



Helping Students Experience the Healthful Benefits of **EXERCISE**

Marco¹ joined a fitness center, believing that exercise would help decrease the effects of stress. He had just started his freshman year of college and was finding the transition difficult. Marco committed to going to the gym every other day for the psychological health benefits. As a result, his mood improved, he experienced less anxiety and stress, and he felt physically stronger. However, over time those benefits became increasingly more difficult to achieve. Therefore, Marco incorporated running into his exercise routine. On days he didn't work out, he had trouble concentrating during classes and didn't feel as much pleasure engaging in activities he had previously enjoyed. As a result, he decided to increase his running and workouts to twice daily, sometimes skipping classes to go to the gym. Soon exercise, and finding ways to engage in more physical activity in order to attain that same level of stress reduction, were all he could think about.

Marco's exercise habits began to interfere with his social life as well as his academic performance. He blocked phone calls from friends whenever he was in the middle of his exercise routine. Due to the stress caused by his declining academic performance as well as the lack of social support, Marco further increased his already substantial exercise routine.

Eventually, Marco failed so many classes that he had to drop out of school.

Exercise addiction can occur whether students live at home or in a setting where they are responsible for their own schedules and have less overall supervision. Educators, school personnel, and parents need to be aware of the warning signs and behaviors of exercise addiction in order to plan a timely intervention. Schools can provide students with guidelines regarding balancing healthy exercise amounts with other necessary activities so they can take a wholistic approach when they become responsible for creating their own daily schedule.

The Nature of Exercise Addiction

Exercise has many physical and psychological benefits: It decreases resistance to fatigue, improves muscular strength, reduces the incidence of cardiovascular disease, lowers the risk of depression, and reduces the effects of aging.² These benefits can be achieved by participating in 30 minutes of moderate intense exercise three to five days a week.³ However, excessive physical activity (defined by Landolfi as consuming the majority of a person's time) has negative outcomes that may develop into exercise addiction if it becomes an all-consuming activity.⁴ For in-

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Box 1. Symptoms of Exercise Addiction

stance, in one study, sport science majors had a higher risk of developing exercise addiction compared to the general population.⁵

Exercise addiction is not recognized in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5).⁶ This type of behavior is, instead, defined as a behavioral addiction. Although there is no uniform definition of exercise addiction, the researchers consistently refer to the following symptoms: a craving for habitual physical activity that results in uncontrollable and excessive exercise behavior, which produces physiological and psychological symptoms such as anxiety and depression.⁷ [See Box 1.] Hausenblas and Downs⁸ identified exercise addiction as having the same core diagnostic criteria as behavioral addiction, which includes tolerance, withdrawal, lack of control, intention effects, time, reduced participation in other activities, and continuance.⁹

Prevalence and Risk Factors

Millions of people exercise every day for the health benefits. The vast majority of them would not be classified as having an addiction.¹⁰ A 2012 population-wide study conducted in Hungary surveyed a group of 474 people who exercised at least once a week and determined only 0.5 percent of those surveyed were at risk to develop exercise addiction.¹¹ However, in terms of prevalence, research has produced varying results. Hausenblas and Downs¹² reported that between 3.4 percent and 13.4 percent of their sample of university students, half of whom were involved in sports, were at risk for exercise addiction. A sample of sport science and psychology students identified 3.0 percent as being at high risk of exercise addiction, based on the Exercise Addiction Inventory (EAI) developed by the authors.¹³

However, among people connected to recreational sports, the prevalence seems to be higher. Szabo and Griffiths¹⁴ found that 6.7 percent of sport-science students were at risk for exercise addiction, and Blyden and Lindner¹⁵ reported that 30.4 percent of triathletes could be identified as addicted to exercise, based on the Exercise Dependence Questionnaire (EDQ).¹⁶

In another study of runners, researchers concluded that 26 percent of males and 25 percent of females surveyed could be classified as having an exercise addiction.¹⁷ This finding agreed with other research that found a higher prevalence of exercise addiction in males (like Marco, at the beginning of the article) and among university students.¹⁸ Additionally, a study of Hispanic university athletes, including sport students and non-sport students, to a group of ultra-marathon runners using the Exercise Addiction Inventory (EAI) psychometric found that men scored higher than women, and ultra-marathoners scored higher than both groups of university students.¹⁹

