosing six of the aforementioned classes with only four of the required health education courses is based on the class sizes as well as convenience. Since the health education courses were considerably larger than the remaining courses, the investigator attempted to offset the class size factor by sampling more classes combined from nutrition, child and family studies, and early childhood education than from health education classes.

For each class, the instructor-of-record was contacted via e-mail to request that his/her section be included in the study. The primary investigator administered the surveys during the last 15 minutes of the participating classes. Male students in addition to any students who were unable to take the survey, such as women who had completed the survey at a sorority meeting, were asked to leave the room while the female students were informed about the survey. The investigator distributed the surveys to all the women, providing instructions for completion and reminding students that participation is voluntary and completely confidential. The survey took approximately 15 minutes to complete, and the investigator collected the surveys upon completion. Prior to data collection, all procedures were approved by the university's Institutional Review Board (IRB).

***Subjects***. In all, 624 surveys were distributed and returned. Since the sample was limited to white females 18-to-22 years of age, 38 subjects were excluded because they were under 18 years old, or older than age 22; 74 subjects were excluded because they reported a race other than white, 28 subjects were excluded due to missing values, and three subjects were excluded because they reported values outside the range of possible values. As a result, 481 (Sorority: n=303; Non-sorority: n=178) of the original 624 females were used in the analysis, providing a response rate for useable surveys of 77.1%.

***Instrumentation***. Nineteen items of a 61-item instrument were used for assessment and included questions regarding demographics (four items: respondent's age, sorority membership, race, and year-in-school), body dissatisfaction (ten items), body image (three items), and body mass index (two items). The ten items measuring body dissatisfaction were taken from the Eating Disorders Inventory-3 Body Dissatisfaction subscale (EDI-3 BD) (Garner, 2004). The reliability and validity of the body dissatisfaction subscale have been well-documented (Williamson, Anderson & Gleaves, 1996). In particular, the EDI-3 BD subscale has

demonstrated substantial reliability with Cronbach alphas above 0.80 across various samples in previous studies (Garner 2004). The EDI-3 BD items include: 1) I think that my stomach is too big; 2) I think that my thighs are too large; 3) I think that my stomach is just the right size; 4) I feel satisfied with the shape of my body; 5) I like the shape of my buttocks; 6) I think my hips are too big; 7) I feel bloated after eating a normal meal; 8) I think that my thighs are just the right size; 9) I think my buttocks are too large; and 10) I think that my hips are just the right size. The EDI-3 BD questionnaire items contain six possible responses: *Always, Usually, Often, Sometimes, Rarely, or Never.*[21] Scores for questions 1, 2, 6, 7, and 9 above from the EDI-3 BD items were calculated using a reverse scoring method, since these items were negatively keyed: Always (4), Usually (3), Often (2), Sometimes (1), Rarely (0), and Never (0). Scores for items 3, 4, 5, 8, and 10 were positively keyed, and scored as follows: Always (0), Usually (0), Often (1), Sometimes (2), Rarely (3), and Never (4). Overall body dissatisfaction scores were determined by summing all ten items' scores, therefore larger scores indicate greater body dissatisfaction. Garner (2004) provides a strong rationale for the 0-to-4 scoring system over a 1-to-6 scoring method. Based on the assumption that only for responses weighted 1 to 4 item scaling is continuous, then the remaining two responses in the nonsymptomatic direction (Always or Usually for questions positively keyed; Rarely or Never for reverse scored questions) should be excluded from the total score indicating overall body dissatisfaction. Garner argues that the two responses in the nonsymptomatic direction should not differ in their weighted response (Garner, 2004).

The three items on body image (BI) were adopted from the Body Image Assessment (BIA) (Williamson, 1989), which uses a series of nine silhouetted female figures that offer a range of thin to obese images in incremental stages, to assess body size perceptions in respondents. The reliability and validity of the BIA have also been well-documented with test-retest reliability coefficients ranging from 0.77 to 0.90 (Williams, Davis & Bennett, 1989). The BIA items pertaining to the series of silhouettes include: 1) perceived body size silhouette selection; 2) preferred body size silhouette selection; and 3) body size selection that is most realistic to maintain over a long period of time. Finally, two items provided information on height (in feet and inches) and weight (in pounds), and were used to compute body mass index (BMI) In (CDC, 2010) http://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/index.html. Retrieved: June 15, 2010).

***Procedures:*** The data were analyzed in four phases. In the first phase, descriptive statistics were generated for demographic items, body mass index (BMI), body dissatisfaction, and body image perceptions. In the second phase, a set of independent samples t-tests were conducted; the first compared mean BMI scores for sorority and non-sorority groups while the second compared mean body dissatisfaction scores by Greek affiliation (sorority/non-sorority); the third compared mean BIA discrepancy scores for both sorority and non-sorority groups. In the third phase of the analysis, Pearsonian correlation coefficients were calculated to assess relationships between BMI and overall body dissatisfaction scores, and BMI and overall BIA scores. Finally in the last phase of analysis, predictors of (i) body dissatisfaction as measured by overall EDI-3 BD scores and (ii) body image as measured by overall BIA scores were determined using multiple regression methods. All statistical tests were performed using P-value < 0.05 as the level of statistical significance.

Perceived current body size (CBS), as represented in item 1 in the body image assessment (BIA), and ideal body size (IBS), represented by item 2 in the BIA, were used to calculate overall BIA scores. Standardized CBS and IBS scores were first computed in order to compare individual subjects to the norms. Following the equations published by Williamson (2001) for Caucasian women, standardized CBS and IBS values were computed using:

CBS Standard:

$$t = 50 + 10\ [\{CBS - (0.339*BMI - 2.148)\} / 2.1047]$$

IBS Standard:

$$t = 50 + 10\ [\{IBS - (0.084*BMI + 2.119)\} / 1.6337]$$

An overall BIA score was calculated (per Williamson, 2001) as the discrepancy between a woman's standardized perceived current body image and standardized ideal body image:

BIA = CBS Standard – IBS Standard.

Larger BIA scores (in absolute value) indicate poorer body image perceptions. Finally, a BIA of zero represents no discrepancy between a woman's perceived current body image and her ideal body size. Positive BIA scores indicate that one's perceived current body image is larger than one's ideal body size, whereas, negative BIA scores suggest that a subject's ideal body image is larger than her perceived current body size.

## RESULTS

Of the 481 females in the study, 196 (40.7%) were freshmen, 128 (26.6%) were sophomores, 112 (23.3%) were juniors, and 45 (9.4%) were seniors. When year-in-school was examined by Greek affiliation, 36.3% of the sorority group were freshmen (compared to 48.4% for the non-sorority group), 28.7% were sophomores (23.0% for the non-sorority group), 23.4% were juniors (23.0% for the non-sorority group), and 11.6% were seniors (5.6% for the non-sorority group). The average age for all participants was 19.52 years (SD = 1.19 years). The mean weight was 135.83 pounds (Range: 90 to 260 pounds), and the mean height was 64.87 inches (just under 5 feet 5 inches) (Range: 51 inches [4 feet 3 inches] to 72 inches [6 feet 0 inches]).

According to the CDC, calculated body mass index (BMI) is used to classify individuals in the following categories: a BMI < 18.5 kg/m$^2$ is considered to be underweight; BMI 18.5

to 24.9 kg/m$^2$ is considered to be normal weight; BMI 25.0 to 29.9 kg/m$^2$ is considered to be overweight; and BMI 30.0 kg/m$^2$ and above is considered obese; in (CDC, 2010) http://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/index.html. Retrieved :June 15, 2010).

The mean BMI for all women in the study was 22.69 kg/m$^2$ (*SD* = 3.59 kg/m$^2$). The mean BMI scores for sorority and non-sorority women were 22.22 kg/m$^2$ (*SD* = 3.07 kg/m$^2$) and 23.48 kg/m$^2$ (*SD* = 4.23 kg/m$^2$), respectively. While Table 1 shows an independent samples t-test indicating that the mean BMI score for sorority women was significantly lower than that of non-sorority women ($p < .001$), the average BMI score for both groups remained in the normal range. In addition, the exclusion of zero from the 95% confidence interval (CI) for the mean difference in BMI between the two groups (-1.97, -0.54) confirms the significant difference in the average BMI between sorority and non-sorority women.

**Table 1.** Independent Samples *t*-test for BMI by Greek Membership

| Greek Member | Mean (kg/m$^2$) | Mean Difference (kg/m$^2$) | S.E. of Mean Difference (kg/m$^2$) | *p*-value | 95% C.I. of Mean Difference (kg/m$^2$) |
|---|---|---|---|---|---|
| Sorority (*n* = 303) | 22.22 | -1.25 | 0.33 | < .001* | (-1.97, -0.54) |
| Non-Sorority (*n* = 178) | 23.48 | | 0.36 | | |
| Overall (*n* = 481) | 22.69 | | | | |

*Note:* * indicates significance at the 0.01 level

Overall scores for body dissatisfaction in the sample ranged from 0 (no body dissatisfaction) to 40 (completely dissatisfied with one's body). On average, women's overall score on the EDI-3 BD items was 17.95 (*SD* = 9.09) (Table 2), indicating a moderate level of body dissatisfaction. Sorority women in the study were more dissatisfied with their body, with a mean score of 18.93 (*SD* = 9.30), compared to non-sorority women, who scored 16.30 on average (*SD* = 8.48). Scores from the body dissatisfaction subscale of the EDI-3 were used in an independent samples t-test to assess whether the difference in body dissatisfaction by Greek affiliation was significant. Table 2 indicates that sorority women were significantly more dissatisfied with their bodies as compared to their non-sorority counterparts ($p < .002$). Moreover, the 95% confidence interval (CI) for the mean difference in body dissatisfaction scores between sorority and non-sorority women further supports this result, since zero is not contained within the confidence interval (0.96, 4.30). The scores for both sorority and non-sorority women, however, fell within the "moderate" range with respect to body dissatisfaction.

**Table 2.** Independent Samples *t*-test for Body Dissatisfaction (EDI-3 BD) by Greek Membership

| Greek Member | Mean | Mean Difference | S.E. of Mean Difference | *p*-value | 95% C.I. of Mean Difference |
|---|---|---|---|---|---|
| Sorority (*n* = 303) | 18.93 | 2.63 | 0.85 | < .002* | (0.96, 4.30) |
| Non-Sorority (*n* = 178) | 16.30 | | 0.83 | | |
| Overall (*n* = 481) | 17.95 | | | | |

*Note:* * indicates significance at the 0.01 level

Although total BIA scores in the sample ranged from -23.28 to 36.88, the average BIA score for sorority women was 1.91 (*SD* = 6.5), compared to non-sorority women, whose average BIA score was -0.005 (*SD* = 6.77). Consequently, women in the study had relatively little discrepancy, on average, between their perceived current body size and their ideal body size; sorority women, however, had a larger discrepancy between perceived and ideal body size than their non-sorority counterparts. Sorority women had a positive overall mean BIA score, which indicated that their perceived current body size was larger than their ideal body size; among non-sorority women in the sample, the overall mean BIA score was just slightly negative, indicating that these women's ideal body size was larger than their perceived current body size. Though non-sorority women have virtually no discrepancy since their average score is close to zero.

An independent samples t-test was conducted on Body Image Assessment (BIA) discrepancy scores by Greek affiliation to verify whether the difference observed was statistically significant. Sorority women had significantly higher levels of poor body image perceptions when compared to non-sorority women ($p < 0.002$) (Table 3). This result is further substantiated by the 95% confidence interval for the mean difference (0.69, 3.14), since the interval does not cover zero.

