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**The Effect of Implementing a Weight Loss Program on Participant Attendance, Club
Usage, and Gym Membership Attrition**

by

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A plan B report in partial fulfillment of the requirements for the degree

of

MASTER OF DIETETICS ADMINISTRATION

in

Nutrition, Dietetics and Food Sciences

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2013

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ABSTRACT

The purpose of this research study was to evaluate the effect of a weight loss program on individual participant attendance, total club usage and membership attrition. This retrospective study involved a fitness gym located in Utah County, Utah with a total membership of 1,100. The number of clients participating in the weight loss program between December 2011 and May 2012 was 36 (32 females and 4 males). A total of 11 clients were analyzed for the individual attendance data as this analysis was limited to only those clients who were gym members one year prior to the implementation of the program. A comprehensive weight loss program was implemented in the gym between December 2011 and May 2012. Six months of participant attendance, total club usage, and gym attrition data was gathered before and after implementation of the program. The average monthly attendance before the program implementation was 7.0 ± 7.93 visits, while the average monthly attendance after the program implementation was 16.3 ± 11.47 visits (an increase of 132%). This suggests that implementing a weight loss program in a gym can increase individual participant attendance. Club usage decreased and attrition increased after implementing the weight loss program, however, the changes were not statistically significant ($P \geq 0.05$).

Key Words: Weight loss, attrition, health club, gym attendance

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LIST OF ACRONYMS

BMI	Body Mass Index
IHRSA	International Health, Racquet & Sportsclub Association
NASM	National Academy of Sports Medicine
NHLBI	National Heart, Lung, and Blood Institute
NWCR	National Weight Control Registry
RD	Registered Dietitian

CHAPTER I

INTRODUCTION

Statement of Problem

Owning a fitness center or health club is an enticing business opportunity for many business owners or aspiring owners. But, as with all businesses, owning a gym comes with its own unique risks and challenges. The two challenges this study will be focusing on include: 1) maintaining a client base defined as total club usage and membership attrition, and 2) increasing individual member attendance.

According to the International Health, Racquet & Sportsclub Association (IHRSA), a research organization with a global membership base of over 10,000 club and fitness businesses, 16 percent of the American population belonged to a health club at the end of the year 2011 (1). Health club membership has increased more than 10 percent over the past three years to over 50.2 million members; however health clubs are still facing a low attendance rate of 27 percent as well as a large attrition rate of 35 to 40 percent each year. For a large gym (25,000 square feet) with an average of 3,000 annual members, a gym must spend significant time and money to replace the 1,000 to 1,200 people annually who do not renew their membership (2).

High attrition rates contribute to another common problem in health clubs: low or inconsistent total gym revenue. Health clubs may get a surge of new memberships, but with a 35 to 40 percent attrition rate the gym revenue can quickly decrease. The

gym included in this study had a large percentage of 20 to 25 percent new member signups occur in the month of January, with the lowest month of five percent member signups between the months of June and July. This seasonal membership trend leads to seasonal cash flow with revenue peaks in the first quarter of each year; however, expenses remain fairly steady for health clubs throughout the year. As a consequence, some business owners are forced to take out a line of credit to keep positive cash flow (3).

Between October 25, 2011 and November 25, 2011, the gym included in this study reported having 1,117 active members. The gym also reported 684 cancelled or inactive members during the same month time frame. The attrition rate for this gym during that time period was 61.2 percent, which adds up to approximately \$27,344 in lost revenue per month. Lost revenue can lead to increased membership fees, lower employee wages, higher employee turnover, and can even force the gym out of business if revenues drop too low. Helping members see better and quicker results could improve member satisfaction and motivation, and in turn may decrease attrition numbers and increase gym revenue (4-5).

One explanation for member attrition and loss of revenue is result driven retention. A common complaint heard from nutrition and exercise professionals in fitness gyms is that, as a general rule, people do not reach their health and fitness goals in the time frame that one might expect if they were to follow their trainer's recommendations (6). This can be extremely frustrating not only for the professional, but especially for the client. In a gym setting, clients invest a significant sum of time and

money into the gym membership and personal training fees. The clients make this investment with the hope that the exercise will be enough change in their lives to reach their fitness goals in a reasonable amount of time. When gym members do not see the results they want, the likelihood of renewing their gym membership or personal training contract decreases, which can lead to decreased memberships and decreased gym revenue.

Research Objectives

The purpose of this research study was to evaluate the effect of a weight loss program on individual participant attendance and overall club member usage and attrition. It was hypothesized that implementing a weight loss program in the gym will significantly increase individual participant attendance and club member usage and decrease membership attrition. It is hopeful that the results of this study will help gym owners implement future member based programs to improve member attendance and decrease membership attrition.

LITERATURE REVIEW

Weight loss is a widely researched and published topic in academic journals, especially when looking at the impact of nutrition and exercise on weight loss (7-20).

However, many of the weight loss clinical trials have been limited by considerable dropout rates and high attrition. For that reason, research has been conducted on general predictors of attrition in weight loss interventions (21-22). Additional studies have looked at behavior and attrition in varying weight loss groups, including programs using attendance monitoring and program incentives (5, 23-24).

Nutrition and Weight Loss

Multiple studies have been conducted on the effect of professional nutritional and lifestyle counseling on weight loss (10-12). One study conducted a meta-analysis on sixty-eight controlled studies to determine the effectiveness of interventions to promote healthy weight in general populations of children and adults (10). The meta-analysis concluded that interventions that included general health and nutrition education resulted in participants achieving a lower reduction in weight (0.1kg/m²) and body fat (-1.22%) compared to other interventions without education. Another study was a randomized controlled trial that analyzed the impact of comprehensive nutrition and lifestyle education on weight loss and physical activity in subjects who underwent surgical methods for weight loss (11). Participants were assigned to a comprehensive education group where they met in small education groups with a dietitian or a non-comprehensive group receiving only printed materials. The study found that the comprehensive education group participants lost 80 percent of their excess body weight

compared to the control group who lost 64 percent of their excess body weight.