The prevalence of risk for exercise addiction was seven to 10 percent in university athletes and 17 percent in ultra-marathoners. While most studies on exercise addiction have involved adults, a study conducted by Downs, Savage, and DiNallo showed that exercise addiction was also prevalent in adolescents. From their sample of 805 high school students, six percent were classified as at risk for exercise addiction. However,

- Tolerance: increasing the amount of exercise in order to feel the desired effect, be it a “buzz” or sense of accomplishment.
- Withdrawal: absence of exercise results in negative effects such as anxiety, irritability, restlessness, and sleep problems.
- Lack of control: unsuccessful attempts to reduce exercise level or cease exercising for a certain period of time.
- Intention effects: unable to stick to one’s intended routine as evidenced by exceeding the amount of time devoted to exercise or consistently going beyond the intended amount.
- Time: a great deal of time is spent preparing for, engaging in, and recovering from exercise.
- Reduction in other activities: social, occupational, and/or recreational activities occur less often or stop.
- Continuance: continuing to exercise despite knowing that this activity is creating or exacerbating physical, psychological, and/or interpersonal problems.

Adapted from Heather A. Hausenblas and Danielle Symons Downs, “How Much Is Too Much? The Development and Validation of the Exercise Dependence Scale,” *Psychology & Health* 17:4 (August 2002):387-404.

among boys, eight percent were classified as at risk for exercise addiction, compared to only four percent of girls.²⁰ This replicated prior findings by Vilella et al., who surveyed 2,853 students between the ages of 13 and 20. Their study classified 10.1 percent of males as at risk of exercise addiction, compared to 6.3 percent of females.²¹

Development and Etiology

It has been suggested that people become addicted to exercise due to the physiological mechanisms involved in exercise, such as the euphoria experienced by many people during intense exercise.²² Intense exercise, defined as 70 to 90 percent of maximum heart rate, results in the activation of the endogenous opioid system, inducing a significant endorphin concentration.²³ This acts as a post-exercise reinforcer; and consequently, the person starts to crave that heightened mood caused by the release of the opioid-like substance. This results in a continuous cycle, as the heightened mood doesn’t last.

However, another theory about the etiology of exercise addiction employs a psychological explanation. Morris et al.²⁴ found that regular runners (those who ran at least three times a week) who stopped running exhibited greater social dysfunction, somatic symptoms, and anxiety after only one week, compared to those who continued running. Researchers have suggested the likelihood of habitual exercise changing to exercise addiction increases for people who exercise with the goal of escaping unpleasant feelings.²⁵ For them, exercise provides an escape from disturbing, persistent, and uncontrollable stress.²⁶

Based on this theory, students at all levels can be at risk for exercise addiction due to the variety of academic stressors they face, as well as social pressures from friends and other students.²⁷ Therefore, they learn to rely on exercise as a coping mechanism, feeling convinced that exercise is a healthy means of dealing with stress, as it is recommended in both schools and the media.²⁸ As a result, some young people may ra-

tionalize about their exaggerated amounts of exercise, which slowly takes a toll on their school obligations and normal daily activities. This causes them to experience negative psychological feelings such as irritability, anxiousness, and guilt if an unforeseeable event prevents them from exercising.²⁹ The loss of their coping mechanism, exercise, generates an increased perception of vulnerability to stress, which amplifies the negative feeling associated with the lack of exercise. This pressure causes the young person to resume his or her excessive exercise regimen at the expense of daily obligations, including academics, which incites further stress, ultimately trapping the student in a vicious cycle.³⁰

Research on the prevalence of exercise addiction is complicated by a variety of issues, most of which involve its co-occurring with other disorders. For example, studies have found strong links between exercise addiction and various forms of eating disorders.³¹ In a study involving 125 Parisian males and females who identified themselves as exercise addicts, 70 percent reported being bulimic.³² Another study examining triathletes reported that 52 percent of the sample could be classified as having an exercise addiction.³³ Of those, 50 percent of females were classified as having an eating disorder, compared to 27 percent of males.