**Table 3.** Independent Samples *t*-test for BIA Discrepancy Scores by Greek Membership

| Greek Member | Mean | Mean Difference | S.E. of Mean Difference | *p*-value | 95% C.I. of Mean Difference |
|---|---|---|---|---|---|
| Sorority ($n$ = 303) | 1.91 | 1.91 | 0.62 | < .002* | (0.69, 3.14) |
| Non-Sorority ($n$ = 178) | -0.005 | | 0.63 | | |
| Overall ($n$ = 481) | 1.20 | | | | |

*Note:* * indicates significance at the 0.01 level

A correlation analysis was also conducted to explore the relationship between: 1) BMI and overall body dissatisfaction scores; and 2) BMI and overall BIA scores. The correlation between BMI and overall body dissatisfaction (as measured by the EDI-3) was 0.287 ($p$ < .000) indicating a significant positive effect (i.e., as BMI increases, participants' level of body dissatisfaction also increases), though the effect is moderate. A slightly weaker correlation coefficient of -0.158 was found between BMI and BIA scores ($p$ < .000), indicating a significant negative effect (as BMI increases, participants' BIA scores decrease); this result suggests that women with a higher BMI generally have poorer body image perceptions. The coefficient of determination indicates that only approximately 2.5% of the variation in a woman's BIA score is explained by her body mass index. Likewise, only approximately 8.2% of the variation in overall body dissatisfaction scores is explained by BMI. These results suggest that additional factors need examining to discover what may help explain variability in both overall body dissatisfaction and overall BIA scores.

The last two research questions required multiple regression analysis to determine factors associated with: (i) body dissatisfaction as measured by overall EDI-3 BD scores, and (ii) body image as measured by overall BIA scores. Using a backward elimination stepwise regression procedure, year-in-school classification ($p$=0.767) and age ($p$=0.697) were removed from the model predicting body dissatisfaction. The resulting significant predictors of overall EDI-3 BD scores indicating body dissatisfaction were BMI ($p$<0.000), Greek affiliation ($p$<0.000), and BIA scores ($p$<0.000). The estimated regression function is:

$$\textit{Overall EDI-3 BD} = -1.32 + 0.97\textit{BMI} - 2.62\textit{Greek affiliation} + 0.64\textit{Overall BIA}.$$

Predicted body dissatisfaction decreases for non-sorority groups compared to their sorority counterparts when controlling for BMI and BIA; body dissatisfaction increases with increases in BMI and BIA. The adjusted coefficient of determination which adjusts for the number of predictors included in the model shows that 32.9% of the variation in body dissatisfaction scores can be accounted for by BMI, Greek affiliation, and overall BIA scores.

In the model predicting body image, the same two variables were excluded in the backward elimination process with the additional exclusion of Greek affiliation: year-in-school classification ($p$=0.821), Greek affiliation ($p$=0.759), and age ($p$=0.292). Body mass index ($p$<0.000) and overall EDI-3 BD scores ($p$<0.000) remained significant to the final regression model predicting body image:

$$\textit{Overall BIA} = 7.28 - 0.57\textit{BMI} + 0.38\textit{Overall EDI-3 BD}.$$

Controlling for body dissatisfaction, estimated response scores for body image decrease with increases in BMI; controlling for BMI, body image scores increase with increases in EDI-3 BD scores measuring body dissatisfaction. The adjusted coefficient of determination reveals that 26.9% of the variation in body image scores can be accounted for by BMI and overall EDI-3 BD scores. Table 4 provides multiple regression analysis results for both models.

**Table 4.** Multiple Regression Analysis Results using Backward Stepwise Elimination to Predict Body Dissatisfaction (EDI03 BD) and Body Image Perceptions (BIA)

| Response | Predictors | *p*-value | Estimated Regression Coefficient | Standard Error | 95% C.I. for Regression Coefficient |
|---|---|---|---|---|---|
| Body Dissatisfaction *(EDI-3 BD)* | Year-in-School | 0.767 | | | |
| | Age | 0.697 | | | |
| | BMI | <0.0001* | 0.97 | 0.10 | (0.78, 1.16) |
| | Greek | <0.0001* | -2.62 | 0.72 | (-4.03, -1.21) |
| | BIA | <0.0001* | 0.64 | 0.05 | (0.54, 0.75) |
| Body Image Perceptions *(BIA)* | Year-in-School | 0.821 | | | |
| | Age | 0.292 | | | |
| | BMI | <0.0001* | -0.57 | 0.08 | (-0.72, -0.42) |
| | Greek | 0.759 | | | |
| | BIA | <0.0001* | 0.38 | 0.03 | (0.32, 0.44) |
| Overall ($n$ = 481) | 1.20 | | | | |

*Note:* * indicates significance at the 0.01 level

## DISCUSSION

The current research examined the effect of sorority affiliation on body dissatisfaction and body image perceptions among a sample of Caucasian college women. A strength of this study was that all National Panhellenic Conference (NPC) sororities on-campus were sampled, which provided results for the entire population; the response rate of 77.1% was also viewed as a strength. Typically, studies of this kind (i.e., those that include sororities) only collect a sample from the total number of sorority houses on-campus (for example, Crandell's classic study (1988) included only two of the three sororities on-campus at the time), or provide the reader with information on the number of subjects included in the study, not the number of sororities to which they belonged (the Allison and Park, 2004 study is an example of this approach).

Results of the study indicate that there were differences, including statistically significant differences, between sorority and non-sorority women. While the proportions of sophomores and juniors were approximately similar between the sorority and non-sorority groups, there were differences in the proportions of freshmen and seniors. Since the sampling for the non-sorority group was included health education classes which students typically take during their first year in college, it is not surprising to see that the proportion of freshmen were relatively dissimilar across the different classes, with close to half of the non-sorority group as freshmen. Furthermore, the proportion of seniors was somewhat different between the groups. Not as many seniors were included in the sampling from the nutrition, child and family studies, and early childhood education classes as was expected, resulting in the larger weighting of freshmen in the non-sorority group.

Sorority women were more dissatisfied with their body shape than non-sorority women as measured by the EDI-BD subscale. Despite the statistically significant differences between sorority and non-sorority women, no practical significance was found since participants' scores from both groups fell within the moderate range for body dissatisfaction. These statistically significant results concur with Schulken et al., (1997) who found that when sorority members were administered the Eating Disorders Inventory (EDI) and the Body Mass Index Silhouettes Survey they were more dissatisfied with their bodies and had a greater fear of becoming fat when compared to college-aged women from previous studies. However with regard to practical significance, our findings support more recent studies by Allison and Park (2004), for example, who concluded from a survey of first, second, and third year undergraduate women that sorority women did not differ from non-sorority women with respect to body dissatisfaction as measured by the EDI-BD subscale. Furthermore, women in both groups had a normal BMI, on average. These findings are similar to those reported by Basow et al., (2007). Their study found that BMI scores of sorority and non-sorority women tended to fall within the normal range. In light of the ever growing concern regarding the obesity epidemic, the fact that over half of the study sample was within the normal BMI range and moderate body dissatisfaction range is encouraging.

Sorority women had poorer body image perceptions than non-sorority women as indicated by their body image assessment (BIA) scores. These findings support the results reported by Schulken *et al*. (1997) in which over six-in-ten sorority women selected underweight silhouettes to describe the size they believed they *should be*; in the same study, over eight-in-ten sorority women chose underweight silhouettes as representing the size they *would like to be*. Additionally, Allison and Park (2004) found that sorority women reported a higher drive for thinness (measured by Garner's EDI-DT subscale) than non-sorority women, indicating negative psychological and/or behavioral traits toward body image and body dissatisfaction.

Although the relationship between BMI and body dissatisfaction was statistically significant, the relationship was weak ($r = 0.29$); and with only 8.2% of the variation in the participants' EDI body dissatisfaction scores explained by BMI, results suggest that other factors greatly influence body dissatisfaction. A weak association ($r = -0.16$) was also found between BMI and body image perception; this association was also statistically significant, but indicated that increases in BMI were at best only moderately associated with poorer body image perceptions. Since such a small amount of variation (2.5%) in BIA discrepancy was explained by the variation in BMI, this result implies that there are additional factors that will explain more of the variability in BIA scores.

As a result, a multiple linear regression model using a stepwise backward elimination variable selection procedure was implemented in order to determine additional predictors associated with body dissatisfaction and body image. In addition to BMI ($p<0.000$), it was not surprising to see Greek affiliation ($p<0.000$), and overall BIA scores ($p<0.000$) as significant predictors of body dissatisfaction as measured by overall EDI-3 BD scores. In particular, body dissatisfaction decreases for non-sorority groups compared to their sorority counterparts while controlling for BMI and BIA; scores for body dissatisfaction increase with increases in BMI and BIA. The adjusted coefficient of determination, which adjusts for the number of predictors included in the model, shows that 32.9% of the variation in body dissatisfaction scores can be accounted for by BMI, Greek affiliation, and overall body image perception (BIA) scores.

The second multiple linear regression model shows that BMI ($p<0.000$) and overall EDI-3 BD scores ($p<0.000$) were the only predictors of body image as measured by overall BIA scores. Estimated response scores for body image decrease with increases in BMI; body image increases with increases

in EDI-3 BD scores measuring body dissatisfaction. The adjusted coefficient of determination reveals that 26.9% of the variation in body image scores can be accounted for by BMI and overall EDI-3 BD scores.

It is not surprising that BMI is a significant predictor in modeling each response: (i) body dissatisfaction as measured by EDI-3 BD scores, and (ii) body image perceptions as measured by BIA scores. The correlation analysis found a significant correlation between BMI and each of the responses, so it is not surprising that BMI is association with each response. Similarly, a separate correlation analysis between EDI-3 BD and BIA scores found these two variables significantly correlated with a positive, moderate correlation of 0.43. Therefore, it is no surprise that BIA scores help predict body dissatisfaction and that EDI-3 BD scores help predict body image perceptions. The somewhat interesting result pertains to that of Greek affiliation. Since the EDI-3 BD subscale consists of 10 items pertaining to body size, shape, etc. compared to the BIA which consists of three items leading to computation of a body image discrepancy score, there are simply more opportunities to capture women's beliefs through various survey items on the EDI-3 BD. If sorority membership encourages the continued vigilance of thinness and dieting, then sorority women may have intense social pressures that could lead to or contribute to body dissatisfaction as measured by the EDI-3 BD. The aforementioned results suggest that future studies should include an increased number of variables and the use of multi-factorial designs and analyses that can simultaneously, and more effectively, explore the complex nature of this issue.

In particular, future study might include sociocultural and other societal factors, self-esteem, and depression, and the influences they exert on sorority women. In addition, the effect of mass media cannot be understated and should be included; because of their unrealistic portrayal of the female body, media images are often cited as major contributors to body dissatisfaction, as well as to negative perceptions of body image, among women (Oswalt & Wyatt, 2007).

Other factors to consider for future study are attitudes and behaviors; what is known about all college women is germane to the current discussion on body dissatisfaction, and warrants future consideration. For example, recent National College Health Assessment data indicate that, while 61% of college females are at a healthy weight according to BMI calculations, 59% are trying to lose weight (ACHA, 2008). Among sorority sisters, this result may be more noticeable, since sorority members are most likely to share the attitudes and behaviors deemed important to the group; among young women, the concept of the social ideal is of considerable societal importance (Griesz, Levine & Murnen, 2002). Studies in this area also suggest that there are two aspects of peer experiences that contribute to internalization and body image, particularly among sorority women. These include "appearance conversations" with friends and "appearance criticisms" of peers (Jones, Vigfosdotler & Lee, 2004). A conversation with friends about appearance are important to develop an increased sense of closeness, and helps to shape the social context of friendships (Berndt & Keefe, 1995); appearance conversations also help to direct attention to appearance-related topics and reinforce the construction of body ideals. Each of the aforementioned variables and factors will serve to enrich the quality of future studies, just as their absence limited our ability to make interpretations and recommendations of greater consequence.

