

Perceptions of youth obesity among physical educators

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Abstract. The purposes of this study were to examine (a) antifat attitudes among physical education teachers, (b) performance and ability expectations for normal and overweight youth, and (c) perceptions of the problem of youth obesity and the role of schools and physical education. Participants, 105 physical educators, completed a demographic and background questionnaire, the Antifat Attitudes Scale (AFAS; Morrison & O'Connor), an expectations questionnaire, and Perceptions of Youth Obesity and Physical Education Questionnaire (Price, Desmond, & Ruppert). Participants endorsed moderate antifat attitudes and strong personal weight control beliefs. Participants reported higher expectations for youth they considered normal weight, versus overweight, across a variety of performance and ability areas. Participants overwhelmingly agreed that youth obesity is a concern and that schools are not doing enough to help overweight youth.

1. Introduction

The epidemic of overweight and obese youth and the decline in physical activity levels are growing concerns for American health professionals. Nationwide, an estimated 13% of 6–11 year olds and 14% of 12–19 year olds are overweight (US Department of Health and Human Services [USDHHS], 2001). In addition, according to the U.S. Surgeon General's report (USDHHS, 1996), about half of 12–21 year olds do not engage in regular vigorous physical activity. Even as the U.S. population is becoming increasingly overweight and sedentary, antifat attitudes and obesity bias are prevalent (Puhl & Brownell, 2001, 2003). These deeply engrained beliefs and attitudes influence how overweight individuals are perceived and treated by society. Even individuals educated and trained in the health professions report discriminatory attitudes and behaviors toward overweight individuals (Klein, Najman, Kohrman, & Munro, 1982; Maroney & Golub, 1992; Schwartz, Chambliss, Brownell, Blair, & Billington, 2003).

Overweight individuals are often characterized as being lazy and indulgent (Teachman & Brownell, 2001) and youth are not exempt from the negative social stigma of being considered fat (Hill & Silver, 1995;

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Kraig & Keel, 2001; Latner & Stunkard, 2003; Neumark-Sztainer, Story, & Faibisch, 1998). Hill and Silver (1995) found that children rated obese figure silhouettes as having few friends. Similarly, Strauss and Pollack (2003) reported that overweight youth were less likely to have friends and more likely to be excluded from social events than normal weight youth. Further reflecting the social stigma of being fat, children in a study by Latner and Stunkard (2003) indicated that they would be least likely to play with a fat child, in comparison to a child who was in a wheelchair, missing a limb, on crutches, or disfigured. Overweight youth report experiencing such negative stigma; being treated poorly by others, particularly in school settings (Neumark-Sztainer et al., 1998).

Physical education classes may be one particular school setting in which overweight youth are especially likely to experience antifat attitudes and weight based mistreatment (Faith, Leone, Ayers, Heo, & Pietrobelli, 2002; Fox & Edmunds, 2000). For example, Faith et al. (2002) found that youth reported experiencing criticism during physical activity and sport participation. Such criticisms were more commonly reported among the female and heavier participants. Not surprisingly, weight criticism was also related to reduced levels of sports and leisure activity enjoyment. In interviews with overweight children, Fox and Edmunds (2000) found that physical education settings provided numerous opportunities for negative social comparison between children, including feeling self-conscious while changing clothes, being required to wear uniforms that may not fit, and having a difficult time completing physical activities as compared to their classmates. Furthermore, Olafson (2002) found that girls disliked physical education classes, partially because they felt that their bodies were on display to be evaluated and commented on by others.

Overweight children and youth are stigmatized not only by their peers, but also by important adults in their lives, such as teachers (Schwartz & Puhl, 2003). Neumark-Sztainer, Story, and Harris (1999) reported that a majority of teachers and school health care providers surveyed believed that obese individuals are not as healthy as non-obese individuals. Additionally, some participants indicated that people often feel uncomfortable around obese individuals and that becoming obese is one of the worst things that could happen to a person (Neumark-Sztainer et al., 1999). With the growing concern about overweight, obese, and sedentary youth, researchers and social advocates have called upon educators to reflect on their own weight-related attitudes and behaviors (Ikeda, 1995; Loewy, 1998). Indeed, Jalongo (1999) has suggested that obesity be considered a diversity issue and points to a number of examples of stigmatism found in early childhood educational settings.

