

Attitudes of Overweight and Normal Weight Adults Regarding Exercise at a Health Club

Continuing Education Questionnaire available at www.sne.org/ Meets Learning Need Codes for RDs and DTRs 4000, 4060, 5370, and 6010.

Wayne C. Miller, PhD; Todd A. Miller, PhD

ABSTRACT

Objective: To compare attitudes of overweight (OW) and normal weight (NW) adults regarding health club exercise.

Design: A 46-item survey (23 pairs of attitude/value statements) measured attitudes toward exercising at a health club 30 minutes, twice a week, for a month.

Setting: Survey posted on surveymonkey.com. Respondents (men = 730, women = 822).

Main Outcome Measures: Attitudes toward exercise, exercise intent.

Analysis: *t* tests, Mann-Whitney rank sum, 2-way analysis of variance, Pearson rank correlations. Significance set at $P < .05$.

Results: More than NW, OW believe exercise improves appearance ($P < .001$) and self image ($P < .03$). OW feel more embarrassed and intimidated about exercising, exercising around young people, exercising around fit people, and about health club salespeople than NW ($P < .001$). OW and NW feel the same about exercising with the opposite sex, complicated exercise equipment, exercise boredom, and intention to exercise. Age rather than weight affects exercise intent. OW Caucasians (C) have less exercise intent than OW non-C. OW women are more embarrassed about exercising than NW women and OW men. The heavier the subject's weight, the lower his or her perception of health ($r = -0.53$, $P < .001$).

Conclusions and Implications: Increasing the OW person's positive beliefs while decreasing negative beliefs about health club exercise will improve his or her intent to exercise at a health club.

Key Words: behavioral intent, Theory of Planned Behavior, health clubs, exercise perceptions, obesity (*J Nutr Educ Behav.* 2010;42:2-9.)

INTRODUCTION

The health benefits of participation in regular exercise are well known. It is also well established that regular moderate- or vigorous-intensity exercise will lower the risks and symptoms associated with the comorbidities of obesity.^{1,2} Furthermore, exercise is the only factor that is consistently associated with reduced weight maintenance in the previously obese.³ On the other hand, although the health benefits of regular exercise have been well documented, only 15% of Americans get enough regular exercise to receive these health benefits,⁴ whereas

only 30% of those trying to lose weight meet the National Institutes of Health guidelines for exercise of 300 minutes/week and only 20% of those trying to lose weight meet the Institute of Medicine exercise recommendations of 420 minutes/week.¹

Thus, a paradox exists—an antidote for obesity and its comorbidities is exercise,⁵ but the majority of obese Americans do not exercise. The paradox becomes more interesting in light of the fact that the obese themselves recognize the importance of exercise for weight control, but they do not exercise. For example, Miller and Eggert found that 58% of overweight indi-

viduals reported that the reason they failed at past weight control attempts was that they discontinued exercise.⁶ Moreover, at the time of their study, only 29% of the overweight sample reported having exercised in the last 3 months, but 97% of this same sample indicated that they would be willing to exercise for 50 minutes/day, 5-6 days/week if accepted into a new weight loss program. This disconnect between past exercise behaviors and future promises to exercise remains elusive.

Another piece of the obesity/exercise paradox is the assumption that the benefits of exercise are tightly coupled to weight loss. This is an erroneous assumption in that there have been several studies showing a reduction in disease status or risk following an exercise program that did not induce weight loss.⁷ In addition, Blake et al have shown that adiposity does not hinder the fitness response to exercise training in the obese.⁸ Specifically, these investigators found that

Department of Exercise Science, The George Washington University Medical Center, Washington, DC

Address for correspondence: Wayne C. Miller, PhD, Department of Exercise Science, The George Washington University Medical Center, 817 23rd Street, N.W., Washington, DC 20052; Phone: (202) 994-2952; Fax: (202) 994-1420; E-mail: wcmiller@gwu.edu

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obese women who participated in a 14-week exercise program improved their aerobic fitness, muscular strength, muscular endurance, and flexibility to the same degree that normal-weight women did, in spite of the fact that the obese did not lose weight during the exercise program with no differences in exercise adherence or volume between groups.⁸

It seems clear, then, that the one of the most straightforward things that needs to be done to improve the health status of the overweight population is to get them to exercise. Previous work, however, has identified common barriers to regular exercise, some of which include a fear of being injured, an inability to monitor progress, and a lack of motivation, encouragement, support, companionship, and a safe exercise environment.^{9,10} In the hopes of helping overweight people overcome these barriers, the Centers for Disease Control (CDC) has published a list of exercise recommendations, including joining a YMCA or health club.