Additionally, eating disorders are often accompanied by high levels

of physical exercise, or exercise addiction. A study on clinically diagnosed anorexic and bulimic adolescents reported that 80 percent of anorexic participants engaged in addictive exercise behaviors, compared to 25 percent of bulimic adolescents.³⁴ Therefore, this comorbidity makes it difficult to tease apart which addiction is actually the primary disorder. However, a 2004 study sought to determine whether primary and secondary exercise addiction could be considered as distinct and independent conditions.³⁵ The researchers discovered that not only is primary exercise addiction distinct from secondary exercise addiction, but also that exercise addiction can exist without an eating disorder being present.³⁶

Exercise addiction is not a separate disorder in the DSM-5, and thus, there are no diagnostic tools. Instead, there are only instruments developed by researchers to determine if an individual can be classified as having an exercise addiction. This results in differences in epidemiology and estimates of prevalence among various researchers.³⁷ Several studies have examined the relationship between personality and exercise addiction. Hausenblas and Giacobbini³⁸ found a positive correlation between perfectionism and exercise addiction symptoms. Other researchers have found obsessive-compulsiveness and anxiety to have a positive relationship with exercise addiction.³⁹



Consequences of Exercise Addiction

A serious consequence of exercise addiction, as with many behavioral addictions, is the reduced time spent participating in social, recreational, and spiritual activities as well as a lack of concentration at work and school.⁴⁰ Excessive exercise may also increase the risk of injury. Studies have found that individuals with exercise addiction will continue to exercise even when they have an injury or after repeated injuries.⁴¹

Prevention

Some researchers have identified several pre-existing characteristics in individuals with exercise addiction such as neuroticism, perfectionism, and extraversion.⁴² Highly neurotic individuals may be prone to excess worry or concern over their health and appearance, and therefore engage in excessive exercise to the point of addiction.⁴³ Furthermore, exercise addiction is also positively correlated to low self-esteem, experienced by those who struggle with their identity and feel insecure and anxious.⁴⁴ Coaches, parents, exercise instructors, friends, and peers are important in shaping personal identity in young people.⁴⁵ It should come as no surprise that individuals who develop a “have to” commitment to exercise are at higher risk for exercise addiction.⁴⁶

Since this association exists, parents, educators, and friends must monitor what they say and do in the presence of young people with a predisposition to exercise addiction.⁴⁷ Positive feedback, such as compliments about their achievements, and carefully designed, moderate exercise programs are critical to ensuring healthy exercise experiences for these individuals.⁴⁸ Exercise programs can consist of 30 to 60 minutes of continuous aerobic activity three to five days a week that maintains a maximum heart rate between 50 to 85 percent of heart rate reserve. Research shows youth can receive the health benefits of physical activity by engaging in just 30 minutes of aerobic exercise per day.⁴⁹

Persons affected by exercise addiction often show an extreme concern about their body image, weight, and maintaining control over their diet.⁵⁰ Caring adults can help prevent exercise addiction by helping children develop a positive body image. And later, as young people go through the changes of puberty, parents and educators can help boost their body image by being accepting and supportive, providing positive messages and encouraging other qualities that keep physical appearance in perspective. Additionally, adults can help young people engage in more healthful eating and physical activity behavior by modeling healthful behaviors, providing an environment that makes it easy for young people to make healthful choices, focusing less on weight and more on behaviors and overall health, and providing a supportive environment to enhance communication.⁵¹

Suggestions for School Personnel

Students experiencing exercise addiction or eating disorders should probably be referred to mental-health professionals. However, teachers and principals can take a number of actions to help identify risks and prevent exercise addiction.

- *Raise awareness.* Raising awareness is always the first step in ad-

The child or young adult:

- displays behavioral signs when he or she is unable to exercise such as increased anxiety, discomfort with rest or relaxation, and irritability.
- exercises for more than two hours daily, repeatedly, follows the same rigid exercise pattern, and over time, increases the amount of exercise.
- always works out alone, isolated from others, and his or her social activities have significantly declined.
- continues to exercise to the point of pain or beyond and even when he or she is sick.
- argues with friends and family about the amount of time he or she spends exercising.
- continues to exercise even after expressing a belief that he or she exercises too much or stating a desire to quit or cut back on exercising.

Adapted from Heather A. Hausenblas and Danielle Symons Downs, “How Much Is Too Much? The Development and Validation of the Exercise Dependence Scale,” *Psychology & Health* 17:4 (August 2002):387-404.

