
SHARING A PERSONAL TRAINER: PERSONAL AND SOCIAL BENEFITS OF INDIVIDUALIZED, SMALL-GROUP TRAINING

HEIDI A. WAYMENT AND RACHAEL L. McDONALD

Department of Psychological Sciences, Northern Arizona University, Flagstaff, Arizona

ABSTRACT

Wayment, HA and McDonald, RL. Sharing a personal trainer: personal and social benefits of individualized, small-group training. *J Strength Cond Res* 31(11): 3137–3145, 2017—We examined a novel personal fitness training program that combines personal training principles in a small-group training environment. In a typical training session, exercisers warm-up together but receive individualized training for 50 minutes with 1–5 other adults who range in age, exercise experience, and goals for participation. Study participants were 98 regularly exercising adult members of a fitness studio in the southwestern United States (64 women and 32 men), aged 19–78 years (mean, 46.52 years; $SD = 14.15$). Average membership time was 2 years (range, 1–75 months; mean, 23.54 months; $SD = 20.10$). In collaboration with the program directors, we developed a scale to assess satisfaction with key features of this unique training program. Participants completed an online survey in Fall 2015. Hypotheses were tested with a serial mediator model (model 6) using the SPSS PROCESS module. In support of the basic tenets of self-determination theory, satisfaction with small-group, individualized training supported basic psychological needs, which in turn were associated with greater autonomous exercise motivation and life satisfaction. Satisfaction with this unique training method was also associated with greater exercise self-efficacy. Autonomous exercise motivation was associated with both exercise self-efficacy and greater self-reported health and energy. Discussion focuses on why exercise programs that foster a sense of social belonging (in addition to motivation and efficacy) may be helpful for successful adherence to an exercise program.

KEY WORDS exercise self-efficacy, intrinsic motivation, personal training, small-group exercise, social belonging

INTRODUCTION

Understandably, a great deal of research has examined the factors associated with exercise practices that improve adults' health and well-being (WB) (26,28,32,35). The best predictors, derived from social cognitive theory (1) and self-determination theory (8), are intrinsic motivation and self-efficacy. Self-determination theory argues that exercise settings that support competence, authenticity, and social connection are most important for WB and more important than extrinsic values, such as beauty or status (13,34,39,42). Social cognitive theory outlines the importance of self-efficacy (1) as a robust predictor of effort, engagement, and persistence in physical exercise (6,21,23,24). Exercise self-efficacy (ESE) is strengthened by mastery experiences, personal accomplishment, vicarious experiences, verbal persuasion, and a positive reaction to one's physiological state (1,24). Taken together, basic psychological needs, intrinsic motivation, and self-efficacy are the important factors associated with sustained exercise.

Personal trainers can play an important role in the support and development of exercise-related intrinsic motivation and self-efficacy in adults (9,16). Personal trainers help members set appropriate goals (especially important during the initiation of an exercise program), design exercise protocols that help achieve those goals, and log exercise improvement and progress (16,17,22,29,37). By helping members develop realistic short-term goals and early success (e.g., mastery experiences), modeling correct exercise procedures, and monitoring progress, personal trainers can be important facilitators of competence and self-efficacy (11,16,25). Personal trainers help support autonomy needs by explaining what they might expect to experience during a specific exercise, attenuating any uncertainty that they might feel (16). Through the provision of support and encouragement, verbal persuasion of personal trainers is also a way to strengthen self-efficacy and competence (16,38). Thus, exercising under the supervision of a personal trainer can be important for strengthening intrinsic motivation and self-efficacy, which are key factors in exercise adherence and maintenance (10,22). Not surprisingly, the number of individuals relying on personal trainers has increased, for the support and

Address correspondence to Heidi A. Wayment, heidi.wayment@nau.edu.
31(11)/3137–3145

Journal of Strength and Conditioning Research
© 2017 National Strength and Conditioning Association

guidance they can provide can be very effective in helping individuals meet their fitness goals (16,31). However, the costs associated with hiring a personal trainer can be prohibitive for long-term exercise guidance.

Less expensive than hiring a personal trainer, small-group exercise programs have also been shown to have positive influences on ESE (4,22,27). Exercising with others not only provides a more social experience but also can enhance relatedness. According to Ryan and Deci (34), any social environment that affords competence but fails to nurture relatedness may decrease WB. Thus, a small-group exercise setting can help meet the psychological needs of relatedness and competency, important precursors to intrinsic motivation (19). When exercising as part of a group, the self-efficacy of exercisers can be aided by vicarious observation of other exercisers (1). In a recent study, Biedenweg et al. (4) conducted semistructured interviews with 38 older adults (primarily women in their 70 s) to examine “motivators” and “barriers” to participating in physical activity programs. The personal motivational factors cited most often were (a) enjoying being with others while exercising and (b) having an exercise program that promoted accountability. These 2 factors are very likely when exercising in a small-group setting. However, the benefits of group exercise experiences on motivational and efficacy effects have largely focused on studying the impact of classes where members all engage in the same group activity (e.g., Crossfit), although the level of engagement in the particular activity may be scaled up or down depending on the fitness level of the participant (27). The purpose of this article is to explore the potential benefits of combining these 2 approaches: personal training in a group setting.