Membership in a commercial health and fitness club could potentially offer a host of benefits that would address some of the CDC's recommendations for overcoming barriers to exercise. For example, health clubs typically have educated personnel on staff who can assist clients with exercise program design, proper equipment use, nutrition information, and weight management advice. Health clubs also provide an environment for people to exercise with other people who have similar goals. Health clubs provide a comfortable place to exercise during inclement weather, and many clubs offer a tremendous number of amenities for their members. Health clubs offer a relatively safe exercise environment, in that the staff is typically certified in cardiopulmonary resuscitation and available to monitor clients to ensure they are exercising safely.

Despite the benefits that membership in a commercial health club offers, participation at health clubs in the United States is relatively low.¹¹ Overweight people, in particular, may find health clubs intimidating, cost prohibitive, inconvenient, non-accommodating, and so on.¹² Therefore, the purpose of this study was to

identify the attitudes of overweight men and women regarding regular exercise in a health club and compare these attitudes to those of normal weight individuals.

METHODS

Design

To gain insight into what affects an individual's decision to exercise at a health club, this study used a survey instrument based on Ajzen's Theory of Planned Behavior (TPB).¹³ Briefly, the TPB proposes that human action is guided by (1) one's attitude toward the behavior in question, (2) the perceived social pressure (subjective norm) to perform the behavior, and (3) the ease or difficulty with which one can actually perform the behavior (perceived control). The combination of attitude, subjective norm, and perceived control leads to the formation of an intention to perform or not to perform a given behavior. Generally, favorable attitudes and positive subjective norms, in combination with a high level of perceived control, lead to a greater likelihood of actually performing the behavior.¹⁴ A critical factor, then, in guiding the overweight person's intent to exercise in a health club is attitude.

The questionnaire used for this study was developed following a format suggested by Azjen and Fishbein¹⁵ and Francis et al,¹⁴ applying the attitude constructs of the TPB to exercising in a health club setting.^{15,16} Information elicited from an in-depth, qualitative focus group study conducted by Brooks regarding the attitudes and beliefs of American adults about health clubs and the health club environment,¹⁷ as well as market data from the International Health, Racquet, and Sportsclub Association,¹¹ provided the foundation for constructing the items for this survey. As recommended, relevant attributes and outcomes and significant social referents were identified from the information compiled in Brooks and the International Health, Racquet, and Sportsclub Association and used to tailor the TPB measures of the questionnaire specifically in relation to attitudes about exercising in a health club setting.¹⁶

In the current study, a health club was defined as any commercial exercise facility. Although health clubs may vary in their approach and programs, the main study objective was to differentiate between home exercise and exercise at a commercial facility. Thus, this study dealt with one portion of that dichotomy, exercise at a commercial exercise facility (health club). Questionnaire items relating to the attitude constructs of the TPB as well as behavioral intention were measured.

Subjects

Study participants were men and women recruited anonymously via distribution of an on-line survey. Subjects were recruited through the assistance of Luth Research, LLC (San Diego, CA), an on-line marketing research company. Luth Research follows the standards of the Council of American Survey Research Organization (CASRO), the American Marketing Association, and the ESOMAR International Marketing Codes and Guidelines for market survey research. Luth Research keeps an on-line research panel of over 2.5 million households, representing the demographics of the US census. The study sample was randomly selected from a filtered group of qualified respondents, based on the study inclusion criteria. Participants were sent a personally encrypted link to the study. Data integrity was maintained by a multilevel check system that included daily monitoring of survey activities so that suspicious responses, gamblers, cheaters, and disengaged respondents were removed from the database.¹⁸