Overall, the studies suggest that professional nutritional counseling, especially in-person counseling, achieves greater weight loss results compared to self-directed weight loss programs (10-11).

Exercise and Weight Loss

The effect of exercise on weight loss has been widely studied over the years. Excess body weight is generally a result of energy imbalance where energy expenditure is less than energy intake. It is believed that weight loss can be achieved through reversing this positive energy balance and creating an energy deficit. Exercise enhances energy expenditure and will result in weight loss if energy intake is not equally increased (13).

An early study conducted by Hagan et al. (14) looked at the weight loss effects of 12 weeks of diet plus exercise, diet alone, and exercise alone in males and females. The reported weight loss percentage results for diet plus exercise, diet alone, and exercise were respectively 11.4 percent, 8.4 percent, and 0.3 percent for males (14). A similar pattern was seen for females with weight losses of 7.5 percent, 5.5 percent, and 0.6 percent. These results confirmed the clinical guidelines developed by the National Heart, Lung, and Blood Institute (NHLBI), which suggest that exercise may enhance weight loss but is more effective if paired with a reduced calorie diet (15).

Several other studies have duplicated the results of the Hagan et al. study (14) on the effect of exercise on weight loss compared to exercise plus decreased energy intake (13, 16). One of these studies gathered data from 104 subjects who completed an 18 month behavioral weight loss program (16). The subjects were prescribed a reduced energy and fat diet along with a progressive exercise program. The study found that physical activity significantly increased weight loss after the dietary modifications were considered in the analysis. However, the results suggest that dietary modifications have a greater impact on weight loss than changes in physical activity.

The National Weight Control Registry (NWCR), established in 1994, is the largest prospective study of successful long-term weight loss maintenance (17). The NWCR contains data for over 10,000 individuals who have lost a significant amount of weight (average of 66 pounds) and maintained the weight loss for an extended period of time (average of 5.5 years). To lose the initial weight, 98 percent of participants reported that they modified their food intake and 94 percent reported that they increased their physical activity. Most participants reported that they kept their weight off by maintaining a low calorie, low fat diet and participating in high levels of activity. On average, 90 percent of participants exercised about one hour per day to maintain their weight loss (17). This data demonstrates that many individuals who maintain significant long-term weight loss were successful when they combined nutrition and exercise interventions. The results of the registry data (17) and the other nutrition and exercise studies (16, 17) provided strong evidence that the design of the weight loss program for this study needed to include both dietary and exercise interventions.

One specific aspect of exercise interventions that has been studied is the impact of exercising in groups (group exercise) on health clubs. Industry figures suggest that health clubs encounter the highest levels of retention with group exercise participants (18). A benchmark survey was conducted that looked at the figures related to group fitness in 1,200 health clubs (19). The survey found that nearly 40 percent of gym members cite group exercise as the biggest influence on how long a person stays a member of a club. Sixty percent of people rate group exercise as the most important factor for choosing to join a health club. On average, group exercise member retention rates are higher than other individual member retention rates, and satisfied group exercise members refer people three times more than other club members (18, 19). In addition to increased retention and referrals, industry figures also suggest that group exercise increases membership attendance, with group exercisers attending the gym an average of 3 times per week compared to the average member who only attends 1.7 times per week (20). Based on the strong evidence that these industry figures provide for the retention and attendance benefits of group exercise classes, the exercise portion of the weight loss program in this study was designed to provide group training as opposed to individual training.

Predictors of Attrition

Several studies have been conducted to research the general predictors of attrition in weight loss interventions (21, 22). One study published in the Journal of

Behavior Research and Therapy assessed outcomes of attrition and weight loss success in 224 obese adults who participated in various weight loss programs (21). The predictors that were looked at included baseline characteristics (demographic, weight-related, psychological, and consumption-related variables) and behavior variables (attendance, adherence, and weight loss in the early weeks of treatment). The results of the study suggest that younger age and greater baseline depressive symptoms are related to higher attrition. Greater amounts of weight loss early in the programs slightly reduced the odds of attrition, suggesting that early success may be a factor for human motivation and retention (21).

Another study completed a systematic review of the literature for predictors of dropout in weight loss interventions (22). The study suggests that attrition is neither consistently reported nor fully explored in the weight loss literature. Sixty-one studies were identified that addressed factors related to attrition in weight loss programs, including psychological, behavioral, and background characteristics of clients. The conclusions of the study were limited by the vast number of explored variables and the minimal number of studies exploring each variable. The review also found inconsistencies in the reporting of results and conflicting findings among the studies. The general conclusion of the study was that psychological and behavioral patient factors associated with the treatment or program were more often associated with attrition compared to patient background characteristics. Nonetheless, a consistent set of predictors has not yet been identified.

Gym Attendance Monitoring

Membership attendance and attrition is a significant concern for gym owners who are striving to build their business. Weber and Wertheim (5) conducted a study at La Trove University in Australia that focused on gym attendance monitoring. The study identified two possible reasons why individuals may have difficulty following through with exercise programs: poor self-regulations skills and the benefits of exercising are not always apparent immediately after beginning a program (5). Two potential interventions for the stated problems were identified as self-monitoring and staff attendance. To analyze the potential impact of these two solutions, fifty-five women were randomly assigned to one of three groups: control, self-monitoring of gym attendance, or self-monitoring of attendance plus additional staff attention. After three months of tracking the participant's gym attendance, the study found that attendance during the first three weeks of the study was significantly greater than attendance for the remainder of the study for all of the groups. The control group was found to have significantly less attendance compared to the self-monitoring groups at all phases of the study. The addition of staff attention to self-monitoring showed minimal affects on client attendance above self-monitoring alone. The study suggests that further research needs to be conducted toward using attendance monitoring, staff support, and periodic progress feedback for decreasing program attrition rates.