Physical educators, in particular, are in a unique position of dealing with students of varying body weights and body physiques in their efforts to reduce overweight and obesity, improve fitness, and encourage increased

physical activity. Irwin, Symons and Kerr (2003) suggest that physical educators need to not only be compassionate and understanding, but also demonstrate appropriate attitudes and behaviors in relation to body size and weight issues. Further, antifat attitudes are problematic in that they might reduce or cancel out the effectiveness of programs designed to reduce rates of overweight and obesity among youth.¹ While obesity bias among physical education teachers has yet to be specifically examined, there is evidence that exercise and sport science students, a traditional major for future physical education teachers, do report antifat attitudes and obesity bias (Chambliss, Finley, & Blair, 2004). Thus, one purpose of this study was to examine the degree of antifat attitudes reported by members of the National Association for Sport and Physical Education (NASPE) within the American Alliance of Health, Physical Education, Recreation and Dance (AAHPERD).

If teachers have antifat attitudes, it raises the question, do they have different performance expectations for youth they consider normal versus overweight? This question is particularly applicable to physical education teachers because of the physical nature of the performance standards often assessed (i.e., endurance, strength, flexibility). As the Neumark-Sztainer et al. (1999) study highlighted, many people assume that individuals who are “normal weight” are healthier than overweight or obese individuals – which may suggest that “normal weight” individuals would also be expected to perform better than overweight or obese individuals on physical tasks. Expectancy research would suggest that negative initial teacher impressions would in turn lead to lower performance expectations and less frequent and lower quality feedback (Martinek, 1997). Thus, as an initial step in studying the potential expectancy effect of antifat attitudes, a second purpose of this study was to examine performance and ability expectations for youth considered to be normal versus overweight.

In addition to examining antifat attitudes and expectations, this study addressed beliefs about youth obesity and the role of schools and physical education in dealing with the problem of obesity. Exercise and fitness professionals, including physical education professionals, have a variety of beliefs pertaining to youth obesity and the role of physical education (Hare, Price, Flynn, & King, 2000; Price, Desmond, & Ruppert, 1990; Savage, 1995). Specifically, physical educators and physical education majors have reported that (a) being “normal weight” is important for the health of children and youth and that obesity is becoming a more serious concern, (b) controllable, personal factors, such as overeating, are major contributors to childhood obesity, (c) schools are not doing enough to combat obesity, and (d) physical education and physical education teachers should play major roles in dealing with obesity (Price et al., 1990; Savage, 1995). A third purpose of this study, therefore, was to follow this line of research

Table I. Participants' demographic information

	Males (<i>n</i> = 50)		Females (<i>n</i> = 55)		Total (<i>n</i> = 105)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age	43.39	(12.69)	41.46	(11.94)	42.38	(12.28)
Height	70.24	(3.37)	65.36	(3.95)	67.69	(4.41)
Weight	187.58	(33.54)	140.71	(19.18)	163.24	(35.75)
BMI	26.64	(3.80)	23.31	(3.73)	24.91	(4.10)
Weight Satisfaction ^a	4.62	(1.70)	4.53	(1.70)	4.57	(1.69)
Body Shape Satisfaction ^a	4.82	(1.30)	4.54	(1.54)	4.68	(1.43)
Perceived Weight Responsibility ^b	80.21%	(13.22)	73.10%	(16.16)	76.39%	(15.22)

^aPossible responses ranged from 1 (*not at all satisfied*) to 7 (*extremely satisfied*).

^bPossible responses ranged from 0% (*individual has no responsibility for being obese*) to 100% (*individual has complete responsibility for being obese*).

and examine perceptions of youth obesity and the role of physical education in dealing with youth obesity.

2. Method

2.1. PARTICIPANTS

Participants included 105 (50 males, 55 females) professional NASPE members of AAHPERD. Table I contains complete descriptive data on the participants. The average age of participants was 42.38 (*SD* = 12.28). Based on self-reported height and weight, male participants had an average body mass index (BMI) of 26.64 kg/m² (*SD* = 3.80) and females had an average of 23.31 kg/m² (*SD* = 3.73). Most participants identified their race as Caucasian (92.4%). Fifty four participants reported having an average of 7.42 years (*SD* = 8.20) experience at the elementary school level; 35 participants had an average of 7.27 years (*SD* = 8.70) at the middle school level; 57 participants had an average of 7.80 years (*SD* = 9.39) at the high school level; and 18 participants reported an average of 20.86 years (*SD* = 13.96) at the college level.