Other than being a minor, there were no specific exclusion criteria for participation in the study. Therefore, subjects under the age of 18 were eliminated from the potential recruitment database. All subjects completed an informed consent form in compliance with guidelines set forth by the Institutional Review Board. Subjects were also asked to indicate their age, race/ethnicity, income level, weight and height, and self-perceived general health status (fair, poor, good, very good, excellent). Age was subsequently categorized into 3 groups;

under 35 years, 35 to 60 years, and over 60 years. The International Health, Racquet, and Sportsclub Association has found a distinct market separation among these 3 age groups, with similar marketability within each individual age group.¹¹ Weight and height were used to calculate the subjects' body mass index (BMI), which was categorized into the following: underweight/normal (BMI < 25), overweight (BMI 25 to 29.9), and obese (BMI ≥ 30). A subject's failure to answer a question or complete a field on the questionnaire resulted in an "empty" cell in the data spreadsheet. Empty cells were not included in the data analysis, meaning that the data analysis and interpretation were adjusted to the number of responses per field. The recruitment goal for the study was to obtain 1500 ± 3% completed questionnaires. Once that target was met, recruitment for the study ceased.

Questionnaire Constructs

For the measure of attitude, participants were presented with the stem "If I were to exercise at a health club at least twice per week for 30 minutes, for the next month..." followed by 23 pairs of attitude/value statements (Table 1). Unipolar 5-point scales for attitude (1 = Disagree a lot to 5 = Agree a lot) and the associated value statements (1 = Very bad to 5 = Very good) were converted to bipolar (-2 to +2) scales prior to analysis. Attitude scores for each respondent were calculated by averaging the product of the attitude statement score and its associated value statement score for the 23 items, resulting in a possible score in the range of -4 to +4. One's intent to exercise at a health club for 30 minutes at least twice a week for the next month was evaluated with the same unipolar, 5-point scale as used for attitude items.

Statistical Analyses

Data were analyzed using the SigmaStat software program (version 3.5, SigmaStat Software, Inc., Point Richmond, CA, 2006). Demographic data and group scores are reported as mean ± standard error of the mean (SEM). A preliminary analysis was per-

Table 1. Attitude and Value Statements for Assessing Individual Attitudes Toward Exercising in a Health Club

If I were to exercise at a health club, at least twice per week for 30 minutes, for the next month...

- 1A – It would result in my exercising around people who are much older than me.
- 1V – Exercising around people who are much older than me is ...
- 2A – It would improve my overall health.
- 2V – Improving my overall health is ...
- 3A – It would result in my feeling embarrassed.
- 3V – My feeling embarrassed is ...
- 4A – It would help improve my appearance.
- 4V – Improving my appearance is ...
- 5A – It would cause me to feel like I'm wasting my money.
- 5V – Feeling like I'm wasting money is ...
- 6A – It would result in my having to exercise around the club's personal trainers.
- 6V – Having to exercise around the club's personal trainers is ...
- 7A – It would help improve my self-image.
- 7V – Improving my self-image is ...
- 8A – It would be boring.
- 8V – Being bored is ...
- 9A – It would result in my having to exercise around people who are much younger than me.
- 9V – Having to exercise around people who are much younger than me is ...
- 10A – It would interfere with my other priorities.
- 10V – Interfering with my other priorities is...
- 11A – It would result in my exercising around people who are very unfit.
- 11V – Exercising around people who are very unfit is ...
- 12A – It would be intimidating.
- 12V – Being intimidated is ...
- 13A – It would result in my having fun.
- 13V – Having fun is ...
- 14A – It would result in my having to exercise around people of the opposite sex.
- 14V – Exercising around people of the opposite sex is ...
- 15A – It would result in my exercising around people who are about the same fitness level as me.
- 15V – Exercising around people who are about the same fitness as me is ...
- 16A – It would expose me to a "singles club" atmosphere.
- 16V – Being exposed to a singles club atmosphere is ...
- 17A – It would require me to purchase trendy exercise clothes.
- 17V – Having to purchase trendy exercise clothes is ...
- 18A – It would be a good opportunity to meet new people.
- 18V – Meeting new people is ...
- 19A – It would interfere with my time spent watching TV.
- 19V – Interfering with my time spent watching TV is...
- 20A – It would expose me to pushy sales people.
- 20V – Being exposed to pushy sales people is ...
- 21A – It would be a good opportunity to socialize.
- 21V – Having the opportunity to socialize is ...
- 22A – It would expose me to complicated exercise equipment.
- 22V – Being exposed to complicated exercise equipment is ...
- 23A – It would result in my exercising around people who are very fit.
- 23V – Exercising around people who are very fit is ...
- 24 – I intend to exercise at a health club at least twice per week for 30 minutes for the next month.

