

OBESITY

Obesity is commonly defined as a body mass index of 30 kg/m² or higher. Increasing rates of obesity in many countries represent a great challenge for public health. In the United States, for example, the rate of adult obesity exceeds 35%. Obesity is associated with increased risk of premature mortality resulting from chronic diseases (e.g., diabetes, cardiovascular and cerebrovascular disease, certain cancers), increased disability (e.g., knee osteoarthritis, chronic back pain, fatigue), and increased health care costs.

The etiology of obesity is multifactorial, comprising both genetic and epigenetic factors. While an increasing number of putative risk factors continually emerge (including such novel contributors as sleep deprivation and stress), the “big two” causal factors are diet and physical inactivity.

Obesity is of special interest to exercise professionals because obese individuals exhibit lower rates of physical activity (PA) participation and higher rates of nonadherence and drop-out than their normal-weight counterparts. However, the reasons behind this phenomenon remain unexplored, severely limiting the intervention options that are available to practitioners.

The Challenge

While most scientific organizations and public health agencies currently recommend a minimum of 30 minutes of moderate-intensity PA on 5 days per

week for health maintenance in the general population, the recommended dose for weight management is more demanding. Specifically, most organizations recommend at least 60 minutes of activity per day to prevent weight gain and at least 60 to 90 minutes per day for the avoidance of weight regain in individuals who were previously overweight or obese.

Nearly all obese individuals report that they would like to weigh less (90% of men, 96% of women). Approximately two thirds report doing something in an effort to lose weight. Even of those obese individuals who say that they are doing something to lose weight, however, the percentage of them who report engaging in PA (approximately 61% of men, 56% of women) is lower than that in the general population.

The magnitude of the problem becomes more clearly evident when one examines how much PA obese individuals do. The percentage of those who do not meet the minimum recommended amount of PA for health approaches 80%. In 2000, according to Behavioral Risk Factor Surveillance System data, 21.3% of obese men and 15.9% of obese women trying to lose weight reported combining eating fewer calories with at least 150 minutes of PA per week. Only 6% of men and 3% of women reported combining eating fewer calories with at least 420 minutes of PA per week (i.e., 60 minutes per day on average). When activity is measured objectively via accelerometers, the percentage is even lower. In a 2009 study of 1,297 obese participants, which was conducted by Deborah Rohm Young and collaborators, only 1.7% were found to be active at least at a moderate intensity for

at least 60 minutes per day. On average, the participants in this sample did only 12.8 minutes of moderate and 2.0 minutes of vigorous PA per day.

Reverse Causation

When considering the relationship between physical inactivity and obesity, most researchers and practitioners assume that causation is unidirectional: People who do less activity become obese. However, longitudinal studies from several countries have shown that, whereas the inactivity–obesity link is usually weak or nonexistent, the obesity–inactivity link is always robust.

This finding has several implications. First, it underscores the importance of efforts to address the growing problem of childhood obesity because it suggests that, once obesity develops, it becomes an important barrier to PA participation. Second, this finding shows that obese individuals face unique challenges in their efforts to become and remain physically active, beyond those faced by their normal-weight and even overweight counterparts.

Psychosocial Impact

Extensive evidence indicates that obesity is associated with significant declines in quality of life (QOL) and a range of mental health problems. Among obese youth, self-reported QOL has been found to be comparable to that of children and adolescents diagnosed with cancer. Shame and social isolation are presumed to be significant mediators for this effect. Among adults, epidemiological data indicate that obesity is associated with a 25% increase in the risk for mood and anxiety disorders. Longitudinal studies, such as the British Whitehall II study, have also shown that, while obesity predicts mental health problems, the case is at least as strong for the reverse order: Individuals with a higher number of mental health problems have a higher risk of becoming obese over time.