***Limitations.*** Several limitations need to be noted. First, the survey items used in the study relied on self-report, thus the extent to which participants might have provided socially-desirable answers is not fully known. Second, since the study design was non-experimental, any conclusions about a cause-and-effect relationship between study variables are unwarranted. Since study participants were selected from health education, child and family studies, nutrition and early childhood education classes, they represent a sample of convenience. Furthermore, it is possible that these participants' body image perceptions are skewed and in some cases could actually have more issues with body dissatisfaction. At the same time, the health education classes that were included in the sampling were *required* by all university students. By including these classes, an effort was made to construct a representative sample of college women to offset any possible biases that may exist in the sampling from the remaining aforementioned classes. However, participants in these classes were primarily freshmen with some sophomores; women's perceptions of body image and body dissatisfaction may change/evolve as women transition from new college students to upperclassmen. Future studies should consist of a greater representation of upperclassmen females beyond those in child and family studies, nutrition and early childhood education. The sampling framework of future studies should also consider female athletes by including survey questions pertaining to sports participation. Previous research shows that female athletes appear to be at greater risk for body dissatisfaction and developing and maintaining negative body image perceptions than women not involved in sports subgroups (Beals & Manore, 2002; Chopak, 1991; Rudd & Carter, 2006).

Finally, the current research only included members from five Caucasian sororities on-campus; at the time of the study, only one sorority affiliated with the National Pan-Hellenic Council – the collaborative organization of nine historically African-American, international Greek lettered fraternities and sororities – was operational, with a membership of five undergraduate students. Since that time, two additional sororities have opened. Future research involving sororities on the campus should include all sorority houses, so that all female Greek members, regardless of race, may be represented.

***Conclusions.*** At the organizational level, the university provides individuals with an important context within which weight-related behaviors are enacted (Allison & Park, 2004). Within the university community, students are surrounded by a social context in which values shape students' choices and decisions about body image (Schulken *et al*., 1997). Accordingly, students' ideas concerning body dissatisfaction and body image, perceptions closely associated with eating attitudes and weight control, can be greatly impacted in a university environment.

Due to growing concerns about college-aged women with regard to body dissatisfaction and negative body image perceptions, the results of this study will be of value to Caucasian women, regardless of sorority membership, and will allow college administrators and health educators to utilize the findings to plan and implement programs that address these issues. Health educators could develop educational programs that include panel discussions promoting positive body image perceptions and body satisfaction. Such programs could include, but may not be limited to: (i) individual evaluations to determine whether a woman has a negative body image; (ii) nutritional counseling by professional nutritionists on campus; (iii) group and peer discussions regarding body image, since conversations are significant in shaping body image ideals (Jones *et al.,* 2004); and (iv) counseling and psychological services for those who have negative body image perceptions or for those who are at-risk for developing negative body image perceptions, based on individual evaluations. Becker *et al*., (2008) suggests that efficacious eating disorder prevention programs remain effective when incorporated into critical social systems, such as sororities, under real-world conditions. Becker and colleagues has found that eating disorder prevention requires a collaborative approach aimed that targets the social system. Since results reveal that sorority women are generally more dissatisfied with their bodies than non-sorority women, such educational programs could be offered at sorority chapter meetings, for example. For non-sorority women, such educational programs could be offered as workshops open to university students.

Health educators on college campuses should work to resolve inaccurate perceptions in body image, and address the discrepancies in body image perceptions with actual body measurements, including the need for women to be provided accurate information regarding healthy weight and BMI. This can be accomplished by including information on body image awareness in freshman orientation packets, sorority houses, residence halls and athletic programs so that all women on college campuses receive this vital information. It is critical that university administrators in the Offices of Greek Life, Residence Life, and Campus Health Education and Promotion, work in concert to increase awareness of how body dissatisfaction and poor body image perceptions affect college women's attitudes, behaviors, and academic performance, regardless of their group affiliations.

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# REFEREED ARTICLE

## The Relationship Between Middle School Students' Body Mass Index and Attitudes Towards Physical Education

**By Starla McCollum, Tony Pritchard and Gavin Colquitt**

*Georgia Southern University*

**and Kalen Grant**

*Macon County Middle School*

**ABSTRACT**

Nearly two-thirds of adults (Flegal, Carroll, Ogden, & Curtin, 2010) and nearly one-third of the children (Ogden, Carroll, Curtin, Lamb, & Flegal, 2010) in the United States are obese or overweight. The prevalence of overweight and obese young people in the state of Georgia is in part due to low levels of physical activity as approximately one-third of high school students received daily physical education and less than half met the daily recommendations for physical activity (Center for Disease Control, 2008). The purpose of the study was to determine if there was a relationship between middle grades students' body composition and attitudes toward physical education. The participants (N = 100) consisted of males (n = 50) and females (n = 50) in sixth, seventh, and eighth grades from a middle school in the Southeastern United States. Measures of Body Mass Index (BMI) were taken from participants during the regular physical education instructional time. A twenty question attitude scale developed by Subramaniam and Silverman (2000) was modified to examine students' attitudes toward physical education (see Appendix). The mean of all attitude surveys was 76.83 (*SD* = 14.12) with mean scores of 72.16 (*SD* – 14.47) for females and 81.5 (*SD* = 12.21) for males. The mean of all BMI calculations was 23 (*SD* = 5.35) Female BMI mean was 24.6 (*SD* =5.48) and male BMI was 21.4 (*SD* = 4.75). A Pearson correlation coefficient was calculated for the relationship between participants' Body Mass Index and attitude toward physical education. A very weak correlation that was not significant was found ($r$ (98) = .019, p > .05).

**INTRODUCTION**

Nearly two-thirds of adults (Flegal, Carroll, Ogden, & Curtin, 2010) and nearly one-third of the children (Ogden, Carroll, Curtin, Lamb, & Flegal, 2010) in the United States are obese or overweight. The American public is now aware of the problem as 85% of Americans agree that obesity is now an epidemic (Levi, Segal, & Gadola, 2007). Physical educators have a responsibility to investigate this epidemic in the public school systems and develop targeted interventions. The incidence of overweight children aged 6 to 19 tripled between 1980 and 2002 (Cavallini, Wendt, & Rice, 2007). The prevalence of overweight and obese young people in the state of Georgia is in part due to low levels of physical activity as approximately one-third of high school students received daily physical education and less than half met the daily recommendations for physical activity (Center for Disease Control, 2008). In today's educational context, school systems are evaluating non-academic programs for potential elimination due to budget constraints. Although physical education has been proven to improve the fitness levels of students, it is clear that these education programs are not exempt from being eliminated (Seltzer & Mayer, 1970). However, the elimination of physical education programs may prove costly over time, as obesity-related diseases cost the state of Georgia an estimated 2.1 billion dollars per year (Finkelstein, Fiebelkorn, Wang, 2004).

An important component of a quality physical education program is quality assessment. Within the assessment program, it is vital that physical educators choose fitness assessments which examine obesity levels. The Body Mass Index (BMI) is a non-invasive assessment of body composition based on the weight and height of an individual (Mei, Grummer-Strawn, & Pietrobelli, 2002). Although the tool does not take into account body frame, water weight and muscle size, it is satisfactory in assessing students as underweight, normal weight overweight and obese. The BMI is calculated the same for children as adults. The BMI is not a direct measure of body fat, but has been shown to correlate in a majority of instances (Nihiser *et al*., 2007). In addition to an obesity screening tool, the measurement is quick, easy to administer, cost effective and inexpensive.

The development of positive attitudes towards physical education and physical activity is an important learning goal for any physical education program. Attitude is defined as "the individual's positive or negative thoughts concerning the performance of behavior" (Lox, Martin, & Petruzello, 2003). The study of attitudes in physical education is supported by the theory of reasoned action, referred to as TRA (Fishbein & Ajzen, 1975) and theory of planned behavior (Ajzen, 1985),

both of which influence intention and behavior. If a goal of the physical education program is to promote positive physical activity behaviors in young people, relationships between attitudes and the individual student must be examined. There are many factors that influence a student's attitude toward physical education. Winning, success, performing well, being included, teamwork, participating and having fun are factors that middle and high school students associate with positive physical education experiences (Tannehill & Zakrajsek, 1993). A limited curriculum with few assessment strategies contributes toward a negative attitude in physical education (Subramaniam & Silverman, 2007).

The purpose of the study was to determine if there was a relationship between middle grades students' body composition and attitudes toward physical education. The research can be used in related, future studies to explain the importance of students' attitudes toward physical education. In addition, the study can be compared to past studies to determine similarities and differences in the findings.

## METHODS

### Participants

The participants (N = 100) consisted of males (n = 50) and females (n = 50) in sixth, seventh, and eighth grades from a middle school in the Southeastern United States. Each student engaged in approximately 18 weeks of physical education during the school year. The curriculum covered a wide range of activities ranging from team games to individual challenges. The socioeconomic status for most students was well below the national average. The school was a Title 1 school in which more than 40% of students received free or reduced meals. The participant population consisted of African American (78%), Caucasian (11%), Latino (8%) and Asian (3%) ethnicities. Permission to complete the study was granted through the Institutional Review Board. Prior to data collection, parents were provided consent and students were provided assent to participate in the project.

### Instrumentation

Measures of Body Mass Index (BMI) were taken from participants during the regular physical education instructional time. A twenty question attitude scale developed by Subramaniam and Silverman (2000) was modified to examine students' attitudes toward physical education (see Appendix A). The scale used the 5-point Likert scale with questions ranging from strongly disagree to strongly agree. Modification of the scale was done so that when students were surveyed, answers could be totaled to reflect one score. The responses were scored so that answer A equaled one point and answer E equaled five points. Answer A = Strongly Disagree (1 point), B = Disagree (2 points), C =Neutral (3 points), D = Agree (4 points), E = Strongly Agree (5 points). The scores from twenty questions were added and each student received an attitude score. Attitude scores could range from 20 (*i.e.* lowest score) to 100 (*i.e.* highest score).

### Procedures

The registered nurse assisted in measuring each student's height and weight. Two portable weight and height machines were used to minimize lost instructional time. The machines were calibrated after each class period. Students stood on the platform while the weight was assessed and a vertical lever was lifted to obtain the height. The height was rounded to the nearest ¼ inch. The weight, height, age and sex were then entered into a BMI group calculator provided by the Center for Disease Control (Center for Disease Control, 2009). The results produced the student's Body Mass Index and percentile ranking. The physical education teacher and the physical education paraprofessional monitored the completion of the attitude survey. The physical education teacher asked students to answer each question honestly and ensured responses and BMI measurements would be kept confidential. Students were given fifteen minutes to complete the survey. Only one student was allowed in a room at a time when taking weight and height.

### Data Analysis

SPSS 16.0 statistical package was used to perform a Pearson correlation coefficient to determine the relationship of Body Mass Index and student's attitude toward physical education.

## RESULTS

Table 1 indicates the percentage of students underweight, normal BMI and overweight or obese. The total score from the attitude surveys ranged from a maximum of one-hundred to a minimum of forty. The mean of all attitude surveys was 76.83 (*SD* = 14.12) with mean scores of 72.16 (*SD* – 14.47) for females and 81.5 (*SD* = 12.21) for males. The mean of all BMI calculations was 23 (*SD* = 5.35) Female BMI mean was 24.6 (*SD* =5.48) and male BMI was 21.4 (*SD* = 4.75).

Table 2 displays subgroup data that was compiled to compare the BMI of the bottom 20 percent of attitude surveys to the top 20 percent of attitude surveys. The average BMI of the bottom 20 percent was 23.35 compared to 23.85 of the highest 20 percent of attitude surveys.

A Pearson correlation coefficient was calculated for the relationship between participants' Body Mass Index and attitude toward physical education. A very weak correlation that was not significant was found ($r(98) = .019$, $p > .05$).