Addressing any type of problem or concern. School personnel should be informed about potential signs of exercise addiction. [See Box 2.] Schools can offer handouts and seminars to help train parents how to be more accepting, supportive, and encouraging of qualities that will increase their child’s self-esteem.⁵²

- *Provide positive role models.* School personnel can also serve as positive role models for students by practicing and encouraging healthy lifestyles. Children who struggle with perfectionism or obsessive-compulsive disorder are more prone to engage in compulsive exercise and thereby put themselves at risk for exercise-addiction behaviors.⁵³

- *Keep the lines of communication open.* When they suspect that a student may have a dependence on exercise, teachers and principals should notify the parents and direct the child to appropriate counseling to learn alternative methods to regulate emotions.⁵⁴ Taking a multifaceted approach to preventing exercise addiction means nurturing students and developing strategies to educate them about appropriate exercise. Teachers, health educators, coaches, fitness instructors, and other professionals should cooperate and keep communication open to recognize and intervene when signs of exercise addiction appear.

- *Use the curriculum to teach healthful behaviors.* Educators and health/physical-education instructors can organize mini-courses for students that affirm the benefits of exercise but also warn that losing control over one’s behavior can potentially be as dangerous to health as the misuse or abuse of any dangerous substance.⁵⁵ The mini-courses should also reiterate Adventism’s wholistic beliefs about self-control and moderation. Local churches can also hold seminars to raise awareness about appropriate exercise and steps that can be taken to prevent exercise addiction.

Strategies Used by Mental-health Professionals

If an individual is sent for treatment for exercise addiction, mental-health professionals may first have to help him or her become aware of the problem and the need for treatment. Motivational interviewing techniques are often used to achieve help those seeking help.⁵⁶ Mental-health professionals must make it clear that excessive exercise can have

negative consequences and that physical activity must be modified, moderated, and controlled. The next step may be cognitive behavioral therapy, which is usually the recommended form of treatment for many types of addictions, including exercise addiction.⁵⁷ In this situation, identifying and correcting the person's negative automatic thoughts (e.g., I have failed miserably because I couldn't finish my exercise routine this morning.) that result in maladaptive behavior and negative emotions are the key to success.⁵⁸

Licensed therapists may also recommend new forms of exercise or provide strategies for moderating physical activity. Because exercise in moderation is considered a healthy habit, a treatment goal could be to return to moderate exercise.⁵⁹ While teachers may not feel qualified to apply these kinds of strategies, it is always good for them to be alert to recognize when a student may be displaying signs of exercise addiction. Once they identify a problem, educators need to refer their students to specialists. Thorough psychological evaluation and sustained intervention may be necessary to prevent behavior that could produce a self-destructive cycle.

Conclusion

Exercise to promote health is a positive trait for adults to model. Teachers, administrators, parents, and other adults in a position of supervision over students should discuss exercise as they would any other potentially addictive substance or activity. There is an appropriate amount that is best. Too little or too much can have negative effects. When exercise begins to intrude upon studying, homework, personal devotions, and/or social activities, adults involved in the student's life should take appropriate action to educate and redirect. An inability to change the behavior indicates the need for professional intervention.

Identifying and addressing concerns about students who may have problems with exercise addiction can present a challenge. School employees and educators may need to take time to observe student behavior before choosing to intervene. School personnel can play a critical role in making sure students exercise for suitable lengths of time to prevent stress, but not so much that it interferes with their health and emotional well-being. Results may not be immediate, but with the help of supportive educational environments, students can learn skills to assess themselves and achieve balance between exercise and other necessary activities.

Teachers and administrators in Christian schools have the opportunity to remind students that God wants what is best for them and that He has a positive future planned for them (Jeremiah 29:11, NIV).⁶⁰ Any burden that we are carrying that causes self-destructive behaviors is a burden that Jesus wants to carry for us if we will just ask (Matthew 11:28, NIV). Any battle with addictive or self-destructive behavior is a battle that we cannot win without Jesus. He asks us to cast our cares upon Him because He cares for us (1 Peter 5:7, NIV). All help, even help for addiction, comes from the Lord (Psalm 121:1-3, NIV). When children and young adults are taught these facts by loving adults, they can turn to God to obtain the wisdom to avoid exercise addiction, yet continue to exercise to gain its multiple benefits. ✍

This article has been peer reviewed.



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