

Effectiveness Of Personal Training

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ABSTRACT

More and more people looking for the expertise of personal trainers in recent years. With very few previous efforts evaluating the strength of the personal training experience in the scientific literature, this study utilized movement in the stagecoaches of the Transtheoretical Model (STM) to ascertain the efficacy of personal grooming. One hundred twenty nine volunteer participants (customers) (age range: 20 □ 65 years old) was designated a university senior personal trainer for a 10-week course of study. At an initial meeting, the guests were moved over a form to self-assess their level of motivational readiness for exercise adoption (STM) choosing one of five stages: Pre - contemplation (not meaning to make changes), Contemplation (considering a modification), Preparation (getting ready to make a change), Action (actively engaged in progressing to a change but only for a little while) & Maintenance (sustaining the change over time). Later the initial assessment, the nodes and the trainer then met once a week and had targeted discussions on problem solving techniques such as determining the Benefits of Physical Activity, Barriers/Obstacles to Exercise, Support, System Recruitment, Goal Setting and Relapse Prevention in addition to providing specific suggestions for the client's other exercise days during the workweek. At the end of the 10-week personal training program, the clients, then reassessed their stage of motivational readiness for exercise adoption. Of the 129 clients tested, 27 were in the maintenance (highest) stage and consequently could not go up. None of these 27 clients moved down a level. Of the remaining 102 clients, there was significant ($p < 0.01$) upward movement at the end of the course of study. 61 clients (60%) went up one stage, 13 clients (13%) went up two stages, 27 clients stayed at the same level (26%) and one (1%) moved down a level. The outcomes suggest that one-on-one personal training is an efficient method for modifying positions and thereby increasing the amount of physical action. Secondly, it appears that using problem-solving techniques is of value for successful behavior modification.

INTRODUCTION

Many health professionals include exercise programs in their programming because incorporating physical activity into as many facets of daily sustenance as possible can provide many physiological, psychological and societal benefits. The Surgeon General's report on physical activity, the Centers for Disease Control and the American College of Sports Medicine all stress the importance of regular and sustained bouts of moderate-intensity physical activity (Pate et al., 1995) because it is clear that physical action is very important to preventive disease management, wellness, and employee productivity. Regrettably, more people in the U.S.

Are becoming less active, significantly contributing to a sustained growth in obesity. While in that respect was a gradual growth in the percentage of overweight people leading up to the mid 1980's, the unprecedented increase since then has achieved epidemic proportions (CDC, 2000).

While it is clear that physical activity plans are an significant component of health and weight management, less is known about what specific characters of plans can be successful in promoting significant long-term changes in conduct. With more and more people looking for the expertise of personal trainers in recent years and that many of these are paying more for the one-on-one interaction with their personal trainer compared to other exercise programs, an evaluation of the usefulness of personal training seems warranted. To date, there are merely a few fields in the health arena that have used the Stages of the Transtheoretical Model (STM) (Prochaska and Velicer, 1997) to measure the effectiveness of programs that seek to increase their participant's physical activity. Marcus and colleagues (1998) compared the efficacy of standardized printed materials tailored specifically to print materials and Naylor et al. (1999) made their subjects either stage-matched or unmatched exercise materials and both studies found significant upward stage movement with exposure to literature that encourages increased physical activity. In two studies using incentives, both Hammond et al. (2000) with the Director's Physical Activity Challenge and Marcus et al. (1996) using a worksite health promotion program, showed significant upward stage movement.

An intensive search of the literature, however, provided only a few articles that specifically tested whether personal training was successful in effecting behavior change (Maloof et al., 2001; Mazetti et al., 2000; Wing et al., 1996) and none of these used the STM to evaluate behavioral intention to convert. So the aim of this work was to appraise the strength of personal training on the upward movement in STM.

METHODS

Participants

To investigate the efficacy of one-on-one personal training, 129 volunteers were studied (age range: 20 → 65 years old). The participants (clients) were either university students leading a health class for credit or employees recruited via e-mail from the University Employee Wellness program. Each guest was put a senior Health Promotion student personal trainer for the duration of the 10-week program. Permission to conduct the survey was sanctioned through the Institutional Review Board for the Protection of Human Subjects and participants provided informed consent.

