



# The Research File

Information for professionals from the Canadian Fitness and Lifestyle Research Institute

## Physical Activity as a Coping Strategy for Stress

Many fitness enthusiasts use their daily run or swim or exercise class as a way to help cope with the stress and demands of work and family responsibilities. Newcomers to physical activity are often surprised and delighted to discover for themselves this pleasant benefit of their routine.

The role of physical activity as a therapeutic treatment for stress has received considerable research attention in recent years. Much of the research has focused on the relationship between chronic exercise and either the tendency to report life stress or to experience stress-related symptoms. Other research has looked at the effects of chronic exercise or an acute bout of exercise on an individual's response to a specific stressor.

### Research Review

A review of some 45 studies (conducted over a period of 15 years) by Dr. Bonita Long and her colleague strongly supports the beneficial role of physical activity as a coping strategy for stress. The review used the cognitive theory of stress and coping as outlined in Lazarus and Folkman's influential book, *Stress, Appraisal, and Coping*, as a framework for the analysis.

Here *stress* is defined as "a relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering well-being."

*Coping* means "constantly changing cognitive and behavioural efforts to manage spe-

cific external and/or internal demands that are appraised as taxing or exceeding the resources of the person."

The review divided the studies into three groups based on the design and sophistication of their procedures. Studies were examined with respect to experimental conditions, length of time over which exercise programs and other conditions were implemented, assessment methods, and outcomes.

### Positive Results

Aerobic exercise programs were the most widely employed in the studies: vigorous activities, for 20 to 60 minutes, three or more times a week, over an 8- to 10-week period. A variety of psychological assessment instruments were used, including the State-Trait Anxiety Inventory (STAI), the Profile of Mood States, and the Ways of Coping Checklist.

Regardless of the design of the studies, the results were wholly positive. Outcome results in all of the studies demonstrated some improvement on the psychological measures. All studies measuring physiological change demonstrated fitness gains. Furthermore, significant associations linking fitness with decreases in life stress were apparent.

However, the review showed that it was not necessary for the physical activity to provide an aerobic conditioning effect in order to afford psychological benefits. Activities providing positive results included yoga, flexibility, and light resistance training.

### Lessons for Researchers

The review identified a number of issues researchers might address in the future to help fine tune their efforts. These included:



- always using a control group, plus random assignment to treatment or control;
- selecting (more often) study participants who are both sedentary and stressed;
- standardizing the stress measurements used (STAI is recommended);
- examining different modes of physical activity (both aerobic and non-aerobic);
- follow-up to establish durability of change.

The majority of studies examined in this review only stood up well in some of these areas. If more of the research in the future aims to meet all these high standards, an even stronger cause-and-effect relationship can be established.

Results of this review show that physical activity may be used in a number of ways as a coping strategy. It may serve as a coping mechanism by regulating emotions (e.g., providing relaxation), it may facilitate a problem-focused function (e.g., time to work through a problem while running), or it may enhance personal resources by providing experiences that allow the individual to become more physically fit and self-confident.

However it works, the results are nothing but beneficial—and much appreciated by those who experience them!

### For More Info...

Rostad, F.G., & Long, B.C. (1995). Exercise as a coping strategy for stress. *International Journal of Sport Psychology*, 27(2), 197–222.

Long, B.C., & Van Stavel, R. (1995). Effects of exercise training on anxiety: A meta analysis. *Journal of Applied Sport Psychology*, 7, 167–189.

## Actively Coping With Stress

Regular physical activity is a great way to release stress and tension and achieve physical relaxation. To get the most out of it:

- Pursue activities you enjoy and ones that fit comfortably into your daily routine.
- Try to be active several times a week.
- Establish an "activity habit," sticking with it over the long term.

