

Quiz Policies

Eligibility

The NCSF online quizzes are open to any currently certified fitness professional, 18 years or older.

Deadlines

Course completion deadlines correspond with the NCSF Certified Professionals certification expiration date. Students can obtain their expiration dates by reviewing either their certification diploma or certification ID card.

Cancellation/Refund

All NCSF continued education course studies are non-refundable.

General Quiz Rules

- You may not have your quiz back after sending it in.
- Individuals can only take a specific quiz once for continued education units.
- Impersonation of another candidate will result in disqualification from the program without refund.

Disqualification

If disqualified for any of the above-mentioned reasons you may appeal the decision in writing within two weeks of the disqualification date.

Reporting Policy

You will receive your scores within 4 weeks following the quiz. If you do not receive the results after 4 weeks please contact the NCSF Certifying Agency.

Re-testing Procedure

Students who do not successfully pass an online quiz have the option of re-taking. The fees associated with this procedure total \$15 (U.S) per request. There are no limits as to the number of times a student may re-test.

Special Needs

If special needs are required to take the quiz please contact the NCSF so that appropriate measures can be taken for your consideration.

Quiz Rules

What Do I Mail Back to the NCSF?

Students are required to submit the quiz answer form.

What do I Need to Score on the Quiz?

In order to gain the .5 NCSF continued education units students need to score 80% (8 out of 10) or greater on the CEU quiz.

Where Do I Mail My Quiz Answer Form?

You will mail your completed answer form to:

NCSF

Attn: Dept. of Continuing Education

5915 Ponce de Leon Blvd., Suite 60

Coral Gables, FL 33146

How Many CEUs Will I Gain?

Professionals who successfully complete the any continuing education quiz will gain .5 NCSF CEUs per quiz.

How Much does each quiz cost?

Each quiz costs the student \$15.00.

What Will I Receive When The Course Is Completed?

Students who successfully pass any of the NCSF online quizzes will receive their exam scores, and a confirmation letter.

How Many Times Can I Take The Quizzes For CEUs?

Individuals can take each NCSF quiz once for continuing education credits.

Sub-Threshold Training

Adaptation response is very specific to the physiological demands experienced by the body and the frequency with which the stress is experienced. An individual who routinely goes to the gym ensures two things: 1) a frequency of physical activity has been established, and 2) more calories are being expended by the body than if the person was sedentary. For some reason, people believe that by simply being in an environment where physical activity occurs and engaging in some level of the activities, they should attain all the desired results associated with the activities. From a physiological standpoint, this is way off base, as specific research in the area indicates otherwise. An evaluation of a traditional approach to weight lifting and the common intensities used based on one's own accord indicates these actions will likely yield a low caloric expenditure and no overload on the tissue. The obvious variable is the intensity. According to several research studies published in the *Journal of Strength and Conditioning Research*, most people self-selecting intensities train between 40-60% of 1RM but do not use corresponding repetition ranges that cause volitional failure and therefore do not stimulate any overload. The research also suggests that both men and women have a tendency to select intensities far below threshold for the repetitions they perform, which explains why so many people exercise with limited results.

In one study (Glass, 2004) analyzing self-selected loads, normal weight, untrained men and women with a mean age of 19.5 performed the seated chest press, leg extension, seated back row, military press, and biceps curl. The subjects self-selected the loads used for each exercise bout. Following the self-selection trials, the subjects were tested for their one repetition maximum (1RM) for each lift. Regardless of gender, and in all cases, the self-selected loads were below 60% 1RM. Also, lift intensities were found to be similar for men and women, ranging between 42 and 57% 1RM. Consistent with the aforementioned findings, the number of repetitions completed and ratings of perceived exertion responses did not differ between gender, and neither gender reached volitional failure when exercising. The research demonstrated that when left to their own devices, new exercisers do not select a lifting intensity sufficient to induce hypertrophic responses and subsequent strength increases.

The findings in the above study were reinforced by a later trial (Focht, 2007) that compared supervised exercise sessions using controlled intensities to subsequent self-selected exercise. A similar group of subjects – untrained women of college age – were asked to exercise at 75% of measured 1RM in a supervised weight training environment and then asked to train on their own using self-selected intensities for the same exercises. Both the rates of perceived exertion and intensities used were higher in the intensity-selected trial compared to the self-selected trial. Researchers concluded that untrained women are not likely to self-select a relative intensity sufficient to stimulate meaningful improvements in muscular hypertrophy or strength. These findings reinforce the fact that people seem to prefer to work out at a level that is below threshold, suggesting that using a personal trainer may be necessary for exercise participants to reach a level of training that will produce physiological improvements.