In 2010, a group of exercise trainers established a fitness studio that combined the features of personal training with the benefits of a small-group exercise setting. This unique “hybrid” program was designed to meet the needs of individuals who, although were interested in learning from a personal trainer, may have found the costs associated with one-on-one assistance prohibitive. Or, for those interested in a small-group setting, found that a one-size-fits all (e.g., boot camp) approach was not tailored to their unique health or fitness histories and fitness goals.

This fitness program includes a comprehensive assessment program. At the first visit, clients undergo an assessment, which includes a number of anthropomorphic measures and an assessment of functional capability. Results from functional tests (squat, lunge, bend, push, and pull) inform the level at which members begin the program. Assessments are made each month, and progress is always noted in the “client profile.” It is important to note that trainers receive extensive education about how to assess a client’s functional capability level so that they are able to design appropriate exercise programs for clients. Trainers also help members establish goals that are recorded in the client’s computerized “profile.” A key element of the success of the fitness program described

in this article is the extremely detailed software platform designed specifically for, and in consultation with, the developers of this fitness studio. The platform also includes training videos available to trainers as part of their continuing education. Members attend weekly exercise appointments (2 or 3 times a week). Each training appointment is 50-minute long. As members arrive, trainers greet clients and check-in with them and inquire about his or her physical condition. Members gather for a group warm-up (just under 4 minutes), and then the on-duty personal trainers (usually 2) call out the first names of who they are training that day. For each session on any given day, the lead trainer (LT) selects which clients work with which trainers. The LT uses information about the clients to match them with trainers. The LT tries to place clients with the trainers they enjoy most. Some clients, because they are very consistent with their choice of workout time, may be more likely to see each other often during a typical week of workout sessions. Other clients show no consistent pattern of workout times and prefer to work their times into their weekly schedule as time permits. One by one, the trainer leads each member to the first exercise of an exercise protocol designed for that individual. Using primarily free weights, exercise straps, and balance-challenging platforms, exercises typically focus on functional movements that begin with larger muscle groups followed by smaller muscle groups as the session progresses. The workout is designed to strengthen balance, agility, strength, and endurance. Aerobic intervals (30 seconds to 2 minutes) are also added in because they are relevant to the member’s goals. The exercise protocols offer unique but attainable challenges and feature balance intensive and compound exercises. Our article only provides a cursory description of the procedures that have been developed by the fitness studio described in this study. Although an in-depth description of the critical details of the training approach is beyond the scope of this article, we hope that some of the essential elements have been described. Personal trainers visually monitor each of his or her clients, and when an exercise is completed, the client informs his or her trainer. After each exercise, the trainer records the load and intensity of the client’s workout. The trainer then describes and demonstrates the next exercise, provides encouragement and feedback, and records progress. In each workout, members cannot only expect great variety in the workout prescriptions but also a program that is unique from the workouts of their coexercisers.

An observer watching a typical exercise session would typically observe 6–12 members each doing a different exercise, at different levels of difficulty, in multiple locations throughout the exercise space. The other exercisers typically consist of women and men of various ages and levels of experience. An observer would also notice the fact that members sometimes encourage one another and engage in friendly chatter and conversations before and after the workout sessions about nonexercise-related topics. Upbeat music plays in the background. Exercisers are usually focused and

engaged in exercises that the trainers have asked them to do. Exercisers are also typically aware of the other exercisers who are also engaged in comparable exercise challenges. The session ends with a 5-minute stretching period as a group. Each month, clients receive an assessment of key indicators, and their profiles are updated. (1).

To our knowledge, no published research has examined the impact of a training model that combines the benefits of a personalized fitness program delivered by a personal trainer but delivered simultaneously to multiple adults in a small-group setting. Our hypotheses and research questions were derived from existing studies of factors associated with intrinsic motivation and self-efficacy in exercisers. First, we expected that satisfaction with individualized, small-group training (SISGT) would be associated with support of basic psychological needs, which in turn would be associated with greater autonomous exercise motivation (AEM) and WB (18,19,34). Next, we predicted that SISGT would be associated with greater ESE (16,33). Third, we predicted that autonomous motivation for exercise and ESE would be related and that both would be positively associated with self-reported health and energy (SRHE) (34). Given the uniqueness of the program under study, we also examined the goals that members had during their workout sessions. We wondered to what extent members were motivated by goals to support others (7) or being more concerned with their own image (20). Exercise programs that strengthen a positive, proactive attitude toward health have been shown to be more effective than exercise programs that focus primarily on those geared toward appearance or self-image (27); thus, we expected that socially supportive goals would be more likely associated with self-efficacy and autonomous motivation than self-image goals.