Incentive Programs

Team based weight loss programs are no longer just reality shows on television. Weight related competitions and incentives are making their way into offices and cubicles across the country. A 2012 survey of 512 employers found that 61 percent of companies offered incentives and competitions for health and weight loss, an increase of 69 percent since 2009 (23). In response to the rising trend of workplace health incentives, McElhone and White (24) conducted a pilot study to determine if team based competition in the workplace was more effective than traditional workplace behavior education in achieving weight loss. Two diet groups were recruited from separate office workplaces (24). Each group attended a weight loss workshop and was given the same education and worksheets for tracking personal goals and objectives. One office was randomly assigned to complete the weight loss challenge on an individual basis while the other office was assigned to a team based competition intervention. Baseline weight-related measurements were taken for both groups at the beginning of the study and after three weeks of participation. The study found the group that was competing in the weight loss challenge as a team lost a significantly greater percentage of weight (2.6%) after the three weeks compared to the group participating as individuals (2.1%). This survey and study suggest that weight loss programs are a growing trend in the United States, specifically among work places, and that team based activities and programs may be an additional motivator and predictor

of weight loss success. The research behind team motivation was a contributing factor to designing the group-focused weight loss program in this study.

Limitations in Current Research

Overall, the literature review produced several studies on the general outcomes of various weight loss approaches and a limited number of studies on attrition rates in weight loss programs. The attrition studies were primarily focused on weight loss attrition of individual participants. This study seeks to expand the current attrition research to include the impact of a weight loss program on attrition and attendance within an entire fitness club facility.

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CHAPTER II

INTRODUCTION

Memberships to health clubs have been steadily growing over the last three years. From 2009 to 2012, health club memberships increased more than 10 percent to over 50.2 million members worldwide (1). The International Health, Racquet & Sportsclub Association (IHRSA), a research organization with a global membership base of over 10,000 club and fitness businesses, estimates that 16 percent of the American population belonged to a health club at the end of the year 2011 (2). However, despite this growth, health clubs are still facing a low attendance rate of 27 percent as well as a large attrition rate of 35 to 40 percent each year. For a large gym (25,000 square feet) with an average of 3,000 annual members, a gym must spend significant time and money to replace the 1,000 to 1,200 people annually who do not renew their membership (1).

One explanation for member attrition and loss of revenue is result driven retention. A common complaint heard from nutrition and exercise professionals in fitness gyms is that, as a general rule, people do not reach their health and fitness goals in the time frame that one might expect if they were to follow their trainer's recommendations (3). When gym members do not see the results they want, the likelihood of renewing their gym membership or personal training contract decreases,

which can lead to decreased individual attendance, decreased club usage, and increased membership attrition.

Between October 25, 2011 and November 25, 2011, one gym located in Utah County, Utah reported having 1,117 active members. The gym also reported 684 cancelled or inactive members during the same month time frame. The attrition rate for this gym during that time period was 61.2 percent, which adds up to approximately \$27,344 in lost revenue per month. To decrease the high attrition rate, the gym wanted to implement a new weight loss program in an effort to improve gym member attendance by helping members reach their fitness goals and increasing motivation to attend the gym regularly.

Weight loss is a widely researched and published topic in academic journals, especially looking at the impact of nutrition education on weight loss (4-9). One significant study analyzed 68 controlled studies and concluded that interventions that included general health and nutrition education resulted in participants achieving a lower reduction in weight (0.1kg/m²) and body fat (-1.22%) compared to other interventions without education (8). The other studies support this conclusion by suggesting that weight loss programs that include professional nutrition education produce greater weight loss results compared to self-directed weight loss programs without nutrition education (4-7, 9).

The effect of exercise on weight loss has also been widely studied over the years. Excess body weight is generally a result of energy imbalance where energy expenditure is less than energy intake. Exercise enhances energy expenditure and can result in

weight loss if energy expenditure exceeds energy intake (10). Hagan et al. conducted a study that looked at the weight loss effects of 12 weeks of diet plus exercise, diet alone, and exercise alone (11). The average reported weight loss percentage results for diet plus exercise, diet alone, and exercise were respectively 9.5 percent, 7.0 percent, and 0.5 percent. As a result of this and other similar studies, the National Heart, Lung, and Blood Institute and the National Weight Control Registry (NWCR) was able to establish clinical guidelines for weight loss, which suggest that exercise may enhance weight loss but is more effective if paired with a reduced calorie diet (10-13).

One specific aspect of exercise intervention that has been studied is the effect of group exercise on health clubs (14-16). Industry figures suggest that health clubs encounter the highest levels of retention with group exercise participants (14). Similar industry figures also suggest that group exercise increases membership attendance, with group exercisers attending the gym an average of 3 times per week compared to the average member who only attend 1.7 times per week (16). Overall, these exercise studies suggest that physical activity can help improve weight loss results and that group exercise can increase membership retention (10-16).

A few studies have been conducted on specific predictors of attrition within weight loss programs (17-20). The results of one study found that greater amounts of weight loss early in the programs slightly reduced the odds of attrition, suggesting that early success may be a factor for human motivation and retention (17). Another study conducted by Weber and Werthem (18) suggested that self-monitoring and attention

from gym staff may help improve gym attendance. Lastly, a pilot study performed by McElhone and White (19) determined that team based competition in the workplace was more effective than traditional workplace behavior education in achieving weight loss (2.6% versus 2.1% total body weight loss).