A indicates attitude statement; V, value statement.

formed to determine if there were group differences between individuals classified as overweight (OW; BMI 25-29.9) and those classified as obese (BMI \geq 30). No significant differences were found between the OW and obese for attitude scores, exercise intent, and health club membership. Thus, the OW and obese subgroups were combined into 1 OW group, and the entire sample population was dichotomized into 2 groups, OW and normal weight (NW). Comparisons between the OW and NW groups were performed with a Student's *t* test. However, in many situations the group data were either not normally distributed or had unequal variances, so a Mann-Whitney rank sum test was used to compare the 2 groups. A 2-way analysis of variance (ANOVA) was used to compare group data for more than 1 group (ie, subanalyses), with the Holm-Sidak post-hoc test for multiple comparisons used if a significant group difference was found. The Pearson Product Moment Correlation was used to determine the strength of the relationship between 2 variables when the data were normally distributed, whereas the Spearman Rank Order Correlation was used when residuals were not normally distributed with a constant variance. Internal consistency and reliability of the questionnaire were measured using Cronbach α . Attitude scale scores were analyzed for the entire sample. The correlation coefficient for the Cronbach α was 0.80. Significance for all statistical analyses was set at the level $P < .05$.

RESULTS

A total of 730 men and 822 women ($n = 1,552$) completed questionnaires (Table 2). Of these respondents, 64% were OW and 36% NW; 90% were Caucasian and 10% non-Caucasian; and 26% of the sample was younger than 35 years, 47% between 35 and 60 years, and 27% over 60 years of age. Eighteen percent of the sample attended a health club, whereas 82% did not; and more of those under 35 years of age attended (31%) than above the age of 35 (14%, $P < .001$). Fewer OW individuals (16%) attended a health club than NW (22%, $P < .004$).

Table 2. Sample Demographics of Respondents to On-line Survey ($n = 1,552$)^a

Variable	Overweight	Normal Weight
<i>Gender</i>		
Male	509 (33)	221 (14)
Female	480 (31)	342 (22)
Total	989 (64)	563 (36)
<i>Age (y)</i>		
\leq 35	182 (12)	213 (14)
35-60	494 (32)	236 (15)
> 60	313 (20)	114 (7)
<i>Race</i>		
Caucasian	906 (58)	495 (32)
Non-Caucasian	83 (6)	68 (4)
<i>Annual income</i>		
< \$25,000	206 (13)	106 (7)
\$25,000-50,000	354 (23)	187 (12)
\$50,000-75,000	210 (13)	113 (7)
\$75,000-100,000	117 (8)	72 (5)
> \$100,000	102 (7)	85 (5)
<i>Current club member</i>	158 (16)	123 (22)

y indicates years.
^aNumbers represent the number in the sample with the percentage of the entire sample in parentheses.

Group comparison results for Attitude scores and Exercise Intent scores are shown in Table 3. There was no significant difference between OW and NW adults in their overall attitude about exercising at a health club for 30 minutes, twice a week, for the next month. Similarly, no significant difference was found in overall attitude of men versus women or among any of the age groups toward exercising in a health club. Income level did not affect attitude scores for either the OW or the NW. However, with regard to race, non-Caucasians had a better attitude about exercising in a club than did Caucasians. There was a strong correlation between subjects' attitude toward club exercise and exercise intent ($r = 0.66$, $P < .001$), subjects' overall perception of their health and appearance ($r = 0.75$, $P < .001$), and subjects' overall perception of their health and self-image ($r = 0.66$, $P < .001$). Weight status (BMI) was negatively associated with subjects' perception of their health ($r = -0.53$, $P < .001$).

