

Personal Training and Fitness Coaching: Do They Really Work?

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With the exception of membership fees, personal training brings in more revenue to fitness facilities than any other service. Certainly, the field has experienced remarkable growth over the past two decades, with consumers regularly listing personal training among the top five services offered by health clubs. And yet surprisingly little research has focused on the efficacy of working with a personal trainer or fitness coach. Does it really help consumers achieve their health and fitness goals?

Undoubtedly, the majority of us in the fitness industry would answer that question with a resounding yes—provided, of course, that the trainer or coach was well-qualified and the client's goals were attainable. But this answer is largely based on anecdotal evidence. Currently, the evaluation focus of personal trainers tends to focus on the amount of monetary compensation received for training sessions versus the health outcomes measuring the quality of program delivery to participants.

The small amount of published research related to personal-training outcomes has generally focused on biometric assessments, exercise adherence, or movement across the stages of change, according to the transtheoretical model (Prochaska and Velicer, 1997). McClaran (2003) found that weekly sessions with a personal trainer significantly increased clients' ability to move upward through the stages of change in regard to physical activity. Overall, 60 percent of study participants moved up one stage, while 13 percent moved up two stages, demonstrating evidence of health-behavior change over a 10-week period. Personal training has also been shown to significantly impact cardiovascular- and muscle strength-related gains. Mazzetti et al. (2000) found that training loads, 1RM, peak power output and fat-free mass were all increased to a greater extent among supervised (personally trained) participants compared to those who were unsupervised. Additionally, researchers at Adelphi University compared in-home and at-the-gym personal training and found that both were effective in terms of weight loss, cardiovascular function, adherence and motivation, with little differences between the two (Sykes et al, 2007).

Fitness coaching [defined by Moore and Taschannen-Moran (2010) as helping clients develop healthy lifestyle behaviors outside of structured exercise sessions] has also been insufficiently studied in terms of outcomes. The effectiveness of fitness coaching is typically determined by improved lifestyle changes and reductions in illness and disease. Chapman, Lesch and Baun (2007) touted fitness coaching as being likely to become a staple of worksite health promotion practice, as evidenced by the number of worksite wellness programs currently performing health-risk appraisals combined with fitness/wellness coaching.

Fitness coaching, particularly with regard to phone interventions, has been researched within adult populations and appears to be beneficial for promoting fitness and exercise adherence. Castro and King (2002) concluded that home-based, telephone-supervised programs were as effective as group- or facility-based programs in terms of increased functional capacity and adherence. It should be noted that these studies listed included one face-to-face meeting prior to the telephone coaching intervention. However, there is very little scientific research that explains how and why fitness coaching is beneficial for enhancing healthy lifestyle behaviors.

This glaring lack of scientific research examining the effectiveness of personal training and fitness coaching inspired the following study, conducted by a team of researchers at Indiana University. In addition to measuring changes in health measurements such as body-fat percentage and VO_2 , researchers also examined how working with a coach or trainer affected the amount of time subjects spent sitting each day, an important indicator of potential health problems (see sidebar).

Decreasing Sedentary Behavior (i.e., Sitting Time)

An inactive lifestyle has been identified as a positive risk factor for coronary heart disease, but findings now indicate that even with regular exercise, hours of time spent sitting may adversely affect the body's metabolism, blood chemistry and overall physiology. As sitting time increases, disease and early death from all causes also appear to increase, even when people intentionally exercise. In other words, while regular exercise sessions throughout the week are extremely beneficial, they don't seem to completely offset the effects of sitting for extended periods of time (Katzmarzyk et al., 2009). According to the literature, constant sitting can lead to eventual health problems and a shorter lifespan. These findings have led to the development of a research area termed "inactivity physiology." When muscles, especially those in the legs, are "sitting," they stimulate or suppress various hormones affecting triglycerides, cholesterol and markers for heart and other diseases. Non-exercise activity thermogenesis (NEAT) describes the energy that is expended for everything excluding sleeping, eating or "sports-like exercise" (Levine, 2004). Modern technology encourages sitting time, which, of course, reduces NEAT. According to researchers, many people in the U.S. have "sitting disease" and would have lower rates of obesity and lifestyle-related diseases if NEAT were increased. Most adults spend more than 70 percent of their waking hours working at a desk, riding in a car, eating meals, playing video games and watching TV. Sedentary behavior appears to be an important stand-alone component in terms of overall health and wellness. Therefore, reducing and/or breaking up sitting time must now be considered a major public health priority (Hamilton et al., 2008).