There are several limitations of the current weight-loss related research literature, including a limited number of studies on attrition rates in weight loss programs and a lack of research within fitness club facilities (4-20). This study seeks to expand the current attrition research to include the impact of a weight loss program on attrition and attendance within an entire fitness club facility.

The purpose of this research study is to evaluate the effect of a weight loss program on individual participant attendance, overall club usage and membership attrition. We hypothesize that implementing a weight loss program in the gym will significantly increase individual participant attendance and club usage and decrease membership attrition. It is hopeful that the results of this study will help gym owners implement future member based programs to improve member attendance and club usage and decrease membership attrition.

METHODS

The design of this study included acquiring retrospective data on individual program participant attendance, total club usage, and membership attrition from the gym for six months before and after implementing a weight loss program. The data collected before the program implementation was from the same six months of the year prior to implementing the program in order to eliminate seasonal variance. The fitness gym had never offered a structured weight loss program to clients prior to this study.

Program Design

To implement the weight loss program, the program was offered to all gym members of one Utah County gym via a phone call or email. However, in order to participate in the program, interested members had to go through an interview process to qualify and be selected. The selection criteria included having 30 or more pounds of weight to lose as determined by the Hamwi equation for ideal body weight (21), vocalizing having commitment to follow the program as prescribed, and being an active membership to the gym. Upon acceptance into the program, the selected candidates were assigned to a workout team. The teams were divided into morning and evening classes based on time availability and fitness level as determined by a fitness assessment (beginning or advanced). The program was run one month at a time and

consisted of 90 minute exercise classes three days a week, a weekly lifestyle class, a nutrition program overseen by a registered dietitian, and individual nutrition consultations. The exercise classes were taught in small groups and included a combination of low impact cardio, calisthenics, and circuit training. The weekly lifestyle class was an hour class that focused on nutrition topics such as intuitive eating, menu planning, and heart healthy cooking. Anthropometrics were taken on a weekly basis during the individual nutrition consultations, and the fitness assessment was performed on a monthly basis to track progress.

Part of the program implementation included developing a team of professionals to oversee the program. Two personal trainers were hired based on their certification through the National Academy of Sports Medicine (NASM) and experience with leading group exercise classes. One registered dietitian was also hired to develop the curriculum, teach the lifestyle classes, and meet with high risk participants or other participants as needed for nutrition consultations.

Population and Sample

This retrospective study involved a fitness gym located in Utah County, Utah with a total membership of 1,100. The number of clients participating in the weight loss program between December 2011 and May 2012 was 36 including 32 females and 4 males. A total of 11 clients were analyzed for the individual attendance data as this analysis was limited to clients who were gym members one year prior to the

implementation of the program. The average age of these clients was 42 years and the average body mass index (BMI) was 36.5.

Data Collection and Analysis

The data that was collected for this study included program participant attendance, total club usage, and gym membership attrition data. Individual program participants were identified by number during the data collection and analysis process to protect their privacy. The data was collected before and after implementation of the weight loss program. The weight loss program was implemented in November, 2011 with a pilot group and was officially made available to the rest of the gym members December 1, 2011. The retrospective data for individual program participant attendance and member usage attrition was collected for six months prior to program implementation between December 2010 and May 2011 and for six months post-program implementation between December 2011 and May 2012. The six month retrospective gym data before implementation of the program was collected one year before the program implementation to account for seasonal membership spikes that generally occur between the months of December and January at many fitness centers. Verbal and written permission was obtained from the gym owner to implement this weight loss program in the gym and to collect the individual attendance, total club usage, and membership attrition data from the dates above.

The statistics used to analyze this data included means for individual attendance, club usage, and membership attrition before and after the program implementation. A paired t-test was used to conduct a comparative analysis on the pre and post intervention data with statistical significance determined at a p-value of $p < 0.05$.

RESULTS

Individual Attendance

Individual program participant gym attendance was monitored for six months before and after implementation of the weight loss program (Table 1 and Figure 1). Ten out of the eleven program participants increased their gym attendance after implementation of the program. The total monthly attendance before implementation of the program ranged from 64 to 87 visits compared to 131 to 216 visits after implementation of the program.

Table 1: Number of monthly gym visits by individual program participants before and after program implementation

ID #	* Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12
Client 1	0	0	0	0	0	0	10	9	2	0	0	0
Client 4	0	0	7	2	6	6	20	25	22	11	10	0
Client 5	0	0	7	11	6	7	23	21	11	9	4	6
Client 6	1	1	0	5	4	0	19	18	14	4	7	1
Client 7	2	2	0	0	0	0	14	16	9	11	8	0
Client 8	3	7	8	7	6	6	16	20	28	21	12	11
Client 9	4	8	17	12	12	5	20	11	8	2	1	0
Client 11	0	8	6	7	2	7	0	13	20	21	15	11
Client 16	0	0	10	5	5	1	9	19	30	40	19	30
Client 20	29	24	14	15	16	21	31	36	37	37	31	39
Client 28	25	26	18	21	21	22	30	28	24	35	36	33
TOTAL	64	76	87	85	78	75	192	216	205	191	143	131
Mean	5.8	6.9	7.9	7.7	7.1	6.8	17.5	19.6	18.6	17.4	13.0	11.9
SD	10.60	9.53	6.47	6.53	6.64	7.81	9.13	7.85	10.76	14.50	11.65	14.93

*Dates range from the first day of the month through the last day of the month (i.e. December 1, 2011 through December 31, 2011).