Possible Reasons for Physical Activity Avoidance

The reasons for the extremely low rates of PA participation among obese individuals are not fully understood. Based on preliminary evidence, the hypotheses that have emerged include the following. First, possibly due to media messages, many obese individuals begin activity regimens with unrealistically high weight loss expectations. When these expectations are violated, frustration ensues.

Second, a high number of obese individuals experience self-presentational concerns in the context of PA, resulting in social physique anxiety (SPA). Under the influence of this anxiety, several environmental cues, such as the presence of others or wall-to-wall mirrors, are interpreted as threatening. Third, perhaps as a result of prior negative experiences, a high percentage of obese individuals report negative or dysfunctional attitudes toward PA. Approximately 25% report feeling “too fat to exercise.” In turn, this perceived barrier is associated with feeling too shy or embarrassed and having a poor exercise identity. Fourth, several studies have found evidence of both explicit and implicit antifat bias among exercise, nutrition, and medical professionals, as well as obesity specialists. For example, exercise science students, on average, endorse statements such as “Fat people are physically unattractive” and “There is no excuse for being fat.” Fifth, a growing number of studies show that physiological and biomechanical problems associated with obesity contribute to making the exercise experience less pleasant. It has been found, for instance, that obese individuals experience more pain (possibly due to heavier impacts on knees and lower back), higher perceived exertion, more dyspnea, and more uncomfortable thermal sensations during exercise.

Panteleimon Ekkekakis

See also Affective Responses to Exercise; Body Dissatisfaction; Body Self-Esteem; Social Physique Anxiety

Further Readings

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OPTIMISM

Optimism is an expectation for positive or desirable outcomes to occur. Viewed by some as an inherent and evolutionarily adaptive aspect of human biology, it has been examined by psychologists both as a relatively stable dispositional trait (“big optimism”) and as a less stable, situation-specific state of mind (“little optimism”). In its dispositional form, optimism has numerous similarities with the psychological constructs of explanatory style and hope. As a situation-specific variable, it has similarities with the constructs of confidence and self-efficacy. In both forms, optimism is believed to be closely linked to positive emotions and approach behavior.

Optimism and Health

Numerous studies have examined optimism as a correlate of mental and physical health, and there is strong evidence for its wide-ranging benefits. From a mental health perspective, optimism is associated with lower daily hassle scores and lower levels of perceived stress. Studies across a wide range of populations (e.g., students, working professionals, victims of violence, medical patients, caregivers) have shown that optimism is also associated with lower levels of anxiety and depression. In addition, greater perception of control, fewer mood disturbances, less loneliness, higher levels of life satisfaction, and higher levels of self-esteem have been observed as correlates of optimism. Finally, optimism also appears to be associated with lower levels of chronic anger and less suppression of anger when it does occur.

From a physical health perspective, optimism shows positive associations with both self-reported and objectively assessed outcomes, and the strength of these associations is similar for healthy cohorts and patient cohorts. For example, healthier lifestyle habits, fewer physical symptoms, better physical functioning, and lower levels of pain have been documented among individuals high in optimism. Physiological markers of health (e.g., blood pressure [BP], blood glucose level) and immune

system functioning also appear to be better among individuals high in optimism. Among cardiac patients, optimism has been associated with fewer postsurgical complications, reductions in postsurgical angina, better ratings of physical recovery by hospital staff, decreases in coronary risk scores over time, and fewer readmissions to the hospital. Positive consequences of optimism have also been observed among cancer patients for outcomes such as physical symptomatology, physical functioning, and cancer antigens. Studies that have examined optimism in relation to survival or mortality have generally shown small but significant relationships between the two constructs.

Optimism in Sport and Exercise

Studies in the domains of sport and exercise have also documented a number of benefits associated with optimism. Interviews with Olympic athletes, their coaches, and family members suggest that these individuals are characterized by high levels of dispositional optimism and hope. Optimism has also been shown to correlate positively with measures of mental toughness among athletes. Similar to findings in other domains, athletes high in optimism report greater use of approach-oriented coping strategies (e.g., logical analysis, increased effort) and less use of avoidance-oriented coping strategies (e.g., disengagement) when facing difficulties. They have also been shown to exhibit greater persistence following unsuccessful performances and to experience higher levels of positive affect following successful performances. In addition, optimistic athletes appear to have lower levels of perceived stress as well as lower burnout risk scores.