**Table 1. Percentage Summary of Student's Body Mass Index**

| Weight Status Category | Boys ($n$ = 50) | Girls ($n$ = 50) | Total ($n$ = 100) |
|---|---|---|---|
| Underweight | 2% | 0% | 1% |
| Healthy weight | 62% | 42% | 52% |
| Overweight | 20% | 22% | 21% |
| Obese | 16% | 36% | 26% |

**Table 2. Subgroup Data of Body Mass Index and Attitude**

| | Attitude Scores | Body Mass Index Average |
|---|---|---|
| Bottom 20 Percent of Attitude Scores | 40 to 65 | 23.35 |
| Highest 20 Percent of Attitude Scores | 90 to 100 | 23.85 |

## DISCUSSION

The purpose of the study was to investigate the relationship between middle grades students' body composition and attitudes toward physical education. The data showed no relationship between middle school students' attitudes toward physical education and Body Mass Index. A limitation of the study was that approximately five percent of the students involved participated in special education classes. Therefore, literacy and comprehension could have been a limiting factor. Another limitation included a biased perception of the physical education instructor or paraprofessional, meaning that students who had negative feelings toward the teacher could have skewed the results by negatively answering the survey. As with most surveys involving students, uninterested participants could randomly complete the attitude survey. Lastly, another limitation of the study was that BMI does not take into account body composition of muscle versus fat. For example, a very muscular athlete might be included in the same percentile as another student because muscle weighs more than fat. The limitations mentioned suggest that similar research is needed to validate the current data. The subgroup data confirms the weak correlation because there was only a 0.50 difference in the average BMI of the bottom 20% compared to the highest 20% of attitude survey scores.

The study added to the limited amount of research on middle schools students' attitudes and physical education. Additional information such as activity levels outside of school, demographics, income, recreational time and parental involvement can be included in future studies. Future research could investigate the middle school students' attitudes related to non-traditional innovative curriculums. Although this study showed no relationship between body composition and attitudes in physical education, exhaustive research in this area has not been completed. Research can be done to show relationships between attitude and students' ethnicity, gender, and grade level. Lastly, future research should replicate this study using various populations and locations to find correlations between the two sets of data.

Although attitudes were not found to correlate with BMI, the relationships among attitudes, intentions, and behaviors are firmly grounded in psychological theory (Ajzen, 1985; Fishbein & Ajzen, 1975). In the study setting, middle school students received 18 weeks of instruction from a physical education teacher per year in class periods of approximately 45 minutes. Many adolescent students do not receive the daily recommend time spent in physical education and many do not meet the recommended daily physical activity requirements (Center for Disease Control, 2008). Promoting positive attitudes at the middle school level is critical, as attitudes towards physical education decline with age in sixth, seventh, and eighth grades (Krouscas, Jr., 1999). It is essential that physical education teachers recognize the importance of attitudes, plan to meet objectives in the affective learning domain, and implement instructional approaches that promote positive attitudes towards physical education and physical activity.

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# REFEREED ARTICLE

## Perceptions of Concern for Misconduct in Youth Sport

**By John David Johnson and Linda M. Johnston**

*Kennesaw State University*

**ABSTRACT**

Misconduct at youth sport events is portrayed by the media as a growing concern in society. The purpose of this study was to describe coaches', referees', and administrators' perceptions of youth soccer misconduct and their personal experiences. This study also examined differences in perceptions of youth sport misconduct between coaches, referees, and administrators.

The statistical population consisted of 75 coaches, 35 game officials, and 68 administrators involved with the Mississippi Youth Soccer Association (MYSA). The average participant age was 36.9 years for coaches, 39.5 years for game officials, and 43.3 years for administrators. The participants in the study were asked to complete the Youth Soccer Misconduct Survey (YSMS) containing several open-ended questions. Means and standard deviations were provided for each position variable. An Analysis of Variance (ANOVA) test was used to determine if a significant difference existed between the perceptions of the MYSA administrators, coaches, and game officials. A Pearson product moment correlation coefficient was used to determine if there was a linear relationship between the respondents' years of experience and their perceptions of misconduct. Within the *Misconduct* section an ANOVA was also used to determine differences between the *Verbal, Non-verbal*, and *Physical Misconduct* items. Responses to open-ended questions revealed several themes, including the role of modeling behavior, misunderstanding of game rules by coaches and officials, officials not enforcing existing game rules, and the role of team success. The study results indicated that overall misconduct was not of great concern to the respondents. *Verbal Misconduct* was the category of most concern with a mean of 2.7 on a five point Likert-type scale. There was no statistically significant difference between the perceptions of misconduct by coaches, game officials, and administrators. The results also demonstrated that no significant relationship exists between years of experience and perception of misconduct.

The study did not expose any significant concerns with misconduct and the MYSA. The results revealed several areas that should be addressed, given the current climate of increasing reports by the media of misconduct in the sports world. Subsequently, the study suggests preventative measures to help combat the perceived growth of unsportsmanlike conduct.

**INTRODUCTION**

*Historical Context*

For centuries, children have invented competitive games while playing in empty lots, alleys, and backyards. Playing these games, children similarly created their own rules and, as part of the maturation process, learned how to compromise and arbitrate conflicts. With the advent of organized youth sports, this type of spontaneous interaction is no longer the norm and, as such, modern youth may have lost the social skills learned through playing self-organized games; for example see, Nack, 2000 and Coakley, 2001. Authors state that since the advent of organized sports leagues, children have lost control of their games and "A consequence of adult control and organization was the visible absence of arguments and overt displays of hostility between players from opposing teams" (Coakley, 2001, pg. 121). The noticeable absence of children openly arguing and engaging in forms of misconduct[1] has forced the focus of hostility onto the adults who are supervising the games and the spectators. This is apparent by the number of cases of adult misconduct in youth sport reflected in the media. Modern youth sport is not without occasion for overt misconduct. Although these incidents are generally kept to a minimum, they are still of great concern to coaches and other officials.

As adults become more involved in youth sport, there seems to be a corresponding increase in levels of game misconduct. "Spectators are a mess," states Larry Swertloff a volunteer coach and safety director for the Brooklyn region of American Youth Soccer Organization, "they yell at their kids, other parents, the other kids, coaches and referees" (Parents, 2002, pg. 1). Sport psychologists have coined this phenomena "identification," which describes the emotional feeling and intense love parents have for their children. The identification theory is used to partially explain what may be involved in parents' actions displayed at sporting events (Neary, 2000). Further research is required in this area. If a parent feels their child has been wronged or hurt in some way, they lose their composure instead of acting rationally. Intense feelings cause parents to act in ways they might not ordinarily. For example, Thomas Junta beat his son's coach to death after having a heated discussion concerning the way the coach handled practice. Ironically, Junta felt that the coach was allowing too many "cheap shots" and "rough play" (Parents, 2002). When parents over-react like this,

[1]Verbal or physical behavior outside the boundaries of sportsmanship that requires a warning or assessment of a penalty.

they forfeit the opportunity to teach the children involved how to properly deal with conflict. Parents appear to forget that they, along with professional sport personnel, are role models and must set an example for the youth involved in sport. In 1995, 5% of parental spectators could be expected to behave inappropriately at youth athletic events, (*i.e.*, to embarrass their children or be abusive toward other children, officials and coaches (Nack, 2000)). Five years it is expected that nearly 15% of the crowd is expected to cross the line (2000).

**The Current Situation**

Youth sport encompasses not only the direct involvement of children, but the involvement of parents, coaches, administrators, and game officials in organizing the events. Misconduct at youth sport events either appears to be on the rise, or the incidents of misconduct are being reported more frequently by the media. In either case, there is a need to understand the population's perception as related to youth sport events. In order to study the perceptions of misconduct at youth sporting events, a survey and list of open-ended questions focusing on overall misconduct in youth sports were distributed to youth soccer administrators, coaches, and game officials (Johnson, 2004).

In order to fully examine this topic, both the quantitative and qualitative research findings are included. While the quantitative findings provide a basis for the perceived prevalence of youth sports-related violence while the qualitative findings accurately demonstrate how coaches, sport officials, and administrators feel about the current issue. The findings of this study provide the foundation for possible solutions.

**Research Findings**

Youth Sport Misconduct Surveys (YSMSs) were delivered to 500 potential study participants, with 185 responses received. Potential study participants were identified in several ways: 1) one of the researchers visited two state-wide tournaments to administer and collect surveys at the coaches' meetings prior to competition, 2) the survey was emailed by Mississippi Youth Soccer Association (MYSA) to coaches, administrators, and team officials, and 3) the MYSA posted a link to the survey on their website homepage. Data was collected either through participants returning their completed survey directly to the on-site author, or through email responses collected via the University of Southern Mississippi's library server. Return rates for the on-site survey were 31%, and 45% for the electronic survey. The demographics of the survey respondents are as follows: 1) *Age*: average age was 36.9 years for coaches, 39.5 years for game officials, and 43.3 years for administrators, and 2) *Gender*: 84% males and 16% female for coaches, 91% male and 9% female for game officials, and 68% male and 32% female for administrators. Overall gender was 79% male and 21% female. The survey consisted of 49 questions formatted for a combination of open-ended questions, yes/no, and Likert-type scaled responses. Quantitative data was analyzed using mean, standard deviation, ANOVA, correlation, frequency, and percentage to determine the degree of perceived misconduct in youth sport. Qualitative data, gathered from participant responses to the open-ended questions, was analyzed using thematic narrative analysis.

**Quantitative Research Findings**

Analysis of how study participants evaluated the impact of various types of misconduct in the Mississippi Youth Soccer Association produced a mean of 2.72 for *Verbal Misconduct*, 2.12 for *Non-verbal Misconduct* and 1.89 for *Physical Misconduct* on a 5-point Likert-type scale. This suggests that survey participants do not believe the various types of misconduct are particularly problematic. There were no significant differences between coaches, game officials, or administrators in their perceptions of perceived misconduct. Data analysis indicated no correlation exists between years of experience in coaching, being an official, or as an administrator and the perception of misconduct.

Even though misconduct was not perceived as "out of control" by the survey participants, when asked if misconduct were to worsen, 64% responded they would terminate their participation within the organization. Athlete-on-athlete misconduct was of the most concern to the survey participants.

Over half of the study's survey population of coaches, officials, and administrators reported they had been abused physically, non-verbally, or verbally resulting from an athletic contest they officiated, coached, or administered (Johnson, 2004). The reported abuse occurred away from and after the sporting event. Study results for game officials showed they were abused more often than were administrators and coaches. These findings are, on one hand, quite alarming, but on the other hand, not surprising. This research finding requires further examination to study the possible connection between current challenges facing one who coaches, officiates, or administers, and his/her perceptions of misconduct. As such, we feel it is relevant to note that the findings herein are similar to those of Hughes (2001) in that people holding the positions in question do mention various types of abuse as a result of working with youth sports programs.

Adults volunteering their time exhibited a high likelihood of being mistreated away from, and as a result of, the youth sport events (Johnson, 2004). If participants are abused often enough they will no longer participate in youth sports, causing retention problems for the particular sport. Retention is a problem for most youth sport organizations, but especially problematic regarding game officials. The sport climate was examined and the following question posed. "If the climate were to worsen during the next few years, would the survey participant consider terminating his/her participation?" Two thirds of the participants said "yes." The participants were also asked to compare today's sport climate with that of the

last two years. 38% of the participants felt the climate was unchanged, 33% felt the climate was worsening, and 29% felt the climate was improving.

Another study finding related to participants terminating their involvement. 42% reported they had considered terminating their position due to sport climate deterioration. Game officials were most likely to be lost with 37% reporting they perceived the sport climate worsening.

**Qualitative Research Findings**

In analyzing the narratives collected during the investigation, several themes arose that may shed light on both the problem of perceived misconduct and methods of eradication. The following passages were taken from the open-ended questions on the survey. For example, there appears to be agreement among study participants regarding youth players who model the behavior exhibited by coaches, officials, administrators, and parents. While the focus of this article is not on modeling, there is general agreement among survey participants that youths demonstrate modeled behaviors they observe from parents, coaches, officials, and administrators. Research on modeling will be explored in future research. However, within this study, no direct correlation between the respondent's identity and who that respondent thought was responsible for the negative modeling behavior was substantiated (i.e., the respondent's group was often included in the implication). For example, one coach stated, "Some coaches and parents are horrible role models." An official expressed, "……skills and abilities of athletes, coaches, and officials are improving, but misconduct is proliferating." However, participants commenting on youth modeling behaviors expressed concerned about the potential impact these behaviors have on both the quality of the sporting event and the youths themselves. One coach stated, "The kids will only mimic what they observe in their parents and coaches."

