

## **MODULE B: BACKGROUND INFORMATION**

### **FITNESS MANAGEMENT**

#### **Background Information**

##### **Fitness Benefits of Physical Activity**

Regular physical activity increases the body's capacity and efficiency for work (performing movement), reduces the risk of injury and disease, and positively affects body composition (increased muscle mass, increased bone mass, and decreased fat mass). Movement places increased demands on the cardiovascular, respiratory, muscular, skeletal, and nervous systems of the body. Each system benefits from an activity plan that has consistent and progressive increases in the level of work intensity (activities that are harder to do and take longer to complete). The body's systems adapt to the increasing load, resulting in greater efficiency in these systems and thereby resulting in an increased ability to perform work. In other words, the body is able work longer and harder than it was able to before. After a person has achieved a new level of fitness, everyday tasks are no longer as difficult as they once were.

We do not have to spend hours in a gymnasium to gain the fitness benefits of physical activity. Every time we throw a ball, swim a lap, or climb a flight of stairs, our five main body systems are adapting. If these activities are consistent enough, our overall fitness will improve.

The human body responds well to consistent and progressive physical activity. Substantial improvements may be anticipated in cardiovascular and respiratory (heart, circulatory, and lung) function, muscular strength and endurance, flexibility, body composition, and the ability to respond to psychological stress.

Some of the more noticeable changes resulting from physical activity may include

- increased heart and circulatory function and endurance, seen as a lower heart rate for a given activity and a lower resting heart rate
- increased muscular strength, seen as an ability to lift heavier loads or an increased ease in lifting lighter loads
- increased muscular endurance, seen as the ability to execute more repetitions without rest
- increased bone strength, seen as a decreased risk of fracture or injury
- increased joint range of motion or flexibility, seen as an ability to reach or move into body positions impossible to attain previously
- increased physical work capacity, seen as an ability to complete more work in a single bout (e.g., shovelling a driveway with lower risk of injury or adverse effect)
- improved body composition (more muscle, stronger bones, and less body fat)

## Health Benefits of Physical Activity

The health benefits of physical activity and exercise are well researched and documented. In addition to benefiting the cardiovascular, respiratory, muscular, skeletal, and nervous systems, physical activity and exercise also have a positive effect on the endocrine (hormonal responses) and immune (ability to defend against infection) systems. Because physical activity and exercise have such a wide-ranging effect on all the body's systems they have been referred to as having a systemic effect. *Systemic* means system wide – across all body systems.

Evidence shows that regular physical activity and exercise can reduce the risk of many diseases and conditions, as well as having many other health benefits:

- Physical activity and exercise reduce the risk of diseases and conditions such as
  - heart attack or heart disease
  - second heart attack
  - stroke
  - colon, lung, breast, prostate, and many other cancers
  - high cholesterol and triglycerides (fats)
  - high blood pressure (hypertension)
  - abnormal blood sugar levels
  - type 2 diabetes
  - osteoporosis (reduced bone density)
  - pain
  - arthritis and total hip or knee replacements
  - depression and anxiety
  - sleep apnea
- Physical activity and exercise can also result in benefits such as
  - improved pain tolerance
  - improved self-esteem
  - improved immune system
  - better posture and balance
  - decreased incidence of unintended falls
  - greater energy
  - improved sleeping habits
  - faster recovery from injury or surgery

- increased high-density lipoproteins (HDL, or the “good” cholesterol)
- increased potential to achieve and maintain a healthy body weight by burning calories
- improved work capacity
- improved nervous system (better neurons)

## **Mental-Emotional Benefits of Physical Activity**

Physical activity participation provides children and youth with opportunities for growth and development far beyond the obvious health benefits. Participation in sport, exercise, and physical activity also helps individuals

- develop social skills, such as sharing, taking turns, cooperating, and learning about winning and losing
- develop physical skills (e.g., coordination, posture, balance), locomotor skills (e.g., running), and manipulation skills (e.g., using a racquet or hockey stick), which contribute to a person’s self-efficacy
- develop a sense of belonging (when doing things with others, either in casual or organized activities and sports)
- develop family relationships (when parents play and exercise with their children and support their children’s sports)
- achieve academically in school
- prevent or control risky behaviours, such as the use of tobacco, alcohol, or other substances, unhealthy diets, or violence
- develop increased self-discipline, greater self-esteem, and a healthier body image
- increase opportunities to take on leadership roles, deal with adversity, and develop the ability to manage time



## **Background Information**

### **Physical Activity and Exercise Behaviour**

We are all born with a need and a desire to be physically active. This need and desire are kept alive through successful participation in physical activity, the freedom to explore various movement experiences, and having fun. Staying active will do more than promote the essential fitness behaviours that have been shown to add years to life. Staying active will maintain the physical vitality that adds life to the years.