A recent study (Ratamuss, 2008) investigated this concept. The study examined the influence of a personal trainer on an individual's resistance training program versus unsupervised resistance training on the self-selected intensities used during resistance exercise. Forty-six resistance-trained women with a mean age of 26 either trained individually or with a personal trainer. During their individual resistance training workouts, the women were asked to select a weight that enabled them to complete ten repetitions. The exercises they performed included the chest press, leg press, seated row, and leg extension. In a subsequent trial, each participant was tested for one repetition maximum (1RM) strength on each exercise. The self-selected intensity was then calculated based on a percent of each subject's 1RM value. For self-selected relative intensity, the personal training group selected significantly greater intensities for each of the exercises. The interesting fact was that for each exercise used, the value selected by both groups was below the training threshold for improvements. In comparison, the intensities selected by the personal training group were at least 10% higher than the self-selected intensities, but in no exercise was the intensity greater than 60% used [Leg press (50% vs. 41%), Chest press (57.4% vs. 48%), Seated row (56% vs. 42%) and Leg Extension (43% vs. 38%)]. The average self-selected intensity for all exercises equaled approximately 51.4% in the personal training group and approximately 42.3% in the self-directed group. When the 1RM values were compared, the leg press, leg extension, and seated row were greater in the personal-trained group compared to the self-directed group. In all exercises except the leg press, the rates of perceived exertion values were significantly higher in the personal-trained group compared with the self-directed group as well. Researchers concluded that these results indicate that resistance training under the supervision of a personal trainer leads to greater initial 1RM strength values, self-selection of greater workout intensities, and greater ratings of perceived exertion values during resistance exercise. That being said, even with the use of a personal trainer, individuals do not perform the exercises at the same intensities when not directly under the supervision of the personal trainer.

Based on the findings from the different research trials, three relevant assumptions come to the forefront. The first is that although people exercise, self-selected exercise intensity is often too low to reap the adaptation benefits of improved strength and lean mass expected from routine resistance training. Secondly, personal trainers can have a positive effect on a person's measured strength when compared to individuals that perform strength training without a personal trainer. Thirdly, those that train under the professional supervision of a personal trainer self-select higher intensities when left to their own accord than do individuals that have never used a trainer. These findings can be viewed as both positive and negative. Obviously, not only do personal trainers serve to improve a person's strength when the client is under their guidance, the client may work harder on his or her own compared to participants working without the assistance of a personal trainer. On the other hand, regardless of supervision, people generally self-select training intensities that are too low for physical improvements because the exercise intensity used is sub-threshold.

This raises an important question: is education the key to changing a person's training intensities from a sub-threshold level to an intensity value that exceeds threshold? In his

2004 trial, Glass et al. demonstrated that individuals who self-select loads for resistance training do so at a level that falls below the accepted threshold for overload and do not lift to volitional fatigue. In a recent study published in the *Journal of Strength and Conditioning*, Glass investigated the effects of education and experience on intensity selection. Using resistance training learning trials, Glass compared a control group composed of five women and three men, and a learning group of four women and four men, all of whom were novice weight lifters. The control group received an orientation on the proper use of the exercise machines employed for the trial, which included the seated chest press, leg extension, back row, biceps curl, triceps extension, and shoulder press. On a subsequent training day, the control group self-selected a training load by feel, as no weights were labeled. The learning group also received an initial orientation, but the subjects were tested for estimated 1 repetition maximum (1RM) on the seated chest press. On a subsequent day, the learning group completed two sets of the seated chest press at a weight that was 75% of the estimated 1RM. Additionally, each test subject was encouraged to lift until failure. On a third day, the learning group completed a self-selected trial identical to that of the control group. Following the completion of the trials, both groups were assessed for estimated 1RM on each of the machines used in the trials. Comparisons between the control group and the learning group on the blind self-selection of the chest press exercise demonstrated that the experience of learning the appropriate resistance to use for training before self-selecting a resistance had an impact on the load selected. In the educated group, the self-selected load on the chest press was 21% greater – about 65% of 1RM – compared to the control group, which averaged about 50% of 1RM. In the analysis of the other exercises, however, there were no significant differences in self-selected loads between groups. Glass et al found there were no significant differences in the number of repetitions performed or the rate of perceived exertion between groups. The authors concluded that although the learning trial of the chest press influenced the self-selected workload, the influence was not enough to change load self-selection. These findings further support the need for ongoing, supervised instruction. A cursory education in proper lifting technique and even load selection seems to carry very limited benefit for individuals exercising on their own.