Point of Change Evaluation

At the initial coming together with their trainer, each client self-assessed their level of motivational readiness for exercise adoption (using the pattern in Table 1) using the STM with 5 stages: Pre-contemplation (not meaning to make changes), Contemplation (considering a modification), Preparation (getting ready to make a change), Action (actively engaged in progressing to a change but only for a little while) & Maintenance (sustaining the change over time). At the end of the 10-week program, the clients, then re-evaluated themselves on a separate course (from the pre-test form) as to their current post-test STM. The instrumentation used to measure the client's STM (Table 1) was established as reliable and was concurrently validated for a significant association with the 7-Day Physical Activity Recall in a previous worksheet study by Marcus and Simkin (1993).

Mesa 1. Phases of change sample questionnaire.

Which describes you best?

- I presently do not work out and I do not intend to set about working out in the succeeding 6 months.
- I presently do not practice, but am thinking about beginning to do in the succeeding 6 months.
- I currently exercise some, but not regularly*.
- I currently exercise regularly*, but have just started doing so within the last 6 months.
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- I currently exercise regularly*, and have done so for longer than 6 months.

* Regular exercise = 3 or more times per week for 20 minutes or more each time.

Personal Training Intervention

Later the initial encounter, the clients and trainer took on and practiced together for an hour, one time a week for 9-10 weeks. For the days that they met together, the client and the trainer had targeted discussions on problem solving techniques such as determining the Benefits of Physical Activity, Barriers/Obstacles, Support, System Recruitment, Goal Setting and Relapse Prevention in addition to providing specific suggestions for the other exercise days during the week.

Statistical Analysis

All comparisons of group mean values to specify the movement in STM from the pre-test to the post-test were assessed using a paired t-test. Meaning for all trials was set at $p < 0.05$.

RESULTS

Of the 129 clients tested, 27 were in the maintenance (highest STM) stage and consequently could not go to a higher level (Table 2). None of these 27 clients moved down a level. Of the remaining 102 clients, there was significant ($p < 0.01$) upward movement at the end of the course of study. 61 clients (60%) went up one stage, 13 clients (13%) went up two stages, 27 clients stayed at the same level (26%) and one (1%) moved down a level. The group that recorded the highest percentage of upward movement (85%), were initially in the second stage (Contemplation). The substantial modifications ($p < 0.01$) in upward staged movement towards increasing physical activity were consistent across gender and all age groups. In increase, further analysis was

Mesa 2. Phases of change campaign with personal training program.

Initial stage	Initial number in each stage	Finished in...				
		Stage 1 ^a	Stage 2 ^a	Stage 3 ^a	Stage 4 ^a	Stage 5 ^a
Stage 1	2	0 (0%) ^{nc}	1 (50%) ↑	1 (50%) ↑↑	0 (0%)	0 (0%)
Stage 2	26	0 (0%)	4 (15%) ^{nc}	11 (42%) ↑	11 (42%) ↑↑	0 (0%)
Stage 3	62	0 (0%)	0 (0%)	15 (24%) ^{nc}	46 (74%) ↑	1 (2%) ↑↑
Stage 4	12	0 (0%)	0 (0%)	1 (8%) ↓	8 (67%) ^{nc}	3 (25%) ↑
Stage 5	27	0 (0%)	0 (0%)	0 (0%)	0 (0%)	27 (100%) ^{nc}

Mark.. Stage 1 = Pre-contemplation; Stage 2 = Contemplation; Stage 3 = Preparation; Stage 4 = Action; Stage 5 = Maintenance. ^A The first numeral in each row below is the number that finished in that phase and the number in parenthesis is the percent that finished in that phase. NC = Number and percent with no change in stage movement; □ = moved up one stage; □□ = moved up 2 stages; □ = moved down one level.

Made out to determine whether there was any difference if the clients were university students leading a health class or employees recruited from the University Employee Wellness program and there was a significant upward trend ($p < 0.01$) regardless of where the clients came from. There was no conflict between the baseline STM between the University students and the Employees.