DISCUSSION

No study has yet identified which attitudes determine the overweight per-

son's intent to exercise, much less at a health club, although a few studies have measured overall attitude and intent toward exercise in an attempt to validate the usefulness of a certain theory of behavior for understanding exercise intent.¹⁹⁻²² Indeed, Boudreau and Godin have shown that the TPB is an appropriate model for understanding the determinants of motivation to be physically active in obese individuals.²⁰ However, only 92 subjects participated in their study, there was no comparison between attitudes of OW and NW individuals, and specific attitudes toward exercise were not identified. Nonetheless, the authors found a positive correlation between exercise intention and attitude ($r = 0.65$, $P < .01$), whereas no significant correlation existed between BMI and exercise intent ($r = 0.14$, $P > .05$). We also found a significant correlation ($P < .001$) between exercise attitude and intent for both the OW ($r = 0.66$) and the NW ($r = 0.64$), with a weak association between BMI and exercise attitude ($r = -0.07$) and intent ($r = -0.04$).

One of the most noteworthy findings of this study was that OW and NW subjects did not differ in their overall attitude toward exercising at a health club. This similarity in overall

Table 3. Group Comparisons of Exercise Attitude Scores and Exercise Intent

Attitude Scale #	Interpretation of significant group and subgroup attitude scale score differences
1 ^{b,c,d}	^b OW over 60 have a worse attitude about exercising around older people than do any NW age or do younger OW. ^c Caucasians have a more negative attitude about exercising around older people than do non-Caucasians. ^d OW men are more comfortable exercising around older people than are OW women.
2 ^d	^d Women think exercise will improve their health more than men do.
3 ^{a,b,c,d}	^a OW have a worse attitude about being embarrassed when exercising than do NW. ^b OW and NW over 60 are more embarrassed about exercising than are those 60 or less. ^c Caucasians feel more embarrassed exercising than do non-Caucasians. ^d OW men are less embarrassed exercising than are OW women.
4 ^{a,b}	^a OW have a stronger attitude about exercise improving their health than do NW. ^b OW and NW under 60 feel exercise will improve their appearance more than do those over 60.
5 ^{b,d}	^b OW over 60 think exercising is a waste of money more than do OW under 60, but OW under 35 think it is worth the money more than do NW under 35. ^d Men think exercising is a waste of money more than women do.
6 ^d	^d NW men feel more comfortable exercising around a personal trainer than do NW women and than do OW men.
7 ^{a,b,c,d}	^a OW think exercise will improve their self-image more than do NW. ^b OW and NW under 60 think exercise will improve their self-image more than do those over 60, and within the OW group, those under 35 think exercise will improve their self-image more than do those aged 35–60 or do those over 60. ^c Non-Caucasians think exercise will improve their self-image more than Caucasians do, and the OW non-Caucasians more than NW non-Caucasians. ^d Women feel exercise will improve their self-image more than men do.
8 ^c	^c Caucasians think exercise is more boring than do non-Caucasians, but the NW non-Caucasians think exercise is more boring than do the OW non-Caucasians.
9 ^{a,b}	^a OW feel more negative about exercising around younger people than do NW. ^b OW under 35 feel more negative about exercising around younger people than do NW under 35.
10 ^c	^c Caucasians think exercise will interfere with their priorities more than non-Caucasians do.
11	N.S.
12 ^{a,d}	^a OW feel more intimidated by exercise than do NW. ^d OW women find exercise more intimidating than do OW men.
13 ^{a,b}	^a OW think exercise would be less fun than do NW. ^b OW and NW under 35 y find exercise more fun than do those over 35.
14 ^d	^d Men feel more comfortable exercising around the opposite sex than do women, and NW women feel more comfortable than do OW women.
15 ^c	^c NW non-Caucasians feel less comfortable exercising around someone of their own fitness level than do OW non-Caucasians.
16	NS
17 ^d	^d Women feel more pressure to purchase trendy exercise clothes than do men.
18 ^{b,c}	^b OW over 60 have a better attitude about meeting new people while exercising than do OW under 60. ^c OW non-Caucasians feel better about meeting new people while exercising than do NW non-Caucasians.
19	NS
20 ^a	^a OW have a more negative attitude about club salespeople than do NW.
21 ^c	^c OW non-Caucasians find exercise a good opportunity to socialize more than do OW Caucasians and NW non-Caucasians.
22 ^{c,d}	^c OW non-Caucasians feel better about being exposed to complicated exercise equipment than do OW Caucasians. ^d NW men feel more comfortable being exposed to complicated exercise equipment than do NW women.
23 ^{a,d}	^a OW feel less comfortable exercising around fit people than do NW. ^d OW men are more comfortable exercising around fit people than are OW women.
Overall Score ^c	^c Non-Caucasians have a better overall attitude about exercising than do Caucasians.
24 ^{b,c} Intent	^b OW and NW under 35 have a greater intent to exercise than do those 35–60 and those over 60. ^c OW non-Caucasians have a greater intent to exercise than do OW Caucasians.