METHODS

Experimental Approach to the Problem

We used a mixed-methods cross-sectional design to examine our hypotheses. To describe subject characteristics, we asked about their age, gender, length of membership (measured in months), and frequency of workouts (how often per week). We chose the following measures to assess key constructs in our study:

Satisfaction with Individualized, Small-Group Training. The first author worked with the training center directors to develop items that reflected key elements of the individualized, small-group approach (e.g., matching fitness studio's mission statements). Respondents rated their degree of agreement with 7 statements ("I feel comfortable training with a small group of other [name of center] members," "I receive supportive comments from the trainers," "I appreciate the camaraderie that I experience when training at [name of center]," "I am comfortable with what is expected of me in a training session," "The exercise program is designed with me in mind," "The trainers monitor my

progress," and "I am satisfied with my [name of center] training experience"). Each item was rated on a 5-point scale (1 = strongly disagree; 5 = strongly agree). Coefficient alpha for this measure was 0.92.

Basic Psychological Needs Scale. We used 9 items from the basic psychological needs scale (12) to measure the extent to which basic psychological needs for competence, autonomy, and relatedness are met as a result of membership and participation in the fitness studio. Items were rated on a 7-point scale (1 = not at all true; 4 = somewhat true; 7 = extremely true). According to self-determination theory, all 3 needs must be fulfilled for the optimal functioning and psychological WB. Coefficient alpha for this scale was 0.84.

Autonomous Exercise Motivation. We used the self-regulation questionnaire for exercise scale (12) to measure autonomous motivation regarding exercise. Each item was rated on a 7-point scale (1 = not at all true; 4 = somewhat true; 7 = extremely true). Four subscales were created (external regulation, introjected regulation, identified, and intrinsic). As recommended (12), we used the intrinsic and identified scales (reliabilities, 0.89 and 0.75, respectively) to create an autonomous motivation scale by averaging these scores. Higher scores on this measure are indicative of greater autonomous motivation to exercise. The type of autonomy assessed as part of the basic psychological needs scale is measuring a different type of autonomy from that described here.

Exercise Self-Efficacy. A measure of ESE was created using 3 items from the New General Self-Efficacy Scale (5). Each item was rated on a 7-point scale (1 = not at all true; 4 = somewhat true; 7 = extremely true). A sample item is "I feel confident that I can perform my workout effectively." Coefficient alpha for this three-item scale was 0.87.

Well-Being. We used the 5-item satisfaction with life scale (9) to measure WB. This widely used scale consists of 5 items rated on a 7-point scale (1 = strongly disagree; 7 = strongly agree). Items included "In most ways, my life is close to ideal" and "I am satisfied with my life." Coefficient alpha for this scale was 0.90.

Self-Reported Health and Energy. Three items were averaged to form this measure. Participants answered the question "Would you say that in general your health is" with a choice of responses (1 = excellent, 2 = very good, 3 = good, 4 = fair, and 5 = poor) (15). This single-item measure is considered a robust measure of health, used universally in health-related research and is sensitive to health changes (2). This item was reversed so that higher scores indicated better self-reported health. Two additional items asked participants to rate their general level of energy and energy level today (1 = very energetic; 5 = not energetic at all). These items were reversed before being averaged. Coefficient alpha for this scale was 0.78.

Supportive and Self-Image Workout Goals. We adapted a measure of interpersonal goals (7) for the exercise setting. Participants read, “Think about your typical (name of center) session. During these sessions, how much do you usually want to or try to ...” followed by a list of 9 items rated on 5-point scale (1 = not at all; 5 = always). The reliability coefficients for the scales were low insufficient (0.51 and 0.64, respectfully), and therefore, we were only able to use some of the scale items. Two items were highly correlated and retained. A measure of supportive workout goals consisted of items “be supportive of others who are working out at the same time” and “have compassion for others’ struggles with their workout.” Coefficient alpha was 0.69. A measure of self-image workout goals consisted of items “get others to recognize or acknowledge how well you are doing” and “convince others of your fitness and strength while working out.” Coefficient alpha was 0.83.

Subjects

In Fall 2015, the director of a fitness center in the southwestern United States sent its current members (approximately 300) an e-mail asking for volunteers to complete a survey about their experiences. The study procedures were approved by the Northern Arizona University Institutional Review Board. Subjects were informed of the benefits and risks of the investigation before signing an institutionally approved informed consent document to participate in the study. After completing the consent form, subjects were directed to the first page of the online survey. Subjects completed the survey in about 15 minutes. Ninety-eight individuals (approximately 33% participation rate) completed the survey (64 women and 32 men). Age range for the subjects was 19–78 years (mean, 46.52 years; $SD = 14.15$). The range of months of attendance was 1–75 months (mean, 22.35 months; $SD = 20.10$). Forty-seven percent of the sample reported working out 2 days a week, 43% reported 3 days a week. Those attending 3 times a week tended to be older (49 years) and members for a longer period of time (27 months) compared with those who attended twice a week (43 years and 18 months; $F_s > 3.48$; $p < 0.06$). About 10% reported either working out less than that (2%) or adding on a spin session once a week to their workout (8%).

Procedures

All scales and measures were combined into a single online document in SurveyMonkey. There were no incentives given for participating in the research, and the survey was available through for approximately 2 weeks. The survey consisted primarily of standard scale items with several open-ended questions to provide anonymous feedback to the training center directors.

Statistical Analyses

Means, standard deviations, skewness, and kurtosis for each variable are presented separately for male and female

participants in Table 1. Internal consistency was calculated for each of the scales used in the study and is described in the Methods. To assess whether there were gender differences on the study variables, we computed a multivariate analysis of variance (MANOVA), which reduces type 1 error. To explore the impact of age and membership time on our study variables, we computed Pearson correlations among these and our model variables. To test our main hypotheses, we computed a mediational regression using the PROCESS module in SPSS 22.0 (IBM Corp., Armonk, NY) (14,30). Our sample size was more than adequate for a regression analysis with 5 variables (approximately 20 participants per variable). For our a priori hypotheses, we used an alpha level of 0.05 to achieve significance but also report 95% confidence intervals (CIs) for estimates. Finally, we explored the open-ended comments to determine whether studio members were able to articulate the principles of the SISGT approach.

RESULTS

Results from the 1-way (male vs. female) MANOVA indicated no gender differences on our study variables ($F(10, 83) = 1.40$; $p = 0.20$). A univariate F test showed a difference for age—female members were younger than male members (women mean age, 43.21 years; $SD = 13.57$; men mean age, 50.41 years; $SD = 14.56$). There were no gender differences on any of the remaining study variables, and we elected to analyze our model in a sample that combined both male and female members. Means, standard deviations, skewness, and kurtosis estimates for the entire sample are listed in Table 1.

To examine if our data met statistical assumptions for normality, we examined the skewness and kurtosis estimates for all variables. All variables, with one exception, were normally distributed. One variable, SISGT, was not normally distributed (skewness = 2.71; kurtosis = 13.54) and was transformed by taking the natural logarithm of the gamma function. This brought the skewness and kurtosis within the normal range. All analyses were computed using the transformed scale. Thus, the assumptions of normality were met. As indicated in the Methods, the internal reliabilities of each scale are all acceptable. Correlations among the study variables are in Table 2.

Given the correlational nature of our data, we tested our hypotheses with a multiple mediator regression model (number 6) with the PROCESS module in SPSS 22.0 (15,34). This method allows us to examine the strength of direct paths between variables, while controlling for related constructs. We were also able to examine indirect effects using Sobel’s tests, and we report 95% CI for these estimates that were derived from 1,000 bootstrapped samples (30). The final sample size for this analysis was somewhat reduced as a result of the missing data ($N = 94$). Our hypotheses were largely supported. Satisfaction with small-group, individualized, training methods was positively associated with basic psychological needs being met in the exercise setting

TABLE 1. Means, SDs, and product moments for study variables ($N = 98$).^{*†‡}

	Mean	SD	Skewness	Kurtosis
Age (y)	45.59	14.04	0.07	-0.73
LM (mo)	22.35	19.10	0.94	-0.16
SISGT§	2.52	0.65	-1.12	1.14
BPNS	5.65	0.78	-0.54	0.25
AEM	5.69	1.10	-0.61	-0.64
ESE	6.10	0.88	-0.90	0.30
WB	5.43	1.19	-1.32	2.00
SRHE	3.87	0.65	-0.82	0.42
SG	4.15	0.86	-0.80	-0.03
SIG	2.86	1.13	-0.12	-0.65

^{*}LM = length of membership; SISGT = satisfaction with individualized, small-group training; BPNS = basic psychological needs scale; AEM = autonomous exercise motivation; ESE = exercise self-efficacy; WB = satisfaction with life scale; SRHE = self-reported health and energy; SG = supportive goals; SIG = self-image goals.

[†] $p < 0.01$, ^{*} $p \leq 0.05$, ^{**} $p < 0.01$, ^{***} $p < 0.001$.

[‡]Acceptable levels of skewness $< \pm 2$; kurtosis $< \pm 3$.

[§]SISGT (transformed with natural logarithm of the gamma function).

($\beta = 0.37$; $SE = 0.09$; $t(1.93) = 3.99$; $p < 0.001$; 95% CI, 0.19–0.56), which in turn was associated with autonomous motivation for exercise ($\beta = 0.52$; $SE = 0.10$; $t(1.93) = 5.44$; $p < 0.001$; 95% CI, 0.33–0.71) and with life satisfaction ($\beta = 0.47$; $SE = 0.11$; $t(1.93) = 4.07$; $p < 0.001$; 95% CI, 0.24–0.69). Satisfaction with individualized, small-group training was associated with greater ESE ($\beta = 0.26$; $SE = 0.09$; $t(1.93) = 2.89$; $p = 0.005$; 95% CI, 0.08–0.44). Autonomous exercise motivation and ESE were related ($\beta = 0.33$; $SE = 0.10$; t

(1.93) = 3.31; $p < 0.001$; 95% CI, 0.13–0.53), but only AEM was directly related to SRHE ($\beta = 0.40$; $SE = 0.11$; $t(1.93) = 3.64$; $p < 0.001$; 95% CI, 0.18–0.62). The total effect, through direct and indirect paths, of SISGT on SRHE, was 0.27 accounting for 7% of the variance in SRHE ($F(1,93) = 7.28$; $p = 0.008$). The most important indirect effect accounting for the relationship between SISGT and SRHE was via basic psychological needs and AEM (0.08; $SE = 0.03$; 95% CI, 0.03–0.17). For the ease of presentation, significant results are depicted in a path drawing in Figure 1.