DISCUSSION

A significant finding of this study was that 57% of the subjects showed upward movement. Furthermore, if those who could not move up a stage (because they were in the highest stage) were factored out, then an even more impressive 73% of the clients showed upward stage movement after the 10-week intervention. As there was no control group in this quasi-experimental survey, a comparative discussion of stage front with other written reports using other interventions will be utilized for determination of the efficacy of personal grooming. Marcus and colleagues (1998) compared the usefulness of standardized printed materials tailored specifically to print materials. In their intervention group, different targeted self-change manuals were handed out to each individual depending on the their STM compared to the control group where all the subjects received the same manuals on physical action. Measured after 6-months, both groups showed significant progression into a higher phase of change, however the tailored interventions (37% showed upward

movement) was found to be superscript to the control group (27% showed upward movement) in increasing physical activity. In a similar field, patients in a hospital were given either stage-matched or unmatched exercise materials (Naylor et al., 1999) and found no substantial deviation between the stage-matched or unmatched exercise material groups with 20% of the patients overall advancing at least one point. A campaign using mass media promotional efforts was the Director's Physical Activity Challenge (Hammond et al., 2000), a 50-day intervention challenge, which enlisted social support from management and peer leaders combined with incentives. Almost all of the participants achieved their personal prearranged physical activity goal and 36% showed upward stage movement by the remainder of the 50 days. Some other work that utilized incentives as part of the promotional effort, Marcus et al. (1996) combined their worksite health promotion plan with risk appraisal and found that 37% showed upward stage movement. Comparing the numbers of upward stage movement, the percent of upward movement (73%) from this one-on-one personal training studio at least doubles that achieved in all of the subjects previously cited. Thus there is good evidence that the issue of individual personal training is an efficient means to alter the client's attitudes towards increasing physical activity when compared to other plans.

There are only a few subjects that have sought to quantify the strength of personal grooming. Wing et al. (1996) compared the effects of a small group (3-4 clients) assigned a personal trainer to a control group with only minimal supervision, and found that those assigned a personal trainer had better adherence (84% vs. 69%) to the exercise sessions during the 24 week point. In the strength training area, two separate studies (Maloof et al., 2001 & Mazetti et al., 2000) compared the influence of a group with a personal trainer to a group that was self-directed and was minimally monitored. In both instances there was significant improvements in strength gains in the personal trainer supervised groups compared to the unsupervised group. There is no mention in the methods sections in either of these personal training fields that there was any formal discussion of behavior change techniques, although it is probable that to various degrees the personal trainers did use some. By contrast, the personal trainers in this study had targeted discussions on the Benefits of Physical Activity, Barriers/Obstacles, Support, System Recruitment, Goal Setting and Relapse Prevention during the 10-week program. The results to these discussions would seem to be an important addition to the long-term effectiveness of the personal flight simulator experience.

A potential problem with judging the importance of upward stage movement in STM is to see whether there is a connection with a modification in conduct. In a worksheet study by Marcus and Simkin (1993) there was a substantial connection with the subject's STM and their 7-Day Physical Activity Recall. A developing body of research has also investigated whether placement in one of the five STM for exercise reflects differences for participation in healthy behaviors. Herrick et al. (1997) found out that using the STM significantly predicted their subjects' exercise levels and dietary fat intake, but not smoking or sun exposure protection. Further, Cardinal (1997) determined that STM for exercise significantly predicted exercise levels plus five other outcome measures: Body Mass Index,

VO₂max, Relapse, Barriers and Self-Efficacy. So it appears plausible that upward movements in STM for exercise is not only accompanied by the increasing amount of physical exertion, but also with improvement in other health outcomes.

One limitation of this survey is that the lack of a control group makes a more unequivocal statement of the value of personal training on the observed the upward stage movement more tenuous. Future studies using personal training should include a control group, which would earmark for a fuller valuation of the efficacy of personal grooming. Of note is that the percentage of those with an upward drift in this study is at least double that was noted in four other widely published studies (Hammond et al., 2000; Marcus et al., 1996; Marcus et al., 1998; Naylor et al., 1999). Thus, these data suggest that one-on-one personal training is an efficient method for modifying positions and thereby increasing the amount of physical action. Significantly, if we are to receive a successful long-term outcome of increasing physical activity while reducing obesity, the most important message is to hold an intervention strategy that operates not just in the short term, but over a period of years, thus many more people maintain their healthy lifestyles for the remainder of their lifetimes.

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