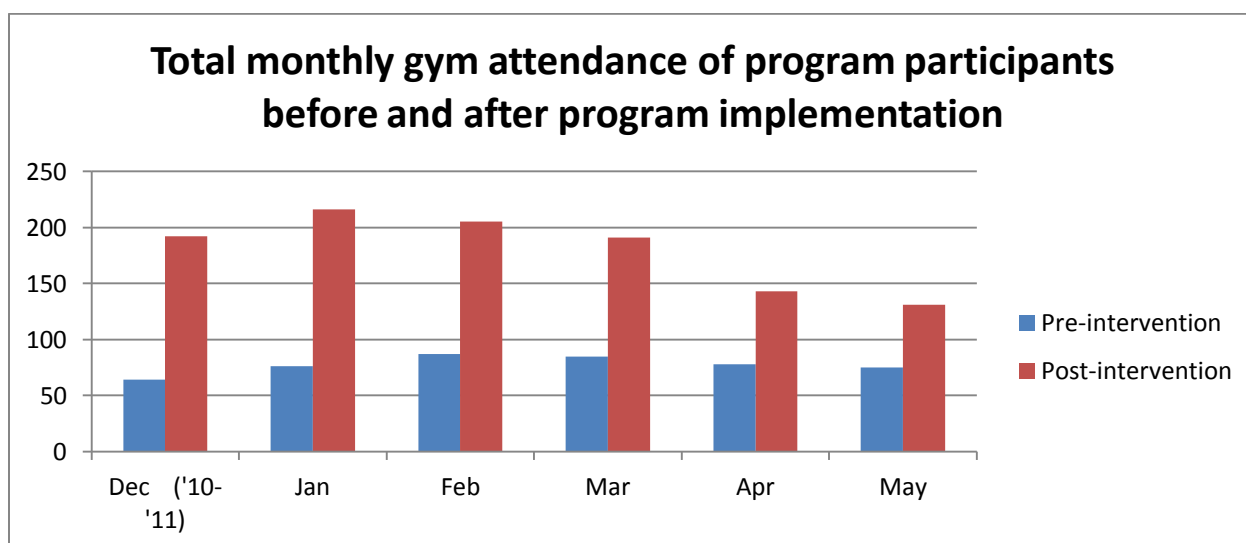


Figure 1. Total monthly gym attendance of program participants before (Dec '10-May '11) and after (Dec '11-May '12) implementation of the weight loss program.

The mean and standard deviation of individual participant gym attendance was calculated for each month before and after the program implementation (Table 2 and Figure 2). The average monthly attendance before the program implementation was 7.0 ± 7.93 visits, while the average monthly attendance after the program implementation was 16.3 ± 11.47 visits. The results indicate that the mean monthly attendance increased by 132%. A paired t-test, which was conducted on the before and after implementation attendance data, indicated that the increase in gym attendance was statistically significant in all of the months except for May ($p \leq 0.05$). The overall increase in client gym attendance was also statistically significant ($p < 0.001$).

Table 2. Mean \pm SD of individual participant monthly gym visits before and after program implementation

	Dec	Jan	Feb	Mar	Apr	May	Total
Pre (Mean \pm SD)	5.8 \pm 10.60	6.9 \pm 9.53	7.9 \pm 6.47	7.7 \pm 6.53	7.1 \pm 6.64	6.8 \pm 7.81	7.0 \pm 7.93
Post (Mean \pm SD)	17.5 \pm 9.13	19.6 \pm 7.85	18.6 \pm 10.76	17.4 \pm 14.50	13.0 \pm 11.65	11.9 \pm 14.93	16.3 \pm 11.47
P value	0.0004 *	0.0002 *	0.0038 *	0.0293 *	0.0389 *	0.1393	0.0008 *

Table 2. An asterisks (*) in the P value row indicates statistical significance ($P \leq 0.05$).

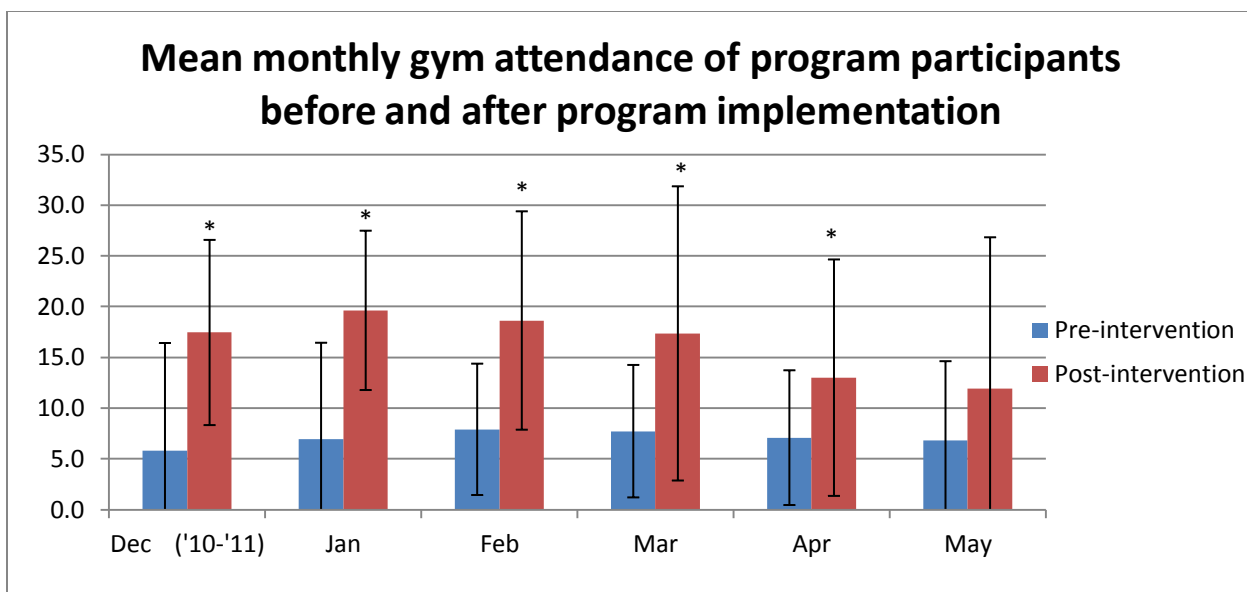


Figure 2. Mean and standard deviation (SD) of monthly gym attendance of program participants before (Dec '10-May '11) and after (Dec '11-May '12) program implementation. An asterisks (*) above the error bar indicates statistical significance ($P \leq 0.05$).