Open-Ended Comments

According to the trainers or owners of the fitness center, small-group training programs are specifically designed for individuals to achieve their goals, with sound training techniques and regular assessment for increased accountability. Inspection of participants' open-ended comments suggest an understanding of the important aspects of this hybrid exercise training program:

I have always felt better after a workout at [name of center], both physically and mentally. I believe it is the interaction and socialization with others who are there as well as the unique exercises and fitness challenges posed by [name of center] trainers. I enjoy the entire concept of physical fitness at [name of center] as well as the personal trainers who are usually upbeat, friendly, and professional which is motivation.

The [name of center] staff are consistent in their talent and supportiveness. They listen and alter workouts if necessary

TABLE 2. Correlations among Study Variables ($N = 98$).^{*†}

	1	2	3	4	5	6	7	8	9
1. Age (y)	—								
2. LM (mo)	0.42***	—							
3. SISGT‡	-0.06	0.08	—						
4. BPNS	0.08	0.09	0.40***	—					
5. AEM	-0.00	-0.05	0.30**	0.54***	—				
6. ESE	-0.10	0.13	0.44***	0.48***	0.52***	—			
7. WB	-0.10	-0.04	0.15	0.52***	0.39***	0.30**	—		
8. SRHE	0.20*	0.06	0.27**	0.45***	0.55***	0.36***	0.33***	—	
9. SG	0.02	0.18	0.24*	0.45***	0.29**	0.24*	0.18	0.25*	—
10. SIG	-0.28	-0.12	-0.02	-0.38***	-0.29**	-0.21*	-0.14	-0.24*	-0.18

^{*}LM = length of membership; SISGT = satisfaction with individualized, small-group training; BPNS = basic psychological needs scale; AEM = autonomous exercise motivation; ESE = exercise self-efficacy; WB = satisfaction with life scale; SRHE = self-reported health and energy; SG = supportive goals; SIG = self-image goals.

[†] $p < 0.01$, ^{*} $p \leq 0.05$, ^{**} $p < 0.01$, ^{***} $p < 0.001$.

[‡]SISGT (transformed with natural logarithm of the gamma function).

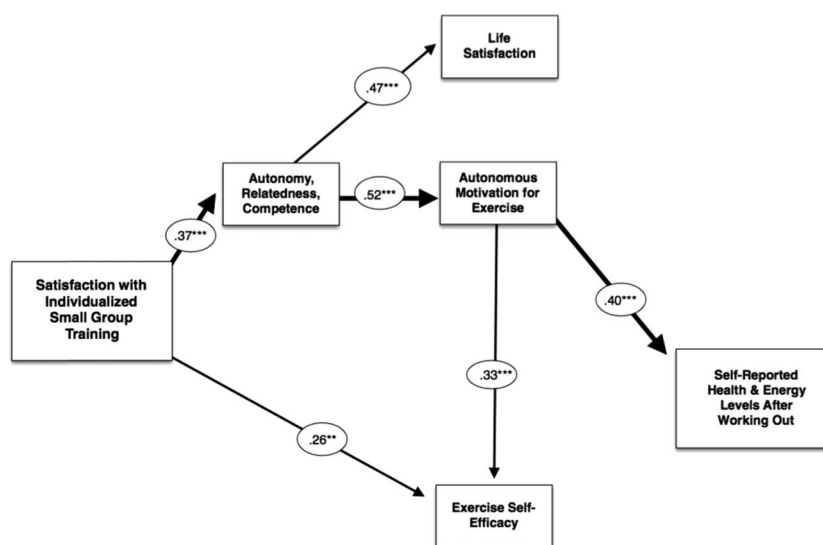


Figure 1. Results of PROCESS mediational model (model 6) testing (14,30). Indirect effects of satisfaction with small-group, individualized exercise training on self-reported health and energy through basic psychological needs being met in exercise environment and intrinsic motivation for exercise (depicted by bold lines).

and they remember and personalize the experience. I feel much stronger and less prone to pain and injury after starting here. I especially like the professionalism and integrity that the staff brings to each work out. They make every person, regardless of fitness level, feel important and not judged.

It is a really supportive and positive place to be. I feel like I can work at my own pace and push myself. I also feel like the trainers are very focused on me individually.