2.2. INSTRUMENTS

Participants in this study completed a series of questionnaires to assess beliefs and attitudes about youth weight and physical performance; including a demographic and background questionnaire, the Antifat Attitudes Scale (AFAS; Morrison & O'Connor, 1999), an expectations questionnaire,

and Perceptions of Youth Obesity and Physical Education Questionnaire (Price et al., 1990).

2.2.1. *Demographic and Background Questionnaire*

The demographic questionnaire included questions pertaining to participants' age, gender, race, height and weight, and preferred weight. In addition, participants reported their weight and body shape satisfaction ranging from 1 (*not at all satisfied*) to 7 (*extremely satisfied*), physical activity behaviors (frequency and duration), and physical activity motivation (i.e., reasons for being active). Teachers were asked to report the number of years experience they had teaching physical education and their highest level of educational attainment. Finally, participants indicated the degree of personal control they believe individuals have over their weight (i.e., 0% no personal control to 100% complete personal control over weight).

2.2.2. *Antifat Attitudes Scale (AFAS)*

The AFAS (Morrison & O'Connor, 1999) included five items designed to measure negative attitudes toward overweight individuals. The items included "Fat people are less sexually attractive than thin people," "I would never date a fat person," "On average, fat people are lazier than thin people," "Fat people have only themselves to blame for their weight," and "It is disgusting when a fat person wears a bathing suit at the beach." Participants reported their agreement with each statement using a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). The AFAS has demonstrated adequate reliability and validity (Morrison & O'Connor, 1999). In the current study, the internal consistency of the AFAS was adequate, $\alpha = 0.69$. Additionally, in a pilot test with 27 undergraduate students the AFAS was significantly correlated with the Antifat Attitudes Test (Lewis, Cash, Jacobi, & Bubb-Lewis, 1997), $r = .63$, $p < .001$.

2.2.3. *Expectations Questionnaire*

A two-part expectations questionnaire was developed for this study using items from Marsh's (Marsh, Richards, Johnson, Roche, & Tremayne, 1994) Physical Self-Description Questionnaire (PSDQ). Part A of the expectations questionnaire included 30 items, with three items from each of the PSDQ's strength, flexibility, endurance/fitness, coordination, and sport competence subscales. Fifteen of the items were worded in reference to youth considered to be normal weight, for example "Normal weight youth have flexible bodies" and "Normal weight youth can run a long way without stopping," and 15 items were worded in reference to youth considered to be overweight, for example "Overweight youth would do well in a test of strength" and "Overweight youth have good sport skills." Participants responded to each item on a 6-point Likert scale (1 = *false* to 6 = *true*).

Difference scores were calculated for strength, flexibility, endurance, coordination, and sport competence expectations by summing responses to the three normal weight and three overweight items in each of the five areas and subtracting the overweight sum from the normal weight sum. Positive difference scores reflected that participants believed that normal weight youth would perform better than overweight youth; negative scores reflected the belief that overweight youth would perform better than normal weight youth.

Because the expectations questionnaire was developed for this study, a pilot test with 27 undergraduate students was conducted to examine the internal consistencies and 2-week test–retest reliabilities of the scale and subscales. Internal consistencies for the five overweight subscales ranged from 0.76 to 0.84 during the first administration and between 0.71 and 0.89 on the second administration 2-weeks later. Internal consistencies for the four of the normal weight subscales ranged from 0.61 to 0.77 during the first administration. The internal consistency for the normal weight coordination subscale was low, 0.28. On the second administration, internal consistencies ranged from 0.55 and 0.76. The low internal consistency, 0.28, on the coordination subscale for normal weight youth was concerning, however in the second administration of the questionnaire, the internal consistency was adequate, 0.76, therefore all items were retained for the full study. The two-week test–retest correlations for the five subscales for overweight ranged from 0.58 to 0.83 and from 0.46 to 0.63 for four of the normal weight subscales. The test–retest correlation for the coordination subscale for normal weight was low, 0.06, however it was not unexpected as the initial internal consistency on the first administration was low. Because of the exploratory nature of this portion of the study, this subscale was retained for the full study.