Monthly program participant attendance was also gathered and analyzed by individual client (Table 3 and Figure 3). A total, mean, standard deviation, and p-value figure was calculated for each client to show attendance changes for each person over the course of the study. The results indicate that the increased gym attendance was statistically significant ($p \leq 0.05$) for six of the eleven participants.

Table 3. Individual program participant total monthly gym visits before and after program implementation, listed by client

ID #	Gym Visits (Pre)	Gym Visits (Post)
Client 1	0	21
Client 4	21	88
Client 5	31	74
Client 6	11	63
Client 7	4	58
Client 8	37	108
Client 9	58	42
Client 11	30	80
Client 16	21	147
Client 20	119	211
Client 28	133	186

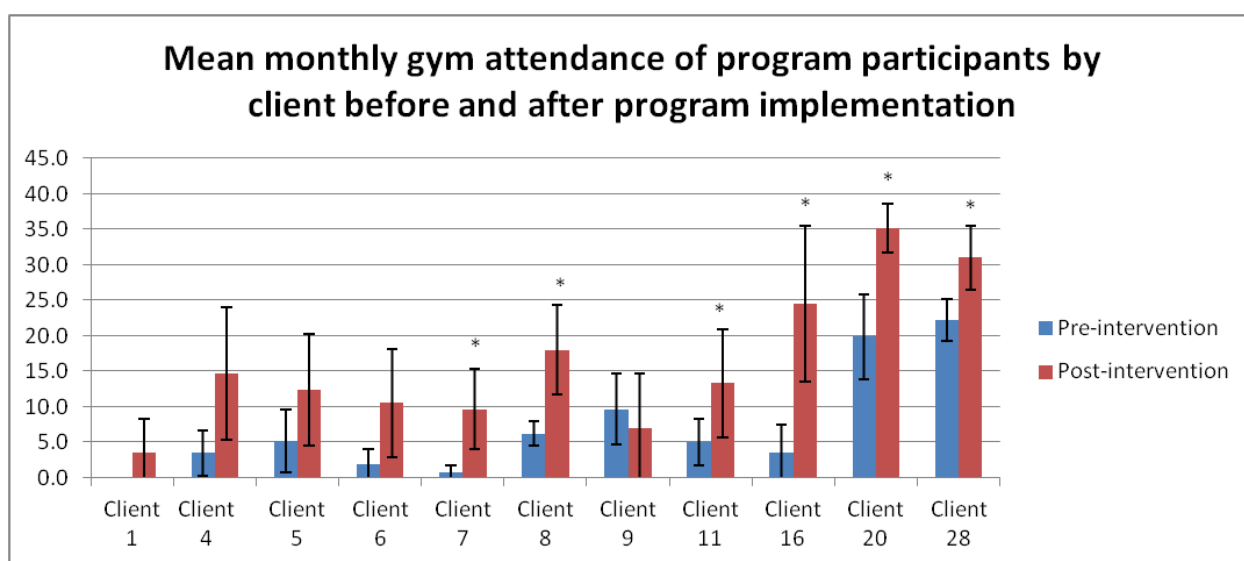


Figure 3. Mean \pm standard deviation (SD) of monthly gym attendance for each individual client before (Dec '10-May '11) and after (Dec '11-May '12) program implementation. An asterisks (*) above the error bar indicates statistical significance ($P \leq 0.05$).

Total Club Usage

Total club usage for all gym members was tracked for six months before and after program implementation (Table 4, Figure 4). Club usage increased after implementation of the program in December, January, and March. However, club usage decreased after implementation of the program in March, April, and May. Total club usage decreased by 377 visits (1.3 percent) after program implementation, while the average monthly club usage decreased by 62.8 visits (1.3 percent) (Figure 5). The p-value for this data was 0.7966 which indicates that the affect of the weight loss program on total club usage was not statistically significant.

Table 4. Total club usage (visits per month) before and after program implementation

PRE/POST PROGRAM	Dec ('10-'11)	Jan	Feb	Mar	Apr	May	TOTAL	MEAN	SD	P value
Pre-implementation	3707	5991	5034	5647	4906	4668	29953	4992.2	799.05	0.7966
Post-implementation	4338	6110	5554	5209	4405	3960	29576	4929.3	827.84	
<i>Difference</i>	631	119	520	-438	-501	-708	-377	-62.8		