This puts even greater emphasis on the need for more supervised exercise programs. Regardless of the environment or the type of training, aerobic trials yield similar results because people inherently gravitate towards exercise and physical activity that is perceived as comfortable. The problem lies in the fact that the very nature of working at comfortable levels suggests insufficient stress for adaptation improvements. To be sure, any exercise is better than none, and even low to moderate levels can benefit disease risk and management, but this strikes a significant blow to the idea the American people can and will exercise at a level that will positively affect the pandemic of diseases currently facing the nation. In fact all trends point in the opposite direction.

References

Glass et al. *Journal of Strength and Conditioning Research*. 2008 May;22(3):1025-9

Rassamus et al. *Journal of Strength and Conditioning Research* 2008 Jan;22(1):103-11

FochT, B.C. *Journal of Strength and Conditioning Research* 2007 Feb;21(1):183-7

Glass et al. *Journal of Strength and Conditioning Research* 2004 May;18(2):324-7



CEU Quiz

- Adaptation responses in one's body depend on _____ and _____
 - physiological demands; frequency of exercise
 - perceived effort; duration of exercise
 - frequency; type of exercise
 - psychological demands; intensity of exercise
- Self-selected intensities in traditional weight-training often lead to:
 - improvements in hypertrophy
 - improvements in strength
 - a lack of overload
 - overtraining
- Even when an individual exercises regularly, it is likely he or she will not see _____ and _____ if the intensities are too low.
 - physiological improvements; psychological changes
 - decreases in lean mass; decreases in strength
 - improvements in strength; gains in lean mass
 - any caloric expenditure; weight loss
- In consistent studies, men and women who exercise on their own:
 - self-select intensities below 60% 1RM
 - do not select gender-appropriate exercises
 - do not exercise often enough
 - none of the above.
- New exercisers generally do not see improvements in hypertrophy and strength because:
 - they do not spend enough time in the gym
 - their volume is relatively low
 - they do not select appropriate lifting intensities
 - they should not lift weights
- Personal trainer can help a client improve:
 - initial 1RM strength values
 - greater workout intensities
 - greater ratings of perceived exertion
 - all of the above
- Individuals who self-select loads for resistance training often:
 - meet or exceed threshold guidelines when lifting
 - do not lift to volitional fatigue
 - lift to muscle failure
 - lift using rep schemes appropriate for strength training

8. In the 2008 study performed by Glass et al, the results indicated that:
- a) educating new exercisers on the use of machines did not help at all
 - b) the learning and control groups showed no differences in exercise load
 - c) in the case of the chest press, the learning group did self-select a load approximately 21% greater than the load selected by the control group
 - d) none of the above
9. Exercise performed at a level comfortable for the individual:
- a) will not affect changes in his or her risk for disease
 - b) is insufficient to affect positive improvements
 - c) provides no benefit whatsoever
 - d) can cause decreases in hypertrophy
10. What affect does exercise supervision have on training?
- a) Subjects later self-selected appropriate intensity levels
 - b) Subjects work out above threshold levels when exercising on their own
 - c) Subjects do not benefit from the assistance of a personal trainer
 - d) Subjects have better results overall



Quiz Answer Form

FIRST NAME _____ LAST NAME _____ M.I. _____

TITLE _____

ADDRESS _____ APT. _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

COUNTRY _____ POSTAL CODE _____

CERTIFICATION NO. _____ CERTIFICATION EXP. ____/____/____

MEMBERSHIP NO. _____ MEMBERSHIP EXP. ____/____/____

Quiz Name	Member Price	Total
	\$15	



Discover



Visa



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Amex



Check/Money Order

Account No. _____

Exp. Date _____

Security Code _____

Signature _____

Date _____

Quiz Answers

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

Fill in each blank with the correct choice on the answer sheet. To receive 0.5 CEUs, you must answer 8 of the 10 questions correctly.

Please mail this Quiz answer form along with the proper enclosed payment to:

NCSF
5915 Ponce de Leon Blvd., Suite 60
Coral Gables, FL 33146

Questions? 800-772-NCSF