Part B of the expectations questionnaire included eight items: four items for normal weight youth and four items for overweight youth pertaining to expectations of youths' overall abilities in four areas: physical skill, reasoning, cooperation, and social interaction. These items were rated on a 7-point Likert scale (1 = *expect youth to perform very poorly* to 7 = *expect youth to perform very well*). Difference scores were calculated for ability expectations (i.e., physical ability, reasoning ability, cooperative ability, and social interaction ability) by subtracting responses on the overweight items from responses on the normal weight items. Higher positive difference scores reflected the belief that youths of normal weight are better able to perform than overweight youths.

2.2.4. *Perceptions of Youth Obesity and Physical Education Questionnaire*

The perceptions of youth obesity and physical education questionnaire, initially developed by Price et al. (1990), was used to assess perceptions of the role of physical education in dealing with and managing youth

overweight and obesity. The questionnaire included (a) 12 items pertaining to factors believed to contribute to youth obesity and (b) 30 items pertaining to the problem of youth obesity and the role of schools and physical education in dealing with issues of obesity. All items were rated on a 7-point Likert scale (1 = *strongly disagree* to 7 = *strongly agree*). The questionnaire has demonstrated adequate internal consistency (Price et al., 1990; Savage, 1995) and one-week test-retest reliability (Price et al., 1990). In the current study, the internal consistency of the total test was 0.74 and the two-week test-retest correlation in the pilot study was 0.59.

2.3. PROCEDURE

This study involved a mail survey of 250 individuals randomly selected from the NASPE professional membership of AAHPERD. Mailing addresses were obtained from the InFocus Marketing group and were selected based on gender (50% male, 50% female). Participants were sent a survey packet which included a consent letter informing them of the purposes of the study and their rights as a human participant, and a postage paid return envelope. The consent letter stated that by returning the survey packet, consent was implied. Participants who did not return the initial survey after two weeks were sent a second complete survey packet. One hundred and five usable surveys were returned, resulting in a 42% return rate.

3. Results

3.1. DESCRIPTIVES

Participants reported being physically active for 30 min or more 3–4 days per week at a moderate intensity. Overall, participants were moderately satisfied with their body weight ($M=4.57$, $SD=1.69$) and shape ($M=4.68$, $SD=1.43$). On average, male participants wanted to lose 7.33 pounds ($SD=11.00$) and female participants wanted to lose 8.55 pounds ($SD=10.95$). Only 12 participants had BMIs that would categorize them as overweight or obese according to the National Institutes of Health (NIH, 1998) guidelines. Participants overwhelmingly reported that individuals have a great degree of personal control over their weight ($M=76.39\%$, $SD=15.22$). Participants reported moderate antifat attitudes ($M=3.03$, $SD=0.75$). No gender differences in antifat attitudes were found.

3.2. PERFORMANCE AND ABILITY EXPECTATIONS

The largest performance expectations difference score was for endurance, followed by flexibility, coordination, sport competence and strength (see Table II). Participants' responses indicated that they expect normal

Table II. Antifat attitudes and expectation difference scores

	Minimum	Maximum	<i>M</i>	<i>SD</i>
Antifat Attitudes Scale	1	5	3.03	0.75
Total performance expectations	-75	+75	13.82	9.56
Strength	-15	+15	2.53	3.03
Flexibility	-15	+15	3.46	3.00
Endurance	-15	+15	5.22	3.11
Coordination	-15	+15	3.34	2.66
Sport competence	-15	+15	2.68	2.49
Ability Expectations				
Physical ability	-6	+6	1.42	1.24
Reasoning ability	-6	+6	0.41	0.92
Cooperation ability	-6	+6	0.55	1.47
Social interaction ability	-6	+6	1.38	1.34

Note. Positive expectations scores reflect higher expectations for normal weight youth. Negative expectations scores reflect higher expectations for overweight youth.

weight youth to perform better than overweight youth in those five areas. Additionally, in terms of abilities, participants' responses reflected the belief that normal weight youth would have better overall physical, social interaction, cooperative, and reasoning abilities than overweight youth. All expectation and ability difference scores were significantly different from zero ($p < .001$).