DISCUSSION

Subjects in our study were part of a novel group exercise program that facilitates positive social interaction and support while exercising and receiving workouts individually designed for them, according to ability, goals, and experience. Our study sample consisted of highly motivated, regularly exercising adults ($N=98$) who belonged to a fitness studio in the southwestern United States. The individuals in our study attended 50-minute training sessions 2 or 3 times a week and had been active exercisers in this studio, on average, for 2 years. Participants reported good health and WB and also reported very high levels of ESE and autonomous motivation for exercise. Participants' satisfaction ratings with the small-group, individualized exercise protocols were above the median. The average age of our subjects was

46 years. Older participants had been members for a longer period, reported greater energy and health, and were less likely to endorse self-image goals as a motivation for working out. Length of membership time was unrelated to any other study variables. Basic psychological needs, intrinsic motivation, and ESE were all positively intercorrelated and were all correlated with better health and energy, and WB. Members with higher satisfaction with the small-group, individualized training were also more likely to report that the training met their basic psychological needs, they were more intrinsically motivated to exercise, and they had greater ESE. Satisfaction with the hybrid training model was also positively associated with SRHE.

We assessed 2 types of workout goals: supportive goals and self-image goals. Our subjects strongly indicated that they were much more interested in supporting their fellow exercisers (e.g., camaraderie and support) during their group workouts than being concerned about self-image goals (e.g., sense of competition, physical appearance). Supporting others while working out was positively related to intrinsic motivation, self-efficacy, SISGT, WB, and SRHE. Conversely, those with higher levels of self-image goals reported lower intrinsic motivation, self-efficacy, WB, and self-reported energy and general health. Although some earlier studies have suggested that adults would rather workout on their own (as opposed to a group exercise class) (3,42) leading some researchers to disparage group workouts (5), previous research has also found that adult exercisers prefer some instruction (41) and enjoy working out with others (4). The results of our study suggest that, at least for some

individuals, an individualized group exercise setting may yield benefits beyond what is achieved by workouts performed in solitude. Our results suggest that combining individualized training in small groups provides a context that supports basic psychological needs (8). Furthermore, an exercise model that combines individual attention in a small-group setting may facilitate what Sandstrom and Dunn (36) argue are the important “weak ties” that facilitate WB and sense of belonging and WB.

As expected, our key variables were moderately, and positively, correlated. Our regression analyses modeled the hypothesized relationship between key variables. We found that individuals who reported higher SISGT also reported that this type of “hybrid” exercise setting helped them feel more supported in their basic psychological needs. In turn, the satisfaction of these basic needs was not only positively related to WB but also with feeling more autonomously motivated to exercise. Furthermore, autonomous motivation was associated with better SRHE levels after a workout. Autonomous motivation was also related to ESE. Thus, an important contribution of our study is that satisfaction with individualized instruction in a small-group setting (e.g., individualized personal training, regular support, with predictable mechanisms of accountability, social support, collegiality) was related to the satisfaction of important basic psychological needs, and AEM and ESE, which are 2 important factors associated with positive exercise outcomes. A review of 66 empirical studies reported a strong relationship between autonomous forms of motivation and exercise and the value of self-determination theory for understanding exercise behavior (13,39). In our study, only autonomous motivation was associated with health outcomes, indirectly influenced by SDT concepts. Our study demonstrates how these theoretically derived principles are successful in a real-world exercise setting, and in so doing, it provides additional support for a growing the literature on the use of self-determination theory for understanding the motivation associated with exercise behavior.

Our findings also indicate that the social and individual benefits associated with individualized small-group training protocol may be experienced by both women and men. That is, we found no evidence that there were any important gender differences among our highly motivated exercisers. Women and men had similar levels of autonomous motivation and ESE, were equally satisfied with the small-group, individualized instruction, and reported similar levels of health, energy, and WB. Men and women also ascribed equal importance to being supportive to others during their workouts, as a group, placed less importance on self-image goals. The lack of gender differences in our sample may be interpreted in a positive light—the hybrid training model may offer an exercise experience that minimizes gender disparities. Because no 2 individuals complete the same exact workout (different expectations, repetitions, weights) at the same time, there may be fewer opportunities to make direct

social comparisons with other exercisers. Furthermore, the types of exercises typically part of an exerciser’s personal plan are not gender specific. For example, men and women are both offered, at different times and with different levels of difficulty, exercises that range from more traditional exercises that require strength (e.g., bench press) to more functional approaches that require balance and core strength (e.g., single leg lunges with back foot in hanging strap). Rather than comparing themselves with others, the individualized approach may allow exercisers to be more attuned to their own personal standards for exercising, which may support for the development of self-efficacy and self-esteem (40). We also found no significant difference in perceptions in satisfaction, motivation, efficacy, and WB between less experienced and more experienced members. Our findings regarding gender and membership time are in contrast to those recently reported regarding members’ experience in a boot camp–like training method (27), where women felt at a disadvantage. In a “boot camp” exercise setting where everyone is asked to do the same exercise, gender-stereotyped comparisons may be more likely (e.g., women may be able to do fewer push-ups than men). Thus, individualized training in a small-group setting may remove some of the barriers traditionally associated with gender or level of comfort that exist when a “one size fits all” training model is followed.