Another theme which emerged suggested participant concern that coaches, officials, and parents probably do not understand game rules. As one administrator expressed, "Sadly, the large majority of the parents have no idea what they are talking about most of the time. And they can't differentiate between screaming at a college football game and screaming at a U8 soccer game." A coach stated, "The misconduct is normally assisted by the attitude of the parents and/or the coaches. It would help if more parents took a more active role learning the rules. Also consider having the coaches attend an annual refresher meeting." Another coach said, "Frustration with poor referees is a major source. Everyone on the sideline is angered with a referee who doesn't know what he is doing and there is no higher power to rule and terminate the participation of this particular referee. You are helpless to do anything." Finally, an official added, "It is my opinion that many problems in youth soccer begin with the parents as spectators. Few have a good understanding of the game and even fewer realize they don't know the game. Their whining on the sidelines easily causes problems with the players' perceptions of what is going on with the game."

A third theme elicited by the data suggested inconsistent enforcement of existing rules. One coach stated, "As long as the officials and governing bodies do not enforce the rules, the parameters of misbehavior will be pushed." Another coach said, "I think part of the problem is when there is a very specific behavior that is inappropriate towards children by a coach, and it is brought to the attention of the organization, the coaches are not removed from their position, thereby condoning the behavior." Another coach added, "I think that yellow cards and red cards should be introduced at the earliest of the ages and, early on, super-aggressive play should be terminated with stronger disciplinary action on the field. Kids need to understand that competitive play does not entitle them to "bully" other players. So by age 12-16, where it will make a big difference, they will conduct themselves in a proper manner." Yet another coach expressed concern that even stricter rules governing verbal and physical abuse by players, officials, and spectators should be enforced. He said, "It gets worse every year. There should be some severe penalties for abuse in these areas." Additionally, an official suggested that, "….there should be mandatory conduct classes for parents."

The last prevalent theme involved coaches and their views of the team's success. One administrator stated, "Some coaches put themselves and their record above the children and the team success. In other words, some coaches seem to take it too serious." A coach offered, "The problem of over-zealous coaches trying to gain an advantage by recruiting in select leagues is the biggest problem…It's out of control." Another coach expressed concern on the other side of the spectrum (i.e., parents comparing coaches and the comparison's relationship to sportsmanship), "….their coach is not as good."

**Discussion**

These reported findings agree with other research findings wherein three other variables of concern included spectator-on-game official, coach-on-game official, and spectator-on-athlete misconduct (Johnson, 2004). Hughes (2001) found similar supporting results in a 2001 study of New Mexico High School Officials where officials were most concerned with athlete-on-athlete misconduct; however, the most disturbing finding concerned spectator-on-athlete misconduct. Other reports confirm various aspects of the problem. For example, according to U.S. News & World Report, a survey in South Florida of 500 adults found that 82% of respondents indicated parents were too aggressive in youth sports (Cary, 2004). This perception may be a leading cause of young athletes rejecting organized sport participation. Cary (2004) also reported that in 2002, 13 million children, ages 6-17, stopped participating in soccer. Although current study participants did not express an immediate concern about players dropping out of sports, steps should be taken to lower incidents of misconduct,

prevent their reoccurrence, and encourage players to remain in sports. Taking into account the number of survey participants who considered terminating their participation and the high number of survey participants who would terminate their participation if the sport climate worsened, a future decline in coach, administrator, and game official retention may be avoided if steps are taken to create a more positive sports environment.

Most spectators at youth sports events are parents. Kanters & Tebbutt (2001) discuss the way parents handle comments made by their children early in their athletic careers and how this could affect the way the youth views athletics. The focus should be on fun and skill acquisition, not on the outcome. Even John Wooden, collegiate basketball coach, focused purely on preparation and the process, not on the outcome (*i.e.*, wins or losses). Coach Wooden's focus was on the development of players (Wooden & Jamison, 1997).

The overall concern for sport misconduct by survey participants of the MYSA appears very low. The participants did, however, identify some areas that should be addressed. Verbal misconduct at MYSA events is one of the main issues identified as requiring improvement. Although this form of misconduct was perceived as an "average" problem, lack of preventative measures may result in problem escalation. The analysis of the themes made evident that both the blame and responsibility, if any, are shared by all groups concerned.

**Recommendations**

Facilitation of effective communication may, logically, prevent problems with parents, coaches, or administrators. The coaches and administrators must attempt to include parents in team and organizational activities through sharing critical information. This information may include establishing goals, philosophies, and any other information that parents require concerning their child and his/her participation within the youth sport organization. Survey participants emphasized that reinforcing existing game rules, ensuring all involved understand the rules, purposefully modeling good behavior, and openly discussing everyone's view of team success would be beneficial.

The youth sport organization should make information concerning the entirety of the organization available to parents, either in pamphlet or online form. Examples of information that may be included are, 1) the philosophy of the organization, 2) the mission of the organization, 3) the organizational structure (i.e., flow chart or organizational chart), 4) bylaws, 5) rules of the game, 6) history of the organization, and 7) any other information the parents feel they require or request. Concise in-class or online courses should be developed to help parents understand their expected behavior/roles, rules of the game, and their interpretation. This is crucial in minimizing misunderstandings. Parents and coaches should be encouraged to review these materials to help them focus on the agreed upon goals throughout their youths' sport experiences.

Coaches need to share their personal coaching philosophy and team goals with the parents. This information should, at a minimum, be written and distributed to ensure that all parties involved have every opportunity to review the goals and behaviors expected by the coach. The initial communication allows parents to understand the expectations the coach has for the team. The coach must communicate specific goals, expected behavior, and performance levels for individual players, as well as enforcement procedures to be utilized in the event that rules are not followed. Setting individual goals for each athlete should help parents focus on the improvement of their son's or daughter's play, and allow them to better understand how their child contributes to the team's success. This communication may best be facilitated by documenting expected behaviors and having both the player and his/her parents sign a contract stating their understanding of the document. If this process is deemed too intensive for some situations, an informal handout may suffice.

Learning and periodic reinforcement of the rules should be the focus of referees, coaches, parents, and players. Classes may be offered to parents regarding game and league rules prior to the start of each season, specifically while players are engaging in their initial practices. Referees, coaches, and players should attend a review course prior to each year's play as offered to them and supported by league administration. On the contrary, referees or coaches who do not follow stated rules should be suspended from game play, and all those associated with the game assessed penalties for unsportsmanlike behavior.

Coaches should serve as role models throughout the season. Leagues and their administrators should stress this to incoming and returning coaches as part of their acceptance as coaches and subsequent training. Because these coaches are involved with young people, they must be able to distinguish between what is appropriate for professional sports teams and the behavioral norms concerning young people. Coaches exhibiting unprofessional conduct should be removed from the league.

Programs such as "Character Counts" may be useful in developing good sportsmanship; for examples, refer to Charactercounts.org. The Character Counts program focuses on the "Six Pillars of Character:" 1) trustworthiness, 2) responsibility, 3) respect, 4) fairness, 5) citizenship, and 6) caring. Character Counts offers numerous free teaching tools along with some paid programs (Character, 2010). The Character Counts program offers educational opportunities for children ages 6-19. This program has a comprehensive approach focused not only on sport, but on school and family (2010). Other groups providing resources include American Sport Education Program, National Alliance for Youth Sport, and National Association for Sport and Physical Education. Each of these organizations provide a wide variety of resources for parents, coachs, and youth sport administrators.

**Future Research**

Several areas related to this study's results require additional research. Some of the issues revealed through this research would provide tangential information that may assist those involved in sports to deal with misconduct issues. For example, research should be conducted to determine if existence of pay, and its level, is an issue affecting the performance of coaches, officials, and/or administrators. It should also be determined whether or not the compatibility of values and goals between individual players and coaches fuels conflict during practice or games. Lastly, an examination of what is gained and lost by parents becoming more involved in the foundation of youth sports and their children's activities, while taking a lesser role in the planning and execution of their games.

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**Table 1. Means and standard deviation scores for various types of misconduct**

*Type: Verbal Misconduct*

| Position | Mean | Standard Deviation | n |
|---|---|---|---|
| Coach | 2.70 | .885 | 76 |
| Game Official | 2.87 | .805 | 35 |
| Administrator | 2.67 | .787 | 70 |
| Total | 2.72 | .832 | 181 |

*Type: Non-Verbal Misconduct*

| Position | Mean | Standard Deviation | n |
|---|---|---|---|
| Coach | 2.15 | 1.09 | 76 |
| Game Official | 2.31 | .959 | 35 |
| Administrator | 2.00 | .911 | 70 |
| Total | 2.12 | 1.00 | 181 |

*Type: Physical Misconduct*

| Position | Mean | Standard Deviation | n |
|---|---|---|---|
| Coach | 1.89 | 1.07 | 76 |
| Game Official | 2.05 | 1.03 | 35 |
| Administrator | 1.82 | .918 | 70 |
| Total | 1.89 | 1.01 | 181 |