NS indicates no significant group subgroup differences found; NW, normal weight; OW, overweight.

^aSignificant group difference by weight status (OW vs. NW); ^bSignificant subgroup difference: weight status (OW and NW) subgrouped by age (<35 y, 35 to 60 y, >60 y); ^cSignificant subgroup difference: weight status (OW and NW) subgrouped by race (Caucasian vs. non-Caucasian); ^dSignificant subgroup difference: weight status (OW and NW) subgrouped by gender.

Note: See Table 1 for Attitude/Value Statements.

The terms “exercise and exercising” denote “exercise or exercising in a health club for 30 minutes, twice a week, for the next month.”

attitude of the OW and NW to club exercise is somewhat surprising, in that it is often assumed that OW people do not exercise as much as NW people because the 2 groups have different attitudes about exercise. It must be remembered, however, that this study focused on exercise at a health club, and that attitudes about exercise as a whole, or about exercising in other environments than a health club may be different between the OW and NW.

It was also noteworthy to find that as a whole, OW adults are not different from NW adults in their attitude about exercising around the opposite sex and in their attitude about being exposed to complicated exercise equipment. However, when the genders were analyzed separately, OW women were less comfortable exercising around the opposite sex than NW women. This finding is what marketing in the fitness industry has shown. Curves, a women-only fitness and weight loss center that was founded only 15 years ago, has grown to be the largest fitness franchise worldwide, with over 10,000 locations.²³

Although the overall attitude toward exercising at a health club was similar between the OW and NW respondents, many of the attitudes toward specific aspects of exercising in a health club were different between the groups. As may be expected, the OW men and women respondents are more embarrassed when exercising than are the NW men and women respondents, but the OW subjects felt more positive about exercise improving their health and self-image than the NW subjects. Also, as expected, the OW people in this study are more intimidated by club exercise, find club exercise less fun, and find exercising around young and fit people more uncomfortable than do the NW people studied. These differences between OW and NW in attitude toward health club exercise center around uneasy feelings associated with the exercise environment. It may be that the negative emotions associated with health club exercise override the knowledge that exercise is healthful and thus keep the OW person in a sedentary lifestyle. Indeed, it has been proposed that nonparticipatory behaviors regarding exercise are governed by the individual's emo-

tional being, even though the intellectual being appraises the cost-to-benefit ratio in favor of exercise participation.²⁴ In other words, for the OW sedentary person, the negative emotions associated with health club exercise are stronger in controlling the behavior than the intellectual facts.