A one-way analysis of variance (ANOVA), with BMI as the covariate, revealed no significant gender differences in performance or ability expectations, Wilks' Lambda = 0.862, $F(11, 79) = 1.153$, $p > .05$, $\eta_p^2 = 0.138$, power = .585. Significant relationships emerged between antifat attitudes and coordination ($r = 0.22$, $p < 0.05$), strength ($r = 0.23$, $p < 0.05$), and sport competence ($r = 0.32$, $p < 0.001$) expectations. Significant correlations were also found between antifat attitudes and expected physical ability ($r = 0.30$, $p < 0.001$) and reasoning ability ($r = 0.28$, $p < 0.001$).

3.3. PERCEPTIONS OF YOUTH OBESITY AND ROLE OF SCHOOLS AND PHYSICAL EDUCATION

3.3.1. Factors Contributing to Youth Obesity

Over 90% of participants agreed that poor eating behaviors, leading a sedentary lifestyle, and excess calorie consumption are important factors contributing to youth obesity (see Table III). Other factors rated as important by the majority of participants included lack of self-control, lack of parental concern, prevalence of junk food machines, psychological problems, and

Table III. Perceived factors contributing to youth obesity

	<i>M (SD)</i>	Agreement
Poor eating behaviors	6.61 (0.75)	99.0%
Sedentary lifestyle	6.49 (0.89)	97.1
Excess calorie consumption	6.34 (1.07)	93.2
Lack of self-control	5.38 (1.37)	74.0
Lack of parental concern	5.18 (1.32)	76.9
Prevalence of junk food machines	5.10 (1.47)	73.1
Psychological problems	4.82 (1.41)	68.0
Cultural factors	4.67 (1.33)	61.5
Low socioeconomic status	4.37 (1.56)	50.0
Heredity	4.35 (1.32)	51.9
Peer pressure	3.74 (1.52)	30.5
Hormone problems	3.68 (1.46)	29.8

Note. 1 = *strongly disagree* to 7 = *strongly agree*. Percent agreement reflects percentage of participants who chose response options 5, 6, or 7.

cultural factors. Few participants rated low socioeconomic status, heredity, peer pressure, or hormone problems as important factors.

3.3.2. *Beliefs About Youth Obesity*

More than 85% of participants agreed that the prevalence of youth obesity is growing and that being normal weight is essential for health (see Table IV). Participants disagreed with the idea that being overweight or obese is something that youth will outgrow; in fact, they believed that most youth can lose weight with proper guidance. Additionally, very few participants, 7.7% , felt that only youth who are likely to be successful in a weight loss program should be allowed to take part. Finally, the majority of participants reported that youth obesity is a significant cause of peer rejection.

3.3.3. *Role of Schools*

Overall, the majority of participants, over 80%, reported that schools are not doing enough to fight obesity, but that the school setting is an appropriate place for dealing with youth weight problems (see Table V). Specifically, most participants indicated that health curriculums should include nutrition and weight control content, low calorie lunches should be available, and weight control programs should be available in schools. When asked what school personnel should be involved in treating obesity, over half of all participants reported that physical education teachers, school nurses, school counselors, and teachers should be involved.

Table IV. Beliefs about youth obesity

	<i>M (SD)</i>	Agreement
Youth obesity is becoming more prevalent.	6.36 (1.28)	94.2%
Being normal weight is very important to the health of youth.	5.73 (1.39)	87.6
Youth obesity is a significant cause of peer rejection.	5.63 (1.33)	82.9
With proper guidance, most obese youth are able to lose significant amounts of weight.	5.09 (1.22)	73.3
With proper guidance, most obese youth who lose weight are able to maintain their weight loss.	4.86 (1.18)	66.7
Failure to lose weight in a weight loss program will likely reinforce youths' belief that there is little chance they can lose weight.	4.57 (1.57)	60.0
Bulimia and anorexia are more serious problems in the schools than obesity.	3.23 (1.50)	17.1
Most youth will outgrow their obesity.	2.64 (1.52)	11.9
Only youth who are likely to succeed in a weight loss program should be part of a treatment program.	2.08 (1.43)	7.7

Note. 1 = *strongly disagree* to 7 = *strongly agree*. Percent agreement reflects percentage of participants who chose response options 5, 6, or 7.

3.3.4. Role of Physical Education and Physical Education Teachers

Most of the participants, over 95%, strongly endorsed the belief that physical education teachers should be role models by maintaining a normal weight and that physical education classes should focus on life-long fitness activities (see Table VI). However, about half of the participants felt that lack of time and curricular issues are problematic when it comes to improving fitness and reducing weight problems. In addition, most participants felt competent in prescribing exercise programs for weight loss and found working with youth and parents on exercise programs for weight loss gratifying. Participants did not view working with youth and parents on weight issues as inconvenient.