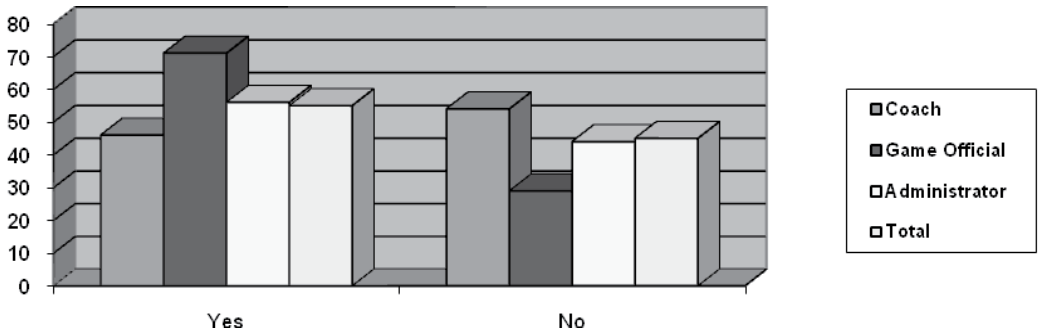


**Figure 1. Percentage of participants reporting verbal abuse**

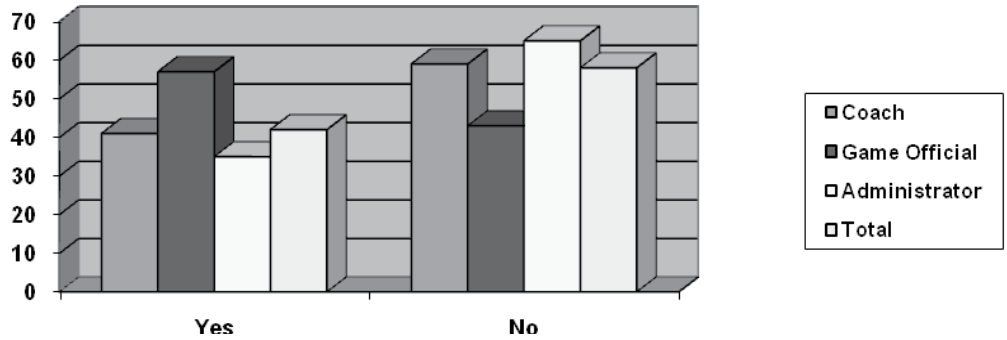


**Figure 2. Percentage of participants reporting consideration of leaving sports**

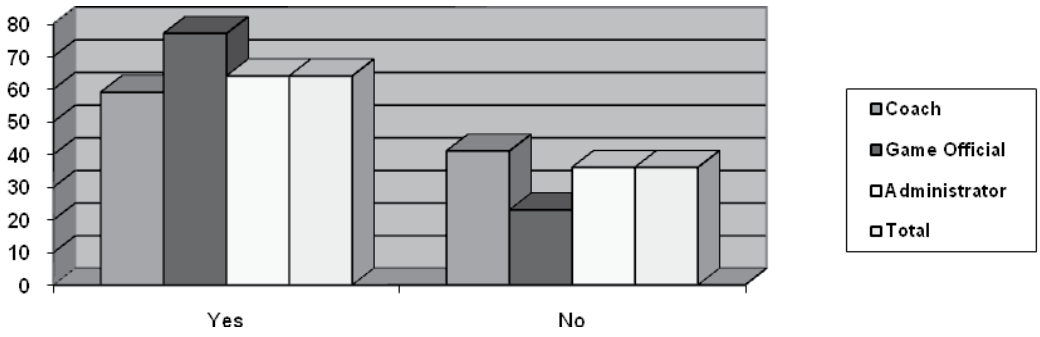


**Figure 3. Terminating service if climate worsens**

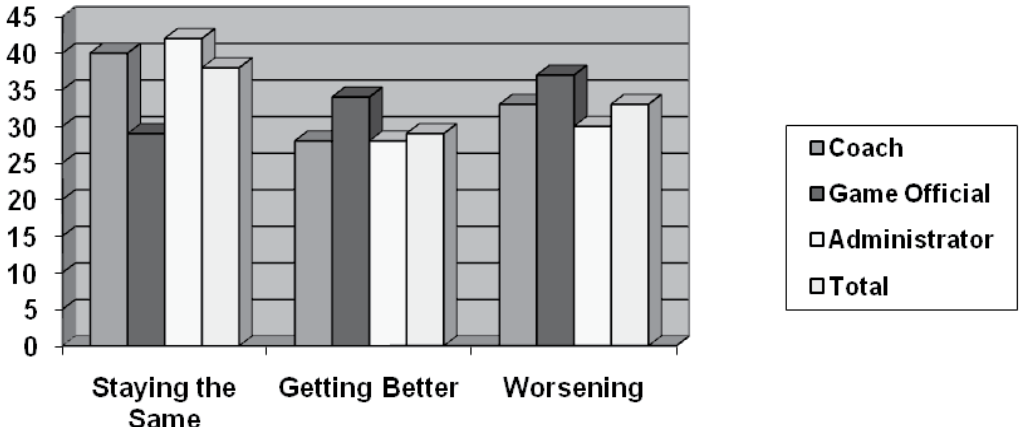


**Figure 4. Change in sport climate perceptions**

# REFEREED ARTICLE

## Obesity Among College Students

**By Bridget Melton, Yasar Bodur and Robert Clouse**

*Georgia Southern University*

**ABSTRACT**

Obesity among college students is an increasing concern. Although many studies have been conducted on freshman, limited information exists on the differences in obesity among college students based on year in school beyond the freshman year. Objective: The purpose was to assess current trends in weight changes and BMI classification in college students. Participants and Methods: A sample of undergraduates (N= 2562) completed an online survey containing demographic questions and information regarding their interest in physical education. The authors stratified participants into four groups: freshman, sophomores, juniors and seniors. Results: Although there was a trend of increasing weight and BMI classification by academic year in college, no statistical difference was found. Conclusions: Better measurements of male body composition are needed in the college population due to the limitations of BMI. The focus of health education for weight management programming should be conducted on all levels of undergraduate students, not just freshman.

**INTRODUCTION**

Obesity continues to be an alarming health concern for people of all ages. The National Health and Nutrition Examination Survey (NHANES) data on obesity trends in the U.S. suggest an increase from the late 1980's to the present. While from 1988 to 1994 the prevalence of obesity among adults aged 20-74 was 22.9%, as of 2006 this percentage had increased to 34.3% (CDC, 2008). The development of obesity can start in childhood. According to Serdula et al. (1993) and Whitaker, Wright, Pepe, Seidel and Dietz (1997), obese children and adolescents are more likely to become obese as adults. For example, one study found that approximately 80% of children who were overweight between ages 10 and 15 years were obese adults at age 25 years (Whitaker, 1997).

The incidence of obesity among the U.S. college-aged population has increased from 12% in 1991 to 36% in 2004 (Ogden et al., 2006). Studies have indicated that college students are at a critical period in life; weight gained during the college years could increase students' likelihood to become obese in the future (Racette, Deusigner, Strube, Highstein, & Seusinger, 2005).

Numerous studies have looked at the amount of weight gained during their freshman year, the "Freshman 15." According to the current research, the average weight gain is 1 to 6 pounds during the first semester on a college campus (Anderson, Shapiro & Lundgren, 2003; Hoffman, Policastro, Wuick, & Lee, 2006; Huang et al., 2004, Jung et al. 2008; Levitsky et al., 2006). There is no one reason for weight gain during the college; however there is clear evidence of changes in behavior patterns including lower rates of physical activity and increase caloric intakes (Gruber, 2008). Although the college years are a critical developmental period (Hull, 2007), there is little research examining the current overweight and obesity trends among the different genders and classes of college-aged students. The purpose of this study was to investigate the prevalence of weight gain during college years beyond freshman year.

**METHODS**

Survey data were collected in Spring 2008 and Fall 2008 from students enrolled in physical education courses at a midsize southeastern university. The Institutional Review Board of the university had approved the study before data collection began. Participants in this study were 2,562 college-aged students who were recruited from undergraduate physical education courses. The 26-item survey was designed by the first researcher to collect information about the physical activity program, including: course satisfaction, student interest in the program content, and demographic information. Demographic information consisted of height, weight, gender, and class standing. The current study focused on the demographic information.

The survey was made available to all students taking physical education courses in an on-line learning management system (WebCT). Course instructors were asked to announce the available dates for the survey to their students; weeks 10 through 14 of the 15 week semester. Participants were informed that the questionnaire required approximately 15 minutes to complete and that completion of the survey was consent. Participation was voluntary, to encourage participation students were given extra credit if they completed the survey and brought in a confirmation page to their instructor. The passive informed consent was at the beginning of the survey, if the participant agreed to participate they were asked to proceed with the electronic survey. The participants could stop the survey any time by exiting the survey. Of the 5,625 registered students in the physical education courses, 2,562 completed the survey (45.5% response rate). Table 1 describes the gender and class break out of the participants.

**Table 1. Participant Profile as given by descriptive statistics**

| Demographics | n | Percentage |
|---|---|---|
| **Gender** | | |
| Male | 1181 | 46.1% |
| Female | 1381 | 53.9% |
| Total | 2562 | 100% |
| **Year** | | |
| Freshman | 1048 | 41.0% |
| Sophomore | 718 | 28.1% |
| Junior | 415 | 16.2% |
| Senior | 375 | 14.7% |
| Total | 2556 | 100% |

*Note: Totals do not match because not all participants indicated their year in college*

## RESULTS

Data were analyzed using SPSS 16.0. Two separate ANOVAs, one for each gender, were conducted to compare weight differences among class standings within each gender.

**Table 2. Descriptive Information on Participants' Weight**

| | N | Mean | SD | Min | Max |
|---|---|---|---|---|---|
| **Female** | | | | | |
| Freshman | 599 | 141.05 | 33.4 | 85 | 324 |
| Sophomore | 385 | 140.62 | 29.9 | 94 | 317 |
| Junior | 204 | 144.75 | 32.9 | 94 | 308 |
| Senior | 179 | 145.21 | 35.9 | 100 | 295 |
| **Male** | | | | | |
| Freshman | 441 | 179.57 | 36.8 | 114 | 378 |
| Sophomore | 331 | 184.82 | 34.9 | 107 | 330 |
| Junior | 208 | 184.57 | 40.0 | 122 | 330 |
| Senior | 192 | 187.34 | 37.9 | 120 | 314 |

As table 2 indicates, there is an increase in the average of weight of the students from one year to next in both male and female students. However, a one-way ANOVA did not indicate a significant difference among males in different class standings ($F(3, 1168)=2.50$, $p= 0.057$), or in females in different class standings ($F(3,1363)=1.45$, $p= 0.225$). The participants' BMI was calculated using the height and weight information they provided on the survey. The calculated values were entered into SPSS as a new variable called BMI. Two separate ANOVAs, one for each gender, were conducted to compare BMI differences among class standings within each gender. One-Way ANOVA did not yield any significant differences among females or males in the different class standings. (Males $F(3, 1165)= 1.62$, $p = 0.183$; Females $F(3, 1361)= 0.516$, $p = 0.672$).

**Table 3. BMI by Gender**

| | N | Mean | SD |
|---|---|---|---|
| **Female** | | | |
| Freshman | 597 | 23.67 | 5.16 |
| Sophomore | 385 | 23.66 | 4.97 |
| Junior | 204 | 24.06 | 4.88 |
| Senior | 179 | 24.03 | 5.49 |
| **Male** | | | |
| Freshman | 440 | 25.23 | 4.87 |
| Sophomore | 331 | 25.72 | 4.54 |
| Junior | 207 | 25.99 | 5.23 |
| Senior | 191 | 25.90 | 4.52 |

For analysis purposes, participants' BMI was grouped and coded under four categories: underweight = < 19 $kg/m^2$; normal weight 19 - 24.99 $kg/m^2$; overweight 25 – 29.99 $kg/m^2$; and obese = > 30 $kg/m^2$ (Table 4). The percentage of males whom were overweight or obese was 48.9%, while 28.1% of the females were classified as overweight or obese. There was a notable increase in the percentage of overweight and obese students from freshman year (35%) to senior year (43.5%). A nonparametric analysis of variance, specifically, Kruskal-Wallis H test was employed to assess the differences among female students in different class standings and male students in different class standings in their BMI classifications. This test was included because BMI classification is a discrete variable that suggest ranking. Kruskal-Wallis H test indicated that there was not a significant difference in the classification of male and female students in different class standings (female $H(3) = 4.5$, $p = 0.209$, male $H(3) = 5.6$, $p = 0.129$).

**Table 4. Weight Status According to Gender and Class Standing.**

| Characteristic | Under-weight | Normal | Over-weight | Obese | BMI>25 |
|---|---|---|---|---|---|
| **Gender** | | | | | |
| Male | 11.6% | 49.2% | 34.8% | 14.1% | 48.9% |
| Female | 4.3% | 67.7% | 17.3% | 10.8% | 28.1% |
| **Year** | | | | | |
| Freshman | 3.75% | 67.5% | 23.4% | 11.6% | 35.0% |
| Sophomore | 2.65% | 61.3% | 22.9% | 13.1% | 36.0% |
| Junior | 2.1% | 55.4% | 28.0% | 14.3% | 42.3% |
| Senior | 3.5% | 53% | 31.1% | 12.4% | 43.5% |

*Note: Underweight = < 19kg/$m^2$; normal weight 19-24.99 kg/$m^2$; overweight 25-29.99 kg/$m^2$; obese = 30 kg/$m^2$.*

## DISCUSSION

The purpose of this study was to compare the differences in weight among college-aged students of different class standings. Although there were no significant increases in weight gains from one year to the next, there was an apparent trend in weight gain for both males and females.

Other studies revealed similar findings. Gropper *et al*. (2008) found an increase of four pounds during the first 15 weeks on campus for females. Jung et al. (2008) found an average of a three pound increase from freshman to sophomore year, which was not found to be statistically significant. Another study looked at sophomore to junior year, and found no change in weight gains or losses (Hull *et al*., 2007). Even though it appears juniors and seniors are showing the effects of poor nutrition and inactivity, much attention has been geared towards freshman and sophomore. The current study reveals that lower classman to upper classman weight gains needs additional investigation, furthermore the weight difference between sophomore and junior year warrants further inquiry.

Looking at the differences in gender, the results are similar to other research with a higher percentage of males being classified as overweight or obese (ACHA, 2006; Brunt, Rhee & Zhong, 2008; Desai *et al*., 2008). Our findings indicate that close to 50% of males are overweight or obese in this group which is consistent with Brunt et al. (2008) who found 55% of their males to be overweight or obese. However, our results slightly differ from Desai et al., (2008) whom found only 30% of males to be overweight or obese. This may be due to the limitations of the BMI calculation. BMI does not take into account lean muscle mass which can misclassify an individual, especially athletes. Looking at the obesity classification in the male population, 14.1% of males compared to 10.8% of females were obese. This is somewhat different from the reports of the ACHA 2008 data, which indicated only 10.8 % of males and 11 % of females were obese.

Additionally, this study investigated the BMI classifications of college students. The current results indicate that 37.6% of the overall population is overweight or obese. This is higher than the national college average of 30% according to the 2006 ACHA and 34% reported by the CDC for 2005. Other reports have indicated overweight and obesity percentage from 21% to 33% of the overall population (Brunt *et al*, 2008; Desai, 2008). A study conducted at the sample institution, using 2002 data, found that 29% of the overall population was overweight or obese (Andukuri, Gunn, Tedder, & Parrillo, 2008). Our results indicate an increase of 8% in the overweight/obese population, which is alarming. More rigorous studies are needed to substantiate the increases in overweight and obese college-aged students. Further studies are needed that not only use BMI as classifier, but other more individually reliable methods, such as bioelectrical impedance (BIA) tools.

## LIMITATIONS

This study had several limitations. This southeastern university might not be representative of the college population as a whole. There are known limitations to the BMI testing with those who are athletic or have high muscle mass than the average person. All measure relied on self-report, thus the extent to which participants were truthful is not known. The study was cross-sectional and provided only a snapshot of current status.

## CONCLUSIONS

There are several avenues for further research including more replicable studies to gain a better understanding of weight gain during the four years of undergraduate education. Additionally, there is a need for longitudinal research to track individual changes in relation to specific health patterns. Finally, it is suggested to inquire about the factors that can be linked with weight gains such as, nutritional and physical activity behaviors.

Colleges and universities should focus their efforts on both obesity preventative and interventions for students of all standings. Health promotion, health education and health service programs may be the most viable advocates for the college-aged population to deliver weight management programs. However, other campus departments including food service, physical plant and academics have the potential impact on the culture. Dealing with the obesity problem among college students may require a systemic approach to solving this problem. The numbers that our analyses yielded indicate the necessity of such an approach.

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# Georgia Association for Health, Physical Education, Recreation, & Dance

## *Calendar of Events*

## IMPORTANT DATES

| | |
|---|---|
| *Oct. 30- Nov. 2, 2010* | **GAHPERD** Convention, Desoto Hilton Savannah |
| *February 16-20, 2011* | SDAAHPERD Convention, Greensboro, NC |
| *March 15-19, 2011* | AAHPERD Convention, San Diego, CA |
| *October 22-25, 2011* | **GAHPERD** Convention, Atlanta Marriot NW (Cobb) |
| *February 8-11, 2012* | SDAAHPERD Convention, Orlando, FL |
| *March 13-17, 2012* | AAHPERD Convention, Boston, MA |
| *November 10-13, 2012* | **GAHPERD** Convention, Desoto Hilton Savannah |
| *April 23-27, 2013* | AAHPERD/SDAAHPERD, Charlotte, NC |
| *October 26-29, 2013* | **GAHPERD** Convention, Marietta Hilton |
| *March 18-22, 2014* | AAHPERD Convention, St. Louis, MO |
| *November 1-4, 2014* | **GAHPERD** Convention, Savannah Hilton |
| *March 17-21, 2015* | AAHPERD Convention, Seattle, WA |
| *October 23-26, 2015* | **GAHPERD** Convention, Marietta Hilton |

# REFEREED ARTICLE

## Credential Characteristics of Georgia High School Coaches

**By Willie J . Burden, Trey Burdette, Drew Zwald, Daniel R. Czech and Thomas A. Buckley**

*Georgia Southern University*

**INTRODUCTION**

Three research efforts provide the foundation for this study which is a follow up to previous studies by Zwald, Burden and Czech focusing on Georgia high school coaches. Burden and Zwald (2003) conducted an exploratory study of 100 Georgia high school coaches representing all four classifications in fall 1999. Results were published in this journal in November, 2003. The coaches' demographic characteristics related to ethnicity, gender, position, level of coaching, certifications and years of experience were revealed. The study also revealed that additional study needed to be undertaken in such areas as coaching education, certification requirements in Georgia, identification of program needs, coaching vacancies, and assessment of coaching performance and its implications. In 2005, the authors published an expose centered on a discussion of issues related to enhancing coaching in Georgia public schools. The discussion consisted of Georgia's overall certification and training requirements as compared to national averages, hiring practices, orientation, and assessment programs. Zwald, Burden and Czech (2006) conducted a more extensive 2003 study involving 1,000 coaches in 250 randomly selected Georgia high schools. Important data were collected and comparisons were made with respect to gender, ethnicity, educational level, years of experience, certifications, teaching areas, assessment of coaching performance, training, and school classification. The results were published in this journal in spring 2006.

The current study concerning characteristics of Georgia high school coaches is based on a sample of approximately 8, 000 coaches within the state. Via a statewide survey, this study aims to provide a more comprehensive picture of the credentials of high school coaches in the state of Georgia. Additionally, the data provided could serve to enhance the coaching curriculum, better prepare coaches to aid in the development of athletic program participants, and assist athletic directors, coaches and coaching educators in enhancing high school coaching. The previous studies did not offer such comprehensive insight in the areas identified in this study.

*Conceptual Background*

It is evident from the literature that coaching competency is important because of the large number of young people participating in athletics at all levels, the important roles coaches play in the lives of these kids, and the public and media scrutiny that athletics receive. Over seven million athletes are participating in high school sports currently (Ryan, 2008; 2008-09 high school, 2009). Therefore, coaches have the opportunity to influence a substantial number of youth in a positive or negative way through sports. The coach carries sufficient authority to impact the athletes' performances, safety, psychological well-being, and even their enjoyment of sport by providing such things as positive reinforcement, technical instruction, and encouragement (Millard, 1996). On the other hand, imagine that there are coaches who keep water from their athletes as a means of discipline, cannot treat an injury because they remain uncertified in first aid, cannot administer CPR, belittle the attempts of their athletes in the presence of the athletes' peers, and use profanity (Cadorette, 2003). In addition, the number and type of duties coaches perform varies such as guiding the practice of skills, providing instruction and feedback, and monitoring learning and performance; all of which are designed to help athletes realize their potential. Furthermore, coaches fulfill multiple roles such as teacher, motivator, strategist, and character builder. For these reasons, it is not surprising that coaching has received extensive empirical attention in the sport literature.

Research suggest that expert coaches rely on their education, organizational skills, experience, work ethic, and knowledge to further their coaching careers and successfully perform their jobs at the highest levels (Carter & Bloom, 2009). A coach must not only be knowledgeable in the sport and win athletic contests, but also, must respect an athlete's physical, psychological or emotional well-being; and be able to meet the needs of a challenging interscholastic athletic program as well as the community (Cadorette, 2003; Crawford, Kinley & Freeze, 2003). Carter and Bloom ( 2009) stated coaches develop and acquire important elements of their coaching knowledge from different sources such as through studying for an undergraduate degree in physical education, attending clinics, observing other coaches, and reflecting on their own experiences as an assistant or head coach at the high school or college level. Additionally, knowledge is often gained through mentoring by more experienced coaches, and participating at the elite athletic level. These experiences help shape how coaches train and develop athletes, form their coaching philosophies, and interact with athletes.

Despite all of the expectations of sport coaches, the evaluation of coaching effectiveness has been almost exclusively focused on the competitive performance outcomes of their teams as opposed to other important qualities (Knowles, Tyler, Gilbourne & Eubank, 2006). Standards for high school coaching are inconsistent, varying from state to state. A few state organizations require coaching education or certification, but where it is required, the requirement is rarely all-inclusive. Many high school associations, for example, that mandate coach certification only require non-faculty coaches to be certified. Many youth sport organizations offer some form of coach education and recommend that coaches take advantage of the resource but stop short of mandating certification (Schmutz, 2009). Martens, Flannery and Roetert (2001) reported that out of 500,000 school coaches, less than 8% received specific education to coach.

According to the American Swimming Coaches Association (ASCA) (2003), a coach's credentials reveal how serious the coach is concerning his or her profession, and whether or not the coach cares about continuing their education and professional preparation. The authors' initial studies provided some baseline data on the characteristics of Georgia's high school coaches and encouraged the current study. Georgia coaches should possess a minimum level of education and preparation in order to carry out the duties and responsibilities they are expected to fulfill. The purpose of this current study was to gain more insight into the professional preparation of Georgia's high school coaches by conducting a comprehensive statewide survey and describing the coaches' professional credentials. While a number of studies have addressed the need for national certification standards for high school coaches, a limited amount of research has been conducted concerning the existing credential characteristics of high school coaches on the state level.

*Coaching Standards*

The National Association of Sport and Physical Education (NASPE) has established National Athletic Coaching Standards (Dils & Ziatz, 2000; Docheff & Bolger, 2007). The *National Standards for Sport Coaches* are guidelines that provide the fundamental competencies that athletic coaches from beginning coach to master coach should possess to ensure the safety and quality of athletic programs. The 40 National Standards listed in the *National Standards for Sport Coaches* are identified under one of eight domains, presented with an explanation of its purpose and accompanied by benchmarks to provide concrete examples of actions and orientations that constitute coaching competence (National standards, 2009). These competences include coaching philosophy; professional accountability; safety and health; conditioning programs; the physical, social, and emotional growth and development of athletes; teaching and communication; sport skills and competitive tactics; organization and administration; and ongoing evaluation. Collins and Medbery (2005) stressed the importance of having educated coaches because of the incredibly significant impact coaches have on the lives young persons. Also it is equally important to consistently and accurately assess needs and demands of state high school coaching education programs.

In the state of Georgia a coach meets certification standards if he or she is a professional certified teacher meeting the teaching requirements in the school system. Member schools may employ persons who are not certified teachers as assistant coaches provided they complete the Georgia High School Association (GHSA) Coaches Education, Training and Testing Program. The GHSA requires that all community coaches complete the American Sport Education (ASEP) Sport First Aid Course and the GHSA Principles of Coaching courses within three (3) months of their class date. Prospective coaches are not allowed to coach until both exams have been successfully completed (Process for becoming, 2009). Via ASEP, more than 30,000 coaches nationwide are credentialed through the Coaching Principles and Sport First Aid courses each year. Also, coaches in Georgia have the opportunity to take the Georgia State Test as well (Burden & Zwald, 2003).

## METHODS

*Participants*

All active members of the Georgia High School Association (GHSA), approximately 8000 coaches, served as the population for the s study which was conducted in the fall of 2008.

Seven hundred ninety five (795) individuals representing each of five GHSA classifications, 5A, 4A, 3A, 2A and A, responded to the survey. This study was approved by the University's Institutional Review Board.

*Instrumentation and Procedures*

The instrument used was a 76-item questionnaire that was developed and adapted from a previous coach's study that examined demographic characteristics (gender, age, ethnicity, etc.), educational level, college major and degree, current position, coaching experience, certifications, sport participant experience, and previous coaching education courses taken. The questionnaire was reviewed for face validity by coaching education faculty for appropriateness for coaches as well as individuals currently practicing as coaches.

A private company, "Georgia High School Coaches Association" (GHSCA) was contracted for dissemination of the questionnaire which was posted on the internet and hosted by SurveyMonkey.com. The GHSCA maintains a database of

active high school coaches in the state of Georgia. An email was sent to all public high school coaches in the database inviting them to participate in the study. The email provided an overview of the study, informed consent documentation, and a link to the questionnaire. Two weeks later, a reminder email was sent to all public high school coaches in the database.