Effects of Personal Training and Fitness Coaching on College Students

It is a well-established phenomenon that students experience weight gain during the first year of college. This is a result of several factors, including decreased physical activity, increased sedentary behavior (i.e., sitting time) and poor eating habits [American College Health Association (ACHA), 2010]. Several studies have researched the effectiveness of interventions (i.e., health education and physical activity courses) targeting college students. However, few studies have documented the effectiveness of personal training and/or fitness coaching methods in the college population. Further, no previous studies have evaluated the behavior for the amount of sitting time outside of personal training and fitness coaching sessions. Little, if any, literature have documented whether personal training and fitness coaching are effective at improving physical-activity patterns while decreasing sedentary behavior (i.e., sitting time).

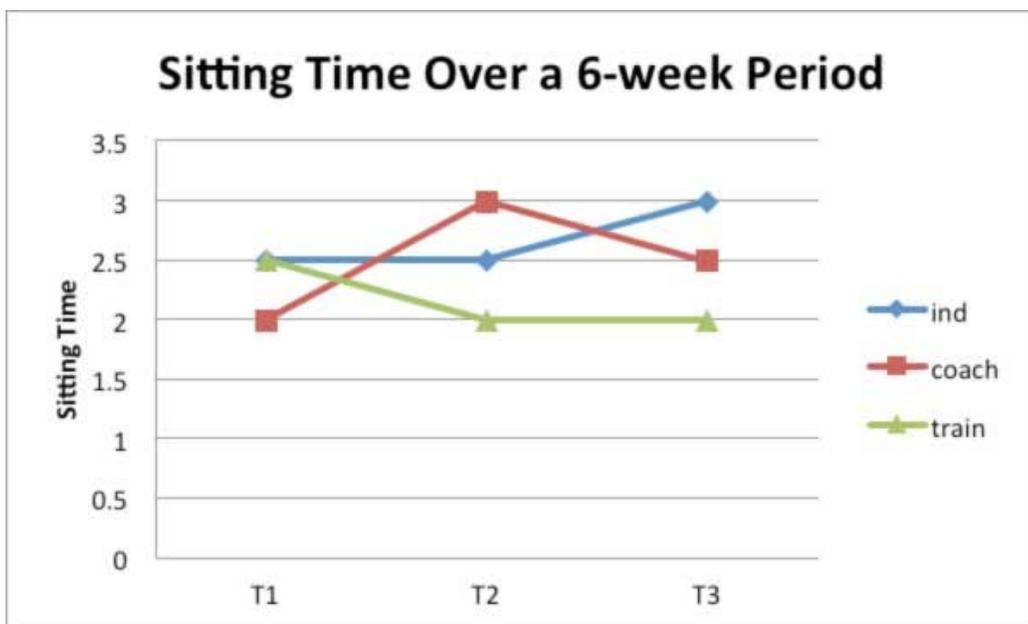
The focus of this project was on quantifying sitting time—in addition to traditional biometric measurements—to evaluate personal training and fitness coaching. Patel et al. (2010) demonstrated that time spent sitting was independently associated with total mortality, regardless of physical-activity levels in an adult population. Would there be differences in self-reported sitting-time patterns among these groups: those who worked with a personal trainer, those who worked with a fitness coach, and those who were independent exercisers? Personal trainers and fitness coaches were undergraduate and graduate students enrolled in the university's fitness-related degree programs. The personal trainers constructed 30-minute exercise programs and met face-to-face with clients. In contrast, fitness coaches did not meet in person with clients; instead they communicated weekly via email, texting and phone calls. Fitness coaches were instructed to give lifestyle advice and to avoid recommending specific exercise regimens. The independent exercisers served as the control group.