4. Discussion

Weight bias and discrimination may be the last socially "accepted" prejudice, however, given the current state of overweight, obesity, and sedentary

Table V. Role of Schools

	<i>M (SD)</i>	Agreement
A comprehensive health curriculum that contains units on nutrition and weight control should be available in all schools.	6.46 (1.08)	95.2%
Special low calorie lunches should be available during lunch hours.	6.29 (1.26)	91.4
Schools are not doing enough to help alleviate youth obesity.	5.81 (1.29)	86.7
Weight control programs specifically for treating obese youth should be available in all schools.	5.78 (1.21)	82.7
The elimination of all 'junk food' machines from the schools should be required.	5.76 (1.66)	77.1
Schools would be an ideal place to prevent weight problems in youth.	4.49 (1.32)	83.8
Parents would not be supportive of schools becoming a place for the treatment of youth obesity.	3.58 (1.52)	24.8
What role should school personnel play in treating youth obesity? (1 = <i>no role</i> , 7 = <i>major role</i>)		
Physical education teacher	6.30 (0.90)	95.2%
School nurse	6.17 (0.96)	94.3
School counselor	5.58 (1.42)	76.2
School teacher	5.09 (1.41)	65.7

Note. 1 = *strongly disagree* to 7 = *strongly agree*. Percent agreement reflects percentage of participants who chose response options 5, 6, or 7.

lifestyle among youth, physical educators face a challenging task in promoting healthy weight attitudes and active lifestyles. A better understanding of physical educators' weight and antifat attitudes and how those attitudes may influence their expectations of students is essential if physical education programs are to be effective. The purposes of this study were to examine antifat attitudes among physical educators, performance and ability expectations for normal and overweight youth, and perceptions of the problem of youth obesity and the role of schools and physical education.

Consistent with previous research (Chambliss et al., 2004; Lewis et al., 1997), participants in this study endorsed moderate antifat attitudes and strong personal weight control beliefs. Crandall (1994) coined the phrase

Table VI. Role of physical education

	<i>M (SD)</i>	Agreement
Physical education classes with a focus on teaching life-long fitness should be provided to school youth.	6.63 (0.85)	98.1%
I believe that PE teachers should be role models by setting an example and maintaining normal weight.	6.34 (1.00)	97.1
I feel that I am competent in prescribing exercise programs for weight loss in youth.	5.49 (1.45)	79.0
Counseling youth and their parents on exercise programs for weight loss is professionally gratifying.	5.26 (1.34)	70.2
There is not enough time in physical education classes to help youth improve their physical fitness.	4.85 (2.11)	61.0
Most physical education classes are not designed to provide life-long habits of exercise patterns which would assist in weight control.	4.44 (1.74)	56.2
Physical education classes specifically for overweight youth should be available in every school.	4.29 (1.84)	61.0
Designing exercise programs for weight loss and counseling youth and their parents about such a program is difficult.	4.24 (1.81)	51.4
My college education did not adequately prepare me to design exercise programs to help youth reduce their weight.	3.69 (1.91)	39.4
Counseling youth and their parents on weight loss is inconvenient.	2.93 (1.59)	14.6

Note. 1 = *strongly disagree* to 7 = *strongly agree*. Percent agreement reflects percentage of participants who chose response options 5, 6, or 7.

“ideology of blame” to reflect the dominant social belief that individuals are responsible for their weight and any negative consequences that may be associated with their weight. This “ideology of blame” then places sole responsibility on fat individuals for their lot in life. The sample in this study, albeit small, is no different from other educated samples, including nurses and doctors, (Schwartz et al., 2003; Teachman & Brownell, 2001)

who also report moderate antifat attitudes and obesity bias. Antifat attitudes are concerning, not only among physical educators but all educators, because of the impact they can have on those in the stigmatized group (Ikeda, 1995; Loewy, 1998; Puhl & Brownell, 2001). Like other types of bias (i.e., gender bias, racial bias), weight bias is inappropriate, particularly in educational contexts.¹