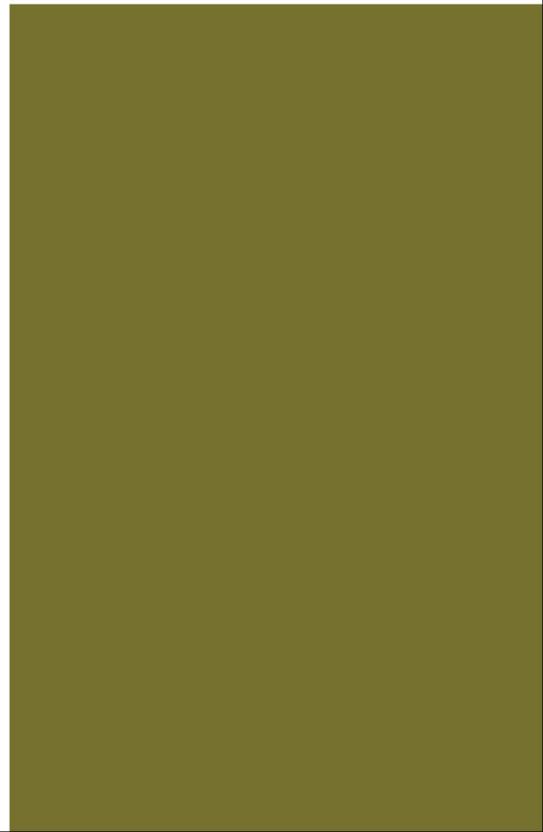
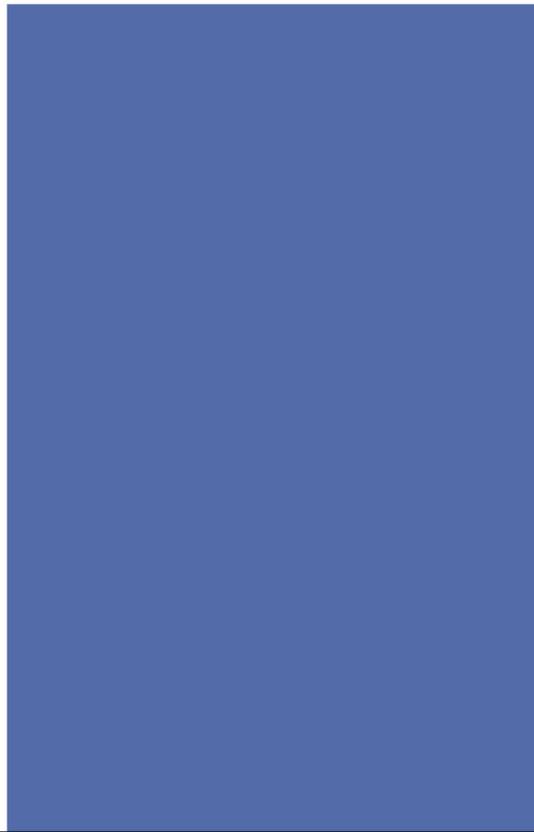
Exercise-related studies have supported the distinction between big (dispositional) optimism and little (activity-specific) optimism, and they have shown that these constructs are differentially related to exercise cognitions. Specifically, big optimism appears to correlate positively with longer-term thinking about exercise (e.g., planning and intentions), while little optimism appears to correlate positively with shorter-term thinking (e.g., decision making [DM]). At a more global level, there is evidence that high levels of optimism are associated with high levels of physical activity (PA), while lower levels of optimism are associated with lower levels of PA. This positive relationship between optimism and PA levels has been observed in samples of young adults as well as samples of elderly adults.

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