It is important to place our results in the context of the study’s limitations. First, we used a sample of convenience to assess thoughts and feelings at a single point in time (e.g., cross-sectional design). Thus, our results are mostly descriptive in nature, and no causality can be inferred. Furthermore, those who volunteered to participate in the study may have held more positive attitudes about their exercise experiences. The fact that members pay a fee to participate in the exercise program could have led to more positive evaluations of the program as a way to justify the expense (e.g., dissonance theory). However, members’ ratings of self-efficacy, autonomous motivation, and perceived health and WB were normally distributed, indicating variability in responses. Future research investigating the motivational benefits of a hybrid training program would benefit from a pre-post test design, where the impact of the small-group training protocol could be compared with programs that included (a) individualized attention, no group and (b) group, no individualized attention. Our model (even though tested with cross-sectional data) posits that exercise satisfaction leads to greater levels of self-efficacy and intrinsic motivation; longitudinal studies would allow testing nonrecursive models. It would also be beneficial to examine the extent to which other types of group workouts (e.g., Zumba, spinning) are able to meet basic psychological needs and the relationship to AEM and self-efficacy. Finally, a larger sample size would be preferable for more stable statistical estimates. Future research on the reasons why adults who begin in this type of program dropout is also recommended.

PRACTICAL APPLICATIONS

Individualized small-group workouts are a recent innovation and relatively uncommon in the personal fitness industry. Our results provide some preliminary evidence that providing tailored personal exercise plans in a small group setting is an exercise model that may be appealing to adults, provide a context for social ties, and may positively impact adults' commitment to exercise. Specifically, we suggest that trainers consider implementing exercise programs and protocols that not only address individualistic goals (level of fitness, mastery, and competence, self-efficacy) but also social ones, such as the need for relatedness and human connection. Specifically, we recommend that exercise settings, programs, and protocols work to promote basic psychological needs, which support autonomous motivation and self-efficacy, both of which are important psychosocial factors related to successful exercise practices (8,23,28,35,37). Results from our study may inspire personal trainers to combine the important work of personal fitness with settings that can also meet important social belonging needs (36).

ACKNOWLEDGMENTS

The authors gratefully acknowledge the help of 2 anonymous reviewers for their insights and comments in our preparation of this paper. They also acknowledge the contribution of Ms. Emily Burden who began this project as part of her graduate work at the Northern Arizona University and the participants for completing the questionnaire. This research was not funded by any source. Results of the present study are not meant as an endorsement of the fitness center.

REFERENCES

- Bandura, A. Human agency in social cognitive theory. *Am Psychol* 44: 1175–1184, 1989.
- Barger, SD, Cribbet, MR, and Muldoon, MF. Participant-reported health status predicts cardiovascular and all-cause mortality independent of established and nontraditional biomarkers: Evidence from a representative US sample. *J Am Heart Assoc* 5: e003741, 2016.
- Beauchamp, MR, Carron, AV, McCutcheon, S, and Harper, O. Older adults' preferences for exercising alone versus in groups: Considering contextual congruence. *Ann Behav Med* 33: 200–206, 2007.
- Biedenweg, K, Meischke, H, Bohl, A, Hammerback, K, Williams, B, Poe, P, and Phelan, EA. Understanding older adults' motivators and barriers to participating in organizing programs supporting exercise behaviors. *J Prim Prev* 35: 1–11, 2014.
- Chen, G, Gully, SM, and Eden, D. Validation of a new general self-efficacy scale. *Organ Res Meth* 4: 62–83, 2001.
- Clark, DO. Age, socioeconomic status, and exercise self-efficacy. *Gerontologist* 36: 157–164, 1996.
- Crocker, J and Canevello, A. Creating and undermining social support in communal relationships: The role of compassionate and self-image goals. *J Pers Soc Psychol* 95: 555–575, 2008.
- Deci, EL and Ryan, RM. The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychol Inq* 11: 227–268, 2000.
- Diener, E, Emmons, RA, Larsen, RJ, and Griffin, S. The satisfaction with life scale. *J Per Ass* 49: 71–75, 1985.
- Edmunds, J, Ntoumanis, N, and Duda, JL. Testing a self-determination theory-based teaching style intervention in the exercise domain. *Eur J Soc Psychol* 38: 375–388, 2008.
- Fischer, DV and Bryant, J. Effect of certified personal trainer services on stage of exercise behavior and exercise mediators in female college students. *J Am Coll Health* 56: 369–376, 2008.
- Grolnick, WS and Ryan, RM. Parent style associated with children's self-regulation and competence in school. *J Educ Psychol* 81: 143–154, 1989.
- Haase, AM and Kinnafick, FE. What factors drive regular exercise behavior? Exploring the concept and maintenance of habitual exercise. *J Sport Exerc* 29: 165, 2007.
- Hayes, AF. *An Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*. New York, NY: Guilford, 2013.
- Idler, EL and Benyamini, Y. Self-rated health and mortality: A review of twenty-seven community studies. *J Health Soc Behav* 38: 21–37, 1997.
- Jackson, D. How personal trainers can use self-efficacy theory to enhance exercise behavior in beginning exercisers. *J Strength Cond Res* 32: 67–70, 2010.
- Jennings, A, Barnes, S, Okereke, U, and Welch, A. Successful weight management and health behavior change using a health trainer model. *Perspect Public Health* 133: 221–226, 2013.
- Kavussanu, M and Roberts, GC. Motivation in physical activity contexts: The relationship of perceived motivational climate to intrinsic motivation and self-efficacy. *J Sport Exerc* 18: 264–280, 1996.
- Kirkland, RA, Karlin, NJ, Stellino, MB, and Pulos, S. Basic psychological needs satisfaction, motivation, and exercise in older adults. *Act Adapt Aging* 35: 181–196, 2011.
- Koff, E and Bauman, CL. Effects of wellness, fitness, and sport skills programs on body image and lifestyle behaviors. *Percept Mot Skills* 84: 555–562, 1997.
- Maddux, JE. Self-efficacy theory: An introduction. In: *Self-Efficacy, Adaptation, and Adjustment: Theory, Research, and Application*. Maddux, JE, ed. New York, NY: Plenum Press, 1995. pp. 3–33.
- Maguire, JS. Fit and flexible: The fitness industry, personal trainers and emotional service labor. *Sociol Sport J* 18: 379–402, 2001.
- McAuley, E and Blissmer, B. Self-efficacy determinants and consequences of physical activity. *Exerc Sport Sci Rev* 28: 85–88, 2000.
- McAuley, E, Szabo, A, Gothe, N, and Olson, EA. Self-efficacy: Implications for physical activity, function, and functional limitations in older adults. *Am J Lifestyle Med* 5: 361–369, 2011.
- Melton, DI, Katula, JA, and Mustian, KM. The current state of personal training: An industry perspective of personal trainers in a small Southeast community. *J Strength Cond Res* 22: 883–889, 2010.
- Norris, R, Carroll, D, and Cochrane, R. The effects of aerobic and anaerobic training on fitness, blood pressure, and psychological stress and well-being. *J Psychosom Res* 34: 367–375, 1990.
- Partridge, JA, Knapp, BA, and Massengale, BD. An investigation of motivational variables in CrossFit facilities. *J Strength Cond Res* 28: 1714–1721, 2014.
- Patrick, H and Canevello, A. Methodological overview of a self-determination theory-based computerized intervention to promote leisure-time physical activity. *Psycho Sport Exerc* 12: 13–19, 2011.
- Poag, KG and McAuley, E. Goal setting, self-efficacy, and exercise behavior. *J Sport Exerc Psychol* 14: 352–360, 1992.
- Preacher, KJ, Rucker, DD, and Hayes, AF. Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behav Res* 42: 185–227, 2007.