Participants reported higher expectations for youth they considered normal weight, versus overweight, across a variety of performance and ability areas. This finding is concerning, given that previous research has demonstrated that teacher expectations can influence the quantity and quality of feedback and instruction, and subsequently, student performance (Martinek, 1997). Furthermore, antifat attitudes were related to performance and ability expectations. Participants with stronger antifat attitudes also indicated a stronger belief that normal weight youth would perform better than overweight youth, specifically on tasks requiring endurance, coordination, sport competence, physical abilities, reasoning abilities, and social interaction abilities. Thus, it seems that having negative attitudes about individuals perceived as fat is related to beliefs that normal weight youth are physically, cognitively, and socially superior to overweight youth. Given the relationship between antifat attitudes and expectations, it might also be the case that strong antifat attitudes negatively impact the efficacy of intervention programs designed to promote physical activity among overweight and obese youth.¹

Better understanding of physical educators' beliefs and attitudes about overweight and obese youth, and how those beliefs and attitudes influence teacher behaviors, may be essential in the implementation of appropriate and effective physical education programs. Given the results of this initial study, developing and implementing interventions to increase awareness of and reduce antifat attitudes seems a logical next step. Further, in looking toward the future of physical education, assessing pre-service physical educators' beliefs and attitudes is important. The professional development training context (i.e., college) may be an appropriate and effective environment in which to implement educational interventions. Educational interventions aimed at reducing obesity and weight bias geared toward pre-service physical educators may serve as a conduit in changing attitudes as well as future teaching behaviors. Additional research is needed to evaluate the effectiveness of such interventions.

In line with previous research (Hare et al., 2000; Price et al., 1990), participants overwhelmingly agreed that youth obesity is a concern. Teachers also felt that although the school setting is an ideal place for working with overweight youth, currently schools are not doing enough to help overweight youth. Physical educators see themselves playing an important role by being a positive role model and working with overweight youth and their parents on weight management strategies. Thus, physical educators,

at least those in the present study, not only see themselves as being in important positions for promoting physical activity for youth, but also have a desire to positively influence the physical activity levels of youth of all shapes and sizes.

Participants also reported that being overweight was a significant cause of peer rejection, which supports the findings of previous research (Hill & Silver, 1995; Kraig & Keel, 2001; Latner & Stunkard, 2003; Neumark-Sztainer et al., 1998). More information is needed to address the prevalence of weight-based peer rejection in physical education class settings, as well as how educators deal with such teasing. For example, one study found that children reported some physical education teachers ignored weight-based teasing and did not do anything to stop it (Fox & Edmunds, 2000). Given that physical education classes seem to be ripe with opportunities for weight stigmatization, research is needed to (a) evaluate how physical education teachers respond to weight-based peer teasing and rejection among their students, and (b) develop effective teacher strategies for creating weight-friendly physical education classes.

As with any study, there are several methodological and procedural limitations that must be recognized. Limitations of the study method and procedure include those inherent in self-report survey research and self-selection bias. Self-report data relies on participants' completing survey instruments honestly; however, there is always the possibility that participants may respond in manner to present themselves in a positive light. In an effort to reduce socially desirable responding, participants were informed that their responses would remain anonymous. Additionally, as with any research, volunteers were used as participants. Thus, it is important to keep in mind that the attitudes and perceptions of individuals who chose to participate may not reflect or be representative of individuals who did not participate. Finally, the return rate, 42%, was low. Clearly, the low return rate is problematic and must be taken into consideration by readers when interpreting the results of this study. As over half of the potential sample did not return surveys, we are unable to conclude that the responses of those who did complete useable surveys are reflective of the entire group. In an effort to improve the return rate, researchers sent out two complete survey packets, which included postage paid return envelopes.

5. Conclusions

Results from this study provide initial evidence that some physical education professionals have moderate antifat attitudes and lower performance expectations for overweight youth compared to normal weight youth. Additionally, antifat attitudes were related to performance and ability

expectations. Providing educational information and training to reduce anti-fat attitudes among physical educators and future physical educators may be a worthwhile effort. Specifically, such education and training might serve to enhance the effectiveness of programs intended to promote physical activity among overweight and obese youth. As numerous social advocates and researchers have suggested, school environments should be free from bias (Ikeda, 1995; Irwin et al., 2003; Jalongo, 1999; King & Hayes, 2003). Physical education professionals need to be aware of their own weight biases and prejudices and consider ways to create weight-friendly physical education classes so that youth of all body sizes and shapes can learn to value and enjoy physical activity.

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