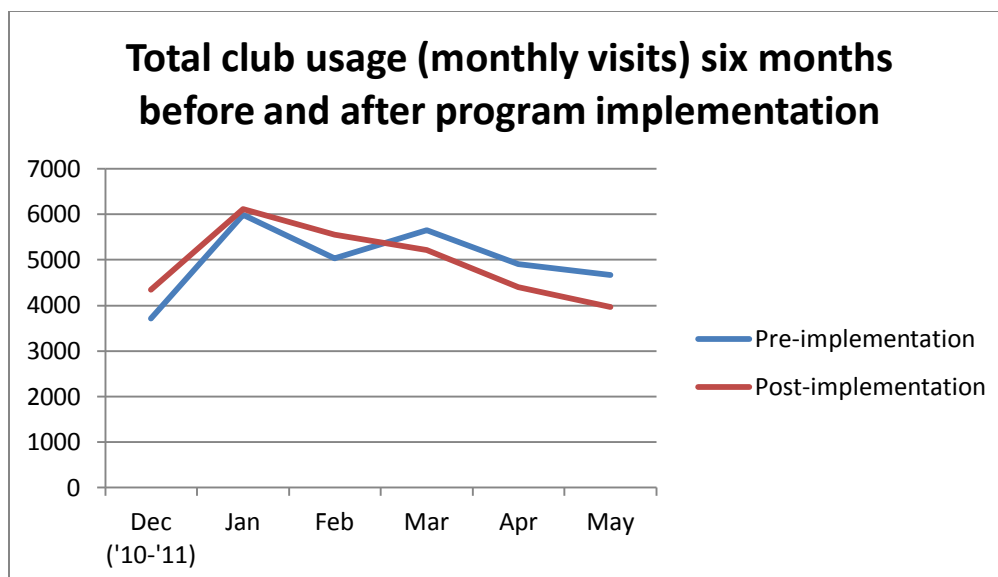


Figure 4. Total club usage (monthly visits) six months before (Dec '10-May '11) and after (Dec '11-May '12) program implementation. Post program implementation resulted in higher club attendance in December through February but lower club attendance in March through May.

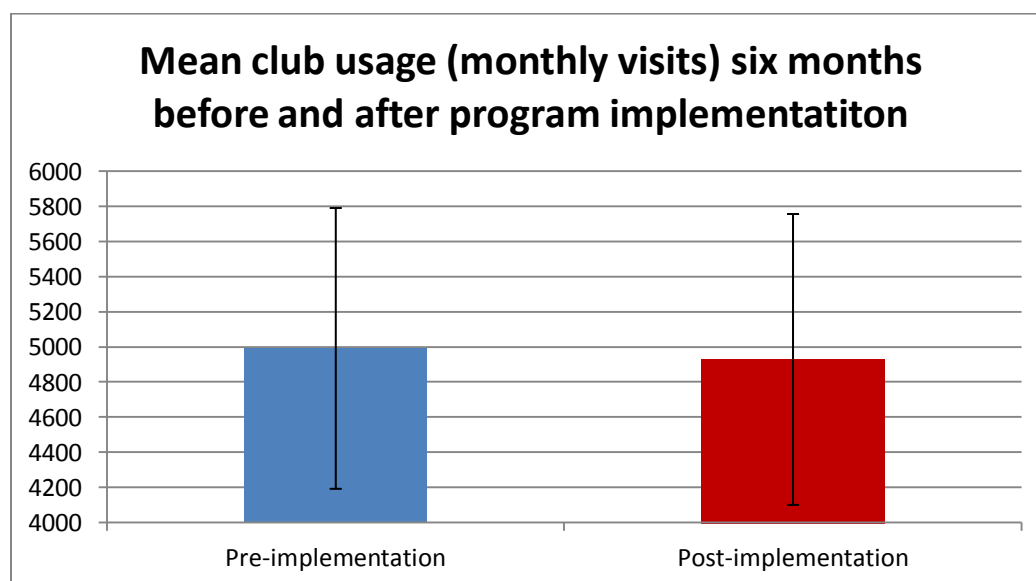


Figure 5. Mean club usage (monthly visits) six months before (Dec '10-May '11) and after (Dec '11-May '12) program implementation. The mean club usage was higher before implementation of the program (4992.2 ± 799.05) compared to after implementation (4929.3 ± 827.84).

Membership Attrition

Gym membership attrition data was gathered for six months before and after program implementation (Table 5, Figure 6). The membership attrition data was reported as a percentage of the total gym memberships. Gym membership attrition post program implementation decreased in December and January but increased between February and May. A paired t-test of the data showed that the difference between the attrition rate before and after implementation of the weight loss program was not statistically significant ($P = 0.3328$).

Table 5. Gym membership attrition before and after program implementation

	Pre-implementation	Post-implementation
Dec ('10-'11)	5.67%	4.11%
Jan	2.92%	2.47%
Feb	2.83%	3.61%
Mar	3.25%	4.18%
Apr	3.42%	5.94%
May	2.48%	4.08%
MEAN	3.43%	4.07%
SD	1.15%	1.12%
P value		0.3328