It is important to note that the clients did not pay for personal training or fitness coaching services. These were provided free of charge to the students as service within their residence halls.

Twenty study participants were divided into three groups based, first, upon overall preference, and then randomized to accommodate the gaps between groups. All participants lived in a college residence hall that contained onsite cardiovascular and strength-training equipment. The intervention groups received personal training (PT) and/or fitness coaching (FC), while the

independent control group received neither treatment. Biometric data was collected at the beginning and the end of the 12-week program. Participants' body-fat percentages were analyzed via bioelectrical impedance analysis (BIA). Cardiorespiratory fitness was estimated utilizing the YMCA 3-minute step test. Throughout the 12 weeks, the PT group met once weekly for 30-minute exercise sessions. Students assigned to the FC group received weekly emails, texts or phone calls (based on student preference). Further, FC consisted of answering participant's health- or fitness-related questions and encouraging movement and exercise. The students in the control group were left to exercise independently.

At the end of each week, students in each group were prompted via e-mail to complete an electronic survey reporting average time spent sitting throughout the week. Survey data was analyzed across all groups (Figure 1) for the first two weeks (T1), four weeks (T2), and six weeks (T3). The survey data was only utilized from the first six weeks because the majority of students did not respond consistently to e-mails during the last six weeks of the program. This lack of participation may have been due to other time commitments, academic pressures or opportunities for social engagement. Therefore, the survey data across all 12 weeks could not be appropriately analyzed.



Biometric results revealed similar BMIs for all three groups from pre- to post-test, with an average of 22.5 among participants, which was below ACHA's national college average of 24.8 (ACHA, 2010). However, the students in this study included only college freshmen, while the ACHA's average included a sample population of all college-aged students. All three groups increased in average body-fat percentage from pre- (21.9%) to post-test (23.12%). This is a common trend for most college students because the transition from high school to college is associated with increased weight and body-fat percentage (ACHA, 2010). The changes in VO_2 were not significant due to low sample size. For the PT group, the average VO_2 was 49.3 mL/kg/min at pre-test and 54.9 mL/kg/min at post-test. For the FC group, the average VO_2 was 42.3 mL/kg/min at pre-test and 50 mL/kg/min at post-test. For the independent control group, the average VO_2 was 53.5 mL/kg/min at pre-test and 46.3 mL/kg/min at post-test.

Finally, and perhaps most significantly, the study findings revealed differences in self-reported sitting time across all three groups. The PT group reported the least amount of sitting time (25 percent of the time); the FC group reported sitting between 50 percent and 25 percent of the time, and the independent control group reported sitting approximately 50 percent of the time during the first six weeks of the program.

Conclusion

Although more research is needed to scientifically validate the need for personal trainers and fitness coaches, this study indicates that clients receiving PT and FC improved VO_2 and reduced sitting time when compared with the independent control group.

Clearly, there are numerous benefits to working with a qualified personal trainer, including a personalized exercise program, increased motivation and support in achieving fitness and wellness goals, increased consistency due to keeping scheduled appointments, and a source of knowledge and referrals for health and fitness challenges (Hamilton et al., 2008). And fitness coaching can be a viable option for many clients due to its convenience and portability. Virtual training, email and texting may be preferable to live or face-to-face training when cost, facility access or time constraints are limiting factors.

The results of this study suggest that personal training and fitness coaching both reduced sitting time in the first six weeks of the program compared to the independent control group. And, while more studies (conducted over longer periods of time) are warranted to determine if these interventions produce significant health and physiological benefits, these findings offer clients important reassurance that working with a qualified fitness professional will, in fact, help them meet their goals and improve their overall health and fitness.

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