31. Ratamess, NA, Faigenbaum, AD, Hoffman, JR, and Kang, J. Self-selected resistance training intensity in healthy women: The influence of a personal trainer. *J Strength Cond Res* 22: 103–111, 2008.
32. Rhodes, RE, Martin, AD, Taunton, JE, Rhodes, EC, Donnelly, M, and Elliot, J. Factors associated with exercise adherence among older adults: An individual perspective. *Sports Med* 28: 397–411, 1999.
33. Rogers, WM, Murray, TC, Courneya, KS, Bell, GJ, and Harber, V. The specificity of self-efficacy over the course of a progressive exercise programme. *Appl Psychol Health Well Being* 1: 211–232, 2009.
34. Ryan, RM and Deci, EL. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *Am Psycho J Pers Social Psy* 55: 68–78, 2000.
35. Sallis, JF, Hovell, MF, Hofstetter, CR, Faucher, P, Elder, JP, Blanchard, J, Casperen, CJ, Powell, KE, and Christenson, GM. A multivariate study of determinants of vigorous exercise in a community sample. *Prev Med* 18: 20–34, 1989.
36. Sandstrom, GM and Dunn, EW. Social interactions and well-being: The surprising power of weak ties. *Pers Soc Psychol Bull* 40: 910–922, 2014.
37. Silva, MN, Vieira, PN, Coutinho, SR, Minderico, CS, Matos, MG, Sardinha, LB, and Teixeira, PJ. Using self-determination theory to promote physical activity and weight control: A randomized controlled trial in women. *J Behav Med* 33: 110–122, 2010.
38. Storer, TW, Dolezal, BA, Berenc, MN, Timmins, JE, and Cooper, CB. Effect of supervised, periodized exercise training vs. self-directed training on lean body mass and other fitness variables in health club members. *J Strength Cond Res* 28: 1995–2006, 2014.
39. Teixeira, PJ, Carraça, EV, Markland, D, Silva, MN, and Ryan, RM. Exercise, physical activity, and self-determination theory: A systematic review. *Int J Behav Nutr Phys Act* 9: 78–107, 2012.
40. Wayment, HA and Taylor, SE. Self-evaluation processes: Motives, information use, and self-esteem. *J Pers* 63: 729–757, 1995.
41. Wilcox, S. Physical activity preferences of middle-aged and older adults: A community analysis. *Journal of aging and physical activity. J Aging Phys Act* 7: 386–399, 1999.
42. Wilson, PM, Rodgers, WM, Loitz, CC, and Scime, G. “It’s who I am... really!” the importance of integrated regulation in exercise contexts. *J Appl Biobehav Res* 11: 79–104, 2006.