Respondents were not required to answer all questions and were free to skip questions or sections of the questionnaire. The respondents did not receive any compensation for completion of the questionnaire and no personal identifying information was collected.

## RESULTS AND DISCUSSION

*Existing Coaching Environment*

Results from the survey are presented in Tables 1-13. As represented in tables 1-4, the average age of the 770 coaches responding to the survey was just over 39 years and the ages ranged from 19 to 75 years. Respecting gender, coaches' responses revealed that 70.4% were males and 29.6 % were females. More than eight (86.6%) in ten coaches were Caucasian and just under one in ten (9.3%) were African American. Table 4 represents the percentage of respondents from each of the four high school classifications as follows: class 4A was represented by 24% of respondents; 5A, 22.5%; 3A, 19.5%; 2A, 19.1%; and, 1A 14.9%.

**Table 1. Age (n=770)**

| | |
|---|---|
| Range | 19-75 |
| Mean | 39.54 ± 10.89 |

**Table 2. Gender (n=795)**

| | |
|---|---|
| Male | 70.4% |
| Female | 29.6% |

**Table 3. Race (n=794)**

| | |
|---|---|
| Asian | 0.4% |
| African American | 9.3% |
| Indian | 0.3% |
| Caucasian | 86.6% |
| Hispanic | 0.8% |
| Other | 1.8% |

**Table 4. School Size (n=791)**

| | |
|---|---|
| A | 14.9% |
| AA | 19.1% |
| AAA | 19.5% |
| AAAA | 24.0% |
| AAAAA | 22.5% |

Table 5 represents the highest educational level attained by the respondents. Nearly sixty percent (59.5%) held master's degrees. Nearly one-third (30.1%) held bachelor's and almost one in ten (9.7%) had a doctorate degree. Less than one percent (0.8%) of the respondents held an Associate's degree.

**Table 5. Educational Level - Highest Degree Earned (n=259)**

| | |
|---|---|
| Associates | 0.8% |
| Bachelors | 30.1% |
| Masters | 59.5% |
| Doctorate | 9.7% |

Tables 6 through 8 illustrate the respondents coaching and playing experiences. More than one-fifth (19.5%) had more than 20 years of experience; and, more than one third (33.4%) had 5 years or less coaching experience. Nearly one half (48.2%) of the participants had experienced between six and twenty years of coaching. In terms of the highest level of coaching, 81.8% of the respondents reported coaching at the high school level; 15.6% had coached at the college or community college level; 1.5% coached professional sports; and, 1.1 coached at the middle school level. As seen in table 8, 46.5% of the coaches reported playing at the college and 43.4% played at the high school level. Also, 3.8% played professionally; 0.1% participated in the Olympics; and 6.1 % reported having no playing experience.

**Table 6. Years of Coaching Experience (n=707)**

| | |
|---|---|
| 1-5 | 33.4% |
| 6-10 | 23.1% |
| 11-15 | 14.9% |
| 16-20 | 9.2% |
| More than 20 | 19.5% |

**Table 7. Highest Coaching Level (n=269)**

| | |
|---|---|
| Middle School | 1.1% |
| High School | 81.8% |
| Community College | 2.2% |
| College | 13.4% |
| Professional | 1.5% |

**Table 8. Highest Level Played (n=707)**

| | |
|---|---|
| Never played | 6.1% |
| High School | 43.4% |
| College | 46.5% |
| Olympic | 0.1% |
| Professional | 3.8% |

Table 9 indicates the types of certifications held by coaches in the sample. Teacher certification (80.2%) was the most common certification, followed by certifications in CPR (73.7%), first aid (56.9%), athletic trainer certification (ATC) (3.5%) and certified strength and conditioning specialists (CSCS) (2.3%).

**Table 9. Types of Certifications (n=799)**

| | |
|---|---|
| Teacher | 80.2% |
| CPR | 73.7% |
| First Aid | 56.9% |
| ATC | 3.5% |
| CSCS | 2.3% |

The individual most supportive of hiring the coach is illustrated in Table 10. Support from the principal was mentioned by 22.7% of respondents, just over 17% reported being supported by the athletics director, and 15.4 % said the head coach. Some 44.3% indicated someone other than those previously mentioned as most supportive in their hiring.

**Table 10. Individual Most Supportive of Hiring the Coach (n=799)**

| | |
|---|---|
| Principal | 22.7% |
| Athletic Director | 17.3% |
| Head Coach | 15.4% |
| Other | 44.3% |

The participants described themselves as a teacher and coach (75.0%), teacher who can coach (18.3%), and a coach who can teach (6.7%). These characteristics are presented in Table 11.

**Table 11. Coach's Description of Filling Coaching Position (n=252)**

| | |
|---|---|
| Teacher and Coach | 75.0% |
| Teacher Who Can Coach | 18.3% |
| Coach Who Can Teach | 6.7% |

In terms of their reasons for coaching (Table 12), over 40% of the respondents indicated they were inspired by a previous coach. Dedication to educating young people (35.2%) was listed by the next largest group, followed by my parent coached and inspired me (5.7%), and my child played the sport (3.2%). Over fifteen percent (15.6%) of the coaches indicated a variety of other reasons foe coaching.

**Table 12. Coach's Reason for Coaching (n=315)**

| | |
|---|---|
| Parent coached and inspired me | 5.7% |
| Inspired by a Previous Coach | 40.3% |
| My child played the sport | 3.2% |
| Dedicated to Educating Young People | 35.2% |
| Other | 15.6% |

Table 13 indicates whether or not the coach had taken a coaching education course. More than one half (54.9%) of those responding said yes, and 45.1% said no.

**Table 13. Had Coaching Education (n=266)**

| | |
|---|---|
| Yes | 54.9% |
| No | 45.1% |

Based on the responses to the survey, the typical high school coach in Georgia is a 40 year-old Caucasian male who holds a master's degree, training in CPR and First Aid, and describes himself as a teacher and coach.

**DISCUSSION**

When the findings of this study were compared to the results of previous coaching studies (Burden & Zwald, 2003; Zwald, Burden & Czech, 2006), a number of similarities as well as some differences emerged. The current study yielded the most comprehensive data concerning characteristics and professional proficiency of high school coaches in the state of Georgia. In order to gain an even broader perspective, some comparisons were also made with coaching studies (Aukerman, Aukerman, McManama & Browning, 2006; Miller, Lutz, Shim, Fredenburg, & Miller, 2006; Stewart, 2001) conducted outside the state of Georgia.

As a result of the study, Georgia coaching characteristics were affirmed in several areas. In terms of coaching experience the current study revealed 43.6% of those responding had 11 or more years of coaching experience, which was only slightly higher than the 40.4% reported in Zwald, Burden & Czech's 2006 study. Another similar finding to the author's 2006 study concerned the percentage of survey participants describing themselves as a teacher and coach (75.0%) compared to the previous study's result of 74.1%. Based on Stewart's (2001) research this was a positive outcome. In his study concerning characteristics of Montana high school coaches, Stewart (2001) asked athletics directors to rank their desired coaching characteristics based on the national coaching standards of NASPE. Ability to teach was the number one desired characteristic outdistancing such traits as honesty/fairness with athletes, sportsmanship, knowledge of skills and sport enjoyment by players. This study also revealed other positive characteristics of Georgia high school coaches, for instance, nearly 99% (98.9%) had experienced coaching on the high school level or higher; and 93.8 % had played a sport at the high school level or higher.

Some of the results were inconsistent with earlier findings. Differences were noted in the respondents' average age, age range, level of coaching education, and highest degree attained. The current study revealed a higher average age for Georgia coaches and a wider age range than was previously found. The average age of the respondents was 39.5 years; and the respondents' ages ranged from 19 to 75 years. Zwald, Burden & Czech (2006) previously found the average age for the coaches was 36 years and their ages ranged from 23 to 65 years. However, when the age characteristics of Georgia coaches were compared with national averages, they were almost identical. Miller et al. (2006) conducted a national study of over 25,000 high school coaches and found the age of the coaches ranged from 19 to 78 years, and their mean age was 40.3years.

A favorable disparity in findings was that the number of coaches who reported having masters degrees increased from the previous study, from 46% to 59.5%. Similarly, with respect to certifications, more coaches reported being certified in CPR (73.7% to 43.5%) and first aid (56.9% to 43.5%) than in the authors' previous study. This represents a positive outcome as compared to the percentage of coaches in other states who are certified in CPR and first aid. For example, in their research on medical coverage of high school athletics in North Carolina, Aukerman, et al. (2006) found a majority of the coaches at the participating high schools did not have CPR or first aid certifications.

The current study revealed some unfavorable disparities from previous research in such areas as coaching education/ training, level of educational attainment, and certifications. The percentage of coaches that reported having received additional coaching education declined from 60% in the previous investigation to 54.9% in the current study. This means that 45.1% of the coaches have had no additional training to fulfill coaching responsibilities, which represents an increase of 5.1% over previous findings (Zwald, Burden & Czech, 2006). According to Shmutz (2009), education alone will not guarantee that every coach will be fully successful in their role. However, if more coaches are educated, it will set expectations and establish a level of accountability that can only have a positive impact on the athlete experience. Also, coaches would be more capable of fulfilling their duties, have a much more rewarding experience, and therefore choose to stay in the profession longer.

In building upon previous research, this study revealed some positive outcomes concerning the professional preparation of Georgia's high school coaches. Coaches in this study were identified as older, more experienced, more educated, more had training in CPR and first aid, and two thirds described themselves as a teacher first, and then coach. On the national level, when asked about preparatory experiences, 86.7% of the coaches surveyed said they played high school sport, and 2.1% played professional sports (Miller et al., 2006). This was similar to Georgia coaches' high school and professional playing experiences. Also, Miller et al. (2006) reported a great majority of coaches (81.9%) in the national survey had some type of teaching certification. This was also consistent with the level of response (80.2%) from Georgia coaches.

Because of their importance, the preparation and certification of athletic coaches has received and will continue to receive great attention. Coaches are heroes and mentors, leaders and role models, their images are taped to bedroom walls and locker room doors, and they are the ones who can make a difference in a young person's life at a time when making a difference matters (Barbano, 2008). It is vital that high school coaches have in-depth knowledge of their profession and the appropriate education to teach and be effective (Miller et al., 2006).

Aeby, Overton, and Malinauskas (2006) stated the expectations for high school coaches range from a bachelors degree in teaching with a current teaching certificate, to having no educational requirement. Also, training and certification regulations for coaches vary so dramatically in scope and depth from state to state with some states requiring no formal coaching education. With 6 of 10 coaches having advanced degrees, Georgia's high school coaches have better educational credentials than many other states; however, they still need additional education and training in such areas as health and physical education, coaching education, and certifications in first aid and CPR (including Automated External Defibrillator training) to fulfill coaching

responsibilities. More training and qualified staff along with better equipment and regulations could help prevent about one half of all injuries in organized sports (Dillon, 2006). For school districts, finding qualified coaches has become harder, even as the financial and legal risks associated with sponsoring athletic programs have escalated; ongoing education remains the key to quality sports programs.

As a result of this survey additional study is needed in several areas. For instance, additional study is needed in order to compare Georgia coaches' credentials with other states, nationally, as well as with international standards; and, to compare Georgia coaches' credentials with the benchmarks established by NASPE. Also, the most effective high school coaches should be identified and investigated to determine how their credentials translate into successful programs. High school principals and athletic directors should also be surveyed to obtain their perspective on coaching education and qualifications.

Schmutz (2009) stated the vast majority of today's coaches are motivated to do well, serve their athletes as best as possible, and do so in a manner that is consistent with the prevailing rules and principles of their organization. And those coaches are ready - even eager - to learn more so that they can do just that. It is hoped that the information generated in this study will assist decision-makers in the school systems, the Georgia High School Association and colleges that offer a coaching education curriculum by providing useful recommendations for coaching preparation in Georgia.

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