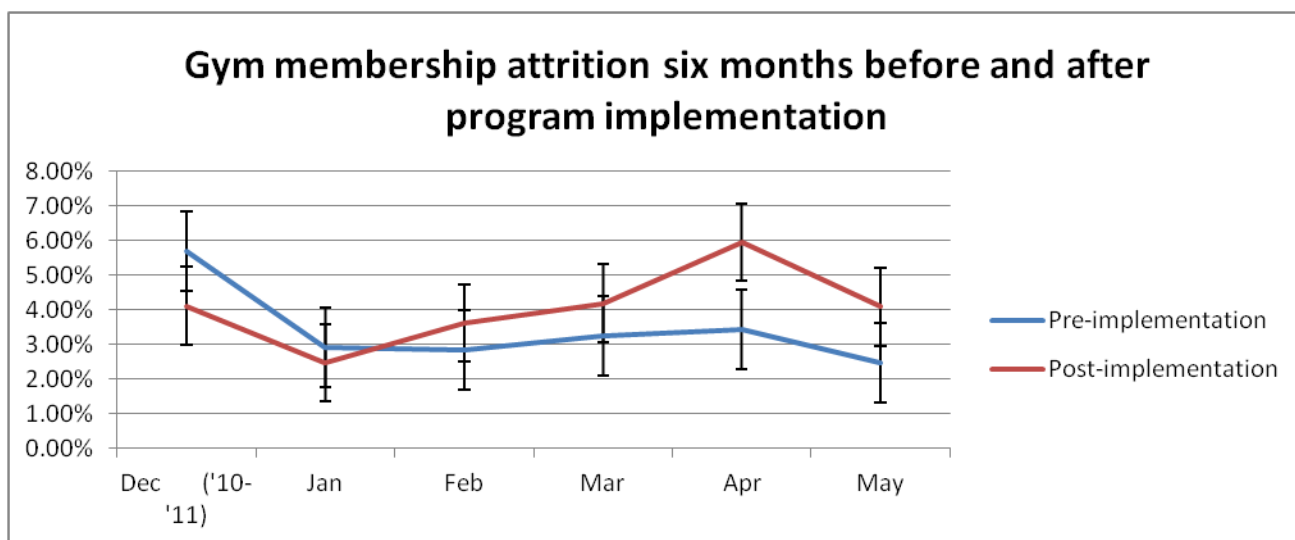


Figure 6. Line graph of gym membership attrition six months before (Dec '10-May '11) and after (Dec '11-May '12) program implementation. Gym membership attrition post implementation decreased in December and January but increased between February and May.

DISCUSSION

The results of this study suggest that implementation of weight loss program in a fitness club has a positive impact on individual program participant attendance. The program participants also exceeded the average gym attendance compared to national health club statistics. In 2010, health clubs reported a median of 54 visits per year from gym members, which averages only one visit per week (1). The program participants in this study attended the gym an average of 16 times per month during implementation of the program for an average total of 196 visits per year.

The weight loss program that was implemented in the gym was considered to be a comprehensive program as it included aspects of exercise, nutrition, education, and counseling. Any combination of these aspects could potentially be attributed to the increase in attendance as these aspects provided clients with a structured workout schedule, a sense of teamwork established by group exercise classes (16, 19), guidance by professional coaches (4-9), increased accountability to gym staff, regular progress checks in the form of weigh-ins and fitness assessments (18), and increased motivation from weight loss (17). Further research could be conducted to determine the specific affect of each of these weight loss program aspects on member attendance.

A statistically significant increase was observed in overall individual program participant attendance and for all months except for May. One possible explanation for this lack of statistical significance could be that May was the last month of the six month weight loss program and program participants may have been experiencing a mental or physical plateau in their weight loss progress (17). Further research is recommended to identify a possible trend between weight loss and attendance and to identify the behavioral impact of weight loss plateaus.

The results of this study also suggest that implementing the weight loss program in the fitness club did not have a significant effect on overall club usage or membership attrition. One of the limitations of this study, and a possible reason for the lack of impact on the overall gym statistics, was the small sample size of the program participants relative to the total number of memberships. The sample size for the study

included 11 program participants while the total gym membership during the same time period exceeded 1,100 members. There were also several external variables that could have affected club usage and attrition rates, making it difficult to exclusively analyze the effect of the weight loss program. Some of these external variables included management changes, special pricing promotions, a new competing gym in the community, and switching family members from being on one shared membership account to having a separate account for each member.

It is hopeful that the results of this study will encourage gym owners to implement member based programs to improve individual member attendance. Future studies of a weight loss program with a larger sample size may be able to establish a positive impact on total club usage and attrition. This study may be beneficial for dietitians in opening more doors to working in health clubs as part of establishing well-rounded and comprehensive member based health programs.

CONCLUSION

There is strong evidence that suggests that implementation of a weight loss program in a fitness club has a positive impact on individual program participant attendance. Ten of the eleven program participants increased their gym attendance, with their monthly attendance increasing by an average of 132% after implementation

of the program. The results also suggest that implementing this weight loss program in a fitness club does not have a significant effect on overall club usage or membership attrition. However, further research should be conducted with a larger program participant sample size to better understand the impact of a weight loss program on an entire fitness gym.

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CHAPTER III

CONCLUSIONS AND APPLICATIONS

The objective of this research study was twofold: 1) to evaluate the effect of a weight loss program on individual participant gym attendance and 2) to determine the effect of a weight loss program on an entire gym by looking at club usage and membership attrition. Both of these objectives were accomplished in this study by collecting retrospective data and analyzing individual and overall gym data. It was initially hypothesized that implementing a weight loss program in the gym would have a significant effect on individual participant attendance and smaller but still significant affect on club usage and membership attrition. The results of the study support the first part of the hypothesis in that implementing a weight loss program in the gym did have a significant effect on individual participant attendance ($P < 0.001$). However, the hypothesis that the weight loss program would have an effect on total club usage and membership attrition was not supported as the overall gym statistics were not significantly affected by the program ($P > 0.05$).

The results of this study suggest that implementation of a weight loss program in a fitness club has a positive impact on individual program participant attendance. Compared to their own attendance average prior to program implementation, ten of the eleven program participants increased their gym attendance, with a monthly average attendance increase by 132% after implementation of the program. The

program participants also exceeded the average gym attendance compared to national health club statistics. In 2010, health clubs reported a median of 54 visits per year from gym members, which averages only one visit per week (1). The program participants in this study attended the gym an average of 16 times per month during implementation of the program for an average total of 196 visits per year.

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The results of this study also suggest that implementing the weight loss program in the fitness club did not have a significant effect on overall club usage or membership attrition. One of the limitations of this study, and a possible reason for the lack of impact on the overall gym statistics, was the small sample size of program participants relative to the total number of memberships. The sample size for the study included 11 program participants while the total gym membership during the same time period exceeded 1,100 members. There were also several external variables that could have affected club usage and attrition rates, making it difficult to exclusively analyze the effect of the weight loss program. Some of these external variables include management changes, special pricing promotions, a new competing gym in the community, and switching family members from being on one shared membership account to having a separate account for each member.

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