Age has a significant effect on one's attitude toward exercise at a health club. Both OW and NW adults under 60 years of age feel exercise will improve their appearance and their self-image more than those 60 or older, whereas those under 35 have more fun exercising than those 35 or older. The younger the OW individual, the more he or she thinks exercise will improve self-image. All of these age-related differences in attitude suggest that younger individuals, regardless of weight status, view health club exercise differently than do older individuals. The younger individual may be seeking self-improvement and development to present himself or herself better to others, whereas the older person may be seeking something else, such as social interaction or health improvement, because he/she is already comfortable with how he/she relates to others but is more concerned about chronic disease. Regardless of weight, those under 35 have a greater intent to exercise at a club than those 35 or older. This finding parallels the exercise prevalence data. According to the National Center for Health Statistics, 53% of those over 65 or older are inactive compared to only 36% for those 25-44.²⁵

The greatest differences found among any of the subgroups studied were those found between the Caucasians and the non-Caucasians. Overall attitude scores toward exercise were higher in non-Caucasians than Caucasians, and this attitude is probably what drove a higher ratio of the non-Caucasians than Caucasians to declare that they intended to exercise at a health club. These results are interesting, because the exercise prevalence data show that Hispanics, African Americans, and American Indians are much less active than Caucasians.²⁵ So, although attitudes and intent toward club exercise are higher in non-Caucasians than Caucasians, the non-Caucasians are either not following through with their intent to

exercise, or at least not maintaining their exercise activities once initiated.

Data from Glass et al shed some light on this irony.²⁶ They found that although African-American women use the same weight control methods and respond the same physiologically to exercise as Caucasians, African Americans who have an exercise program drop out at a rate twice that of Caucasians. Others have found that African American women stop exercising during the summer because they do not like to perspire.²⁷ Older Hispanics have a fear of exercise and feel that exercise is inappropriate for them,²⁸ whereas younger Hispanic women, who look favorably on exercise, report that family attitudes, family commitments, and lack of social support discourage them from exercising.²⁹ Thus, although attitudes and intent toward health club exercise are higher in non-Caucasians than Caucasians, the barriers to exercise participation must be less debilitating for the Caucasians.

It is possible that the racial difference in intent to exercise at a health club was related to the respondent's pre-existing exercise routine. Unfortunately, this study did not collect any data related to pre-existing exercise behaviors. However, the study did examine the relationship between health club exercise intent and being a current member of a health club. The fact that 22% of the non-Caucasians held health club memberships, compared to 17% of Caucasians may suggest that the higher intent to exercise at a health club for non-Caucasians was influenced by their greater prevalence of health club membership. On the other hand, the correlation coefficient for the relationship between current health club membership and intent to exercise at a health club was lower for non-Caucasians than for Caucasians ($r = 0.51$ and 0.61 , respectively). This finding contradicts the notion that the greater non-Caucasian exercise intent was governed by current health club membership. Thus, the source of difference in exercise intent between the races cannot be determined at this time. Moreover, we recognize that the number of non-Caucasian participants was relatively small, and that conclusions regarding race differences should be viewed with caution.

The poorer attitude about exercising in a health club for the Caucasians is primarily rooted in emotional issues around exercise. Compared to non-Caucasians, Caucasians are more negative about exercising around older people, more embarrassed about exercise, more bored with exercise, and feel exercise interferes with other priorities and that exercise does not help their self-image. Emotional issues around health club exercise were further drawn out in subgroup analysis when OW Caucasians were compared to OW non-Caucasians. OW non-Caucasians feel better about meeting new people when exercising, socializing when exercising, and being exposed to complicated exercise equipment than OW Caucasians.

There were also several differences in attitudes toward exercise between the genders. OW men had better attitudes than OW women for exercising around older people, for being embarrassed when exercising, for being intimidated by exercise, for exercising around the opposite sex, and for exercising around fit people. On the other hand, women believed more than men that exercise would help their health and self-image. These gender differences in exercise attitudes center on emotional distress surrounding health club exercise for women. OW women who feel embarrassed and intimidated by exercise and uncomfortable exercising around people who are different from themselves are presented with a barrier to health club exercise that is not as prevalent for OW men: emotional distress. Thus, OW men feel more comfortable exercising in a health club than OW women because of the lower emotional distress they feel when exercising in the health club environment.

Most studies have evaluated attitude in an attempt to predict exercise intent or exercise behavior, or to show that attitude is a viable construct within a specific behavioral theory, without trying to understand which attitudes shape one's perception of exercise and how these attitudes may differ between the OW and NW.²⁰⁻²² This current study has identified several attitudinal similarities and differences between the NW and OW. Most notably are that overall attitude about health club exercise is the same for OW and NW individuals

and there is no correlation between general attitude and exercise intent, but that different attitudes about health club exercise for certain subpopulations do exist.

Common negative attitudes about health club exercise for OW men and women, women as compared to men, and Caucasians fall into distinct categories. These categories are delineated by how the individual relates to others and to self in the exercise setting. Negative attitudes related to exercise at a health club that center on how the individual relates to others include: feeling uncomfortable around the opposite sex, feeling uncomfortable around younger and older people, feeling uncomfortable around more fit people, feeling uncomfortable about meeting new people, and feeling uncomfortable about socializing at the health club. Negative attitudes about exercise that are related to self include being embarrassed exercising, being bored with exercise, and feeling intimidated with exercise and exercise equipment. Common positive attitudes about exercise centered solely on self, regardless of the subgroup analyzed. These attitudes included perceptions on how exercise would improve one's self-image, appearance, and/or health. Again, it must be remembered that the attitudes toward exercise described in this study relate only to exercise at a health club.

IMPLICATIONS FOR RESEARCH AND PRACTICE

Many subgroup differences in attitudes toward health club exercise were identified by this study. Since the number of non-Caucasians participating in this study was relatively small, more research to discover the attitudes of different races, ethnicities, and cultures toward health club exercise should be performed. Additional research should be conducted on individuals who were outside the reach of the current study (eg, those who declined participation or who were inaccessible). Future research should also focus on designing interventions or implementing ways to change negative attitudes toward health club exercise, and evaluating their effectiveness

in enhancing health club exercise participation.

The behavior theories that propose that attitude drives the intent to exercise describe attitude as an evaluation of positive versus negative. If this is the case, then, it is important to minimize the negative and maximize the positive in order to promote the desired behavior. Thus, it would be wise for exercise professionals and commercial health clubs to help OW people feel more comfortable around those who are different from themselves and to minimize the intimidating aspects of the exercise environment, while promoting the benefits of exercise to personal health and well-being.

This research revealed that the global attitudes of OW and NW adults regarding health club exercise are similar, but that OW and NW adults differ in their attitudes toward specific aspects of exercising in a health club. In general, the negative attitudes toward health club exercise were formulated by the immediate environment. Major attitudinal barriers to health club exercise for the OW were intimidation at the health club, embarrassment during exercise, and exercising around people different from themselves. These barriers can be overcome, to some extent, by helping the OW person feel more comfortable in the health club environment. For example, daily exercise anxiety may be reduced by having a protocol, wherein upon entry into the facility, the OW person is greeted by a staff member and escorted to where he/she will be exercising (whether or not he/she will be working with a personal trainer). Adopting and promoting a Health at Every Size philosophy within the health club will help the OW individual feel more comfortable exercising around people who are more fit, younger, and slimmer because less focus will be placed on obtaining a certain body size, shape, or weight.^{30,31} Strategies for helping non-Caucasians follow through with their exercise intent should include the development of viable social support systems that maintain cultural respect, but override cultural myths about exercise.

Regardless of which subset of the OW population is the target for increasing health club exercise, the

ultimate goal is to increase the number of positive beliefs the individual has concerning exercising in a health club. It is assumed that only beliefs that are readily accessible in memory influence attitude at a given moment, and that chronically accessible beliefs provide the foundation for current, relatively strong attitudes.³² Since strong attitudes that predict behavior are somewhat resistant to persuasion and relatively stable over time, any attempt to change attitudes toward health club exercise should be employed repeatedly, over a prolonged period of time. Furthermore, the coexistence of positive and negative beliefs toward health club exercise causes ambivalence. Ambivalence increases as a function of the number of conflicting beliefs toward the behavior, and decreases with the number of dominant reactions to the behavior (positive or negative).³² Accordingly, individual beliefs about health club exercise should be evaluated for each new client. If a plan to increase the positive beliefs and reverse the negative beliefs is constructed and followed, the likelihood of retention of that client will be augmented.

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