Unfortunately, many changes have taken place in our society, such as increased consumerism, conveniences, and wealth orientation, which have reduced the necessity to move or to be active. Along with the movement toward relative inactivity come the increased risks of illnesses and diseases. This general trend toward inactive (sedentary) and other unhealthy lifestyles (e.g., over-consumption of food) has led to a crisis in the health care system, an increase in personal health-related tragedies, and an “obesity epidemic.” There is an urgent need to address this trend. In other words, we need to change our attitudes, giving higher priority to physical activity and exercise behaviours in our lives. We must move physical activity from a “want to do” to a “must do.”

## Stages of Change

Changing our attitudes and behaviours is a process that occurs over time, and we are all at different stages of readiness to change. The Stages of Change model, as outlined by Prochaska, Norcross, and DiClemente, provides a framework for explaining how behaviour change occurs in people. The stages of change have been applied as a model of how people change in relation to a variety of problem behaviours (e.g., related to substance addictions, eating habits, disease prevention). The model helps identify where people are along the continuum of change and provides specific approaches or types of assistance for each stage of change to facilitate individuals in moving through the stages.

The Stages of Change model consists of five stages, which can help determine where individuals are in the process of changing their attitudes and behaviours related, for example, to increasing physical activity:

1. **Pre-contemplation:** People in this stage are not thinking about changing their inactive or sedentary behaviour and are not aware of their problem. They have not considered changing.
2. **Contemplation:** People in this stage have thought about their problem, can identify that they are inactive, and have devoted some thought to changing. They have not taken action to change, or they may be beginning to consider options for change.
3. **Preparation/decision:** People in this stage have begun the process of change by examining possibilities and options, such as considering a gym membership, looking at new exercise clothing, wanting to start using a pedometer, or contemplating a noon-hour walking program.
4. **Action:** People in this stage have taken steps to overcome their sedentary lifestyle by modifying their behaviour, experiences, or environment in order to overcome their problem. Action involves the most overt behavioural changes and requires a commitment of time and energy. Early indicators of the action stage include steps such as evaluating different exercise facilities and costs, purchasing a gym membership, purchasing exercise equipment, joining a walking group, and using exercise equipment for physical activity rather than as “furniture.”

5. **Maintenance:** People in this stage consolidate the gains attained as a result of initial action through sustained involvement in the new behaviour, in this case an active lifestyle (or avoidance of the old behaviour – physical inactivity). Adoption of the new behaviour usually requires a period of many weeks to months.

With this model, behaviour change is viewed as a process. An individual's readiness for change is related to how far along the person is in the Stages of Change continuum. People can enter and exit a stage at any point, and some people may repeat a stage several times. They can move both forward and backward between the stages. Generally, the goal is to have a person move along each stage from pre-contemplation to maintenance (the new behaviour). Once a person is identified as being at a specific stage for a certain behaviour (e.g., increasing physical activity or decreasing sedentary behaviour), an approach is adopted to aid the person, specific to that stage.



## Background Information

### Processes of Change

Moving through the Stages of Change model is a process that requires both cognitive and behavioural changes, such as

- changes in attitude and awareness of one's circumstances (cognitive – the way one thinks)
- changes in actions to decrease the occurrence of undesirable activities, such as overeating, and actions to engage in new, desirable activities (behaviour – the way one acts)

Both cognitive and behavioural aspects are necessary for people to change from one stage to another.

The Stages of Change model works simultaneously on multiple attitudes and behaviours; that is, a person could be in one stage for one behaviour and in a different stage for another. Seeking and maintaining a healthy lifestyle involves many behaviours, and it is unlikely that we will be in the maintenance phase for all healthy behaviours. We may have a particular problem behaviour, or we may wander in and out (e.g., from maintenance to relapse to maintenance) of a certain behaviour. For healthy lifestyles, being physically active and having a nutritious diet are both key behaviours. It is quite common to have someone doing well in one area, but not in the other. Very active athletes, for example, can have a poor diet, even though they "know better." Some inactive people may think that all they need to do to be healthy is to eat well. To live healthy, active lives, we all need a tailored approach to keep us in a given stage or to shift us to another stage.

The two cognitive keys to shifting through the Stages of Change continuum successfully are motivation and self-esteem:

- **Motivation** is a state of readiness or eagerness to change, which may fluctuate from one time or situation to another. This state can be strongly influenced by internal and

external factors. Motivation is the likelihood that a person will enter into, continue, and adhere to a strategy of change.

- **Self-esteem** can be defined as the likelihood to see oneself as competent to cope with life's challenges and to be deserving of happiness. To improve self-esteem, a person must experience success relative to expectations. Specifically, the more realistic the expectation or goal is, the higher the degree of success will be. This success, in turn, leads to an improved self-esteem in a shorter amount of time.

### *A Tailored Approach to Change*

Successful approaches to the change process adhere to the following principles:

- Tailor your approach to each stage of change.
- Move one stage at a time.
- Be patient and allow time to change.



## **Background Information**

### **Understanding Motivation for Physical Activity**

Self-regulation (or self-control) is an important concept for understanding why individuals are motivated to exercise or to be physically active. Factors that influence self-control can be organized into two categories: intrinsic motivators and extrinsic motivators. Intrinsic motivation represents our internal drive toward behaviour, while extrinsic motivation includes factors such as rewards or punishment. Understanding what best motivates individuals requires awareness of both the intrinsic and extrinsic factors that regulate behaviour. Both intrinsic and extrinsic regulators of motivation are important to consider when attempting to achieve or maintain an active healthy lifestyle.

#### *Intrinsic Motivation*

Internal motivators produce a long-lasting commitment to exercise. Making exercise or physical activity more internally motivating might be a practical way of enhancing persistence to exercise. There are many intrinsic motivators to exercise, such as improved health, enhanced personal skill and ability, increased energy, and decreased stress.

People who successfully maintain a physical activity plan learn to shift their focus from long-term external outcomes, such as losing weight, to more positive internal experiences that occur in the short term, such as feeling good or performing better. Intrinsically motivated exercisers, by being physically active, have discovered things that hold true value for them. While some individuals may be exercising because they enjoy the actual movement, others may find that each exercise session holds a personal challenge for them.

Whatever the reasoning behind the motivation to exercise, it must come from within a person for true meaning to be attached to it.

People who are intrinsically motivated do physical activity for its own sake and because they want to. They like the positive feelings of success and enjoyment that come from doing it well.

### *Extrinsic Motivation*

Many people begin an exercise or physical activity plan because they are motivated by extrinsic factors, such as a desire to lose weight or to get in better shape. Unfortunately, body-related motives are not usually sufficient to sustain regular exercise programs, and, therefore, should not be made the most important reasons for engaging in exercise.

Examples of extrinsically motivated exercisers could be those who are inspired to begin an exercise program by the promise that it will help them lose weight. Those focusing on the goal of losing weight will likely be excited and motivated by the early results. They may experience significant weight loss early in the exercise program, largely due to water loss. With continued exercise, however, they will not continue to see the same degree of weight loss as their bodies become accustomed to the new activity. Individuals will often become unmotivated and drop out of an exercise program because they are no longer seeing the reward (weight loss) for their effort.



## **Background Information**

### **Barriers to Physical Activity**

People experience a variety of personal and environmental barriers to engaging in regular physical activity.

- **Personal barriers:** With technological advances and conveniences, people's lives have in many ways become increasingly easier, as well as less active. In addition, people have many personal reasons or explanations for being inactive. Some common explanations (barriers) that people cite for resistance to exercise are (Sallis and Hovell; Sallis, Hovell, and Hofstetter)
  - insufficient time to exercise
  - inconvenience of exercise
  - lack of self-motivation
  - non-enjoyment of exercise
  - boredom with exercise
  - lack of confidence in their ability to be physically active (low self-efficacy)

- fear of being injured or having been injured recently
- lack of self-management skills, such as the ability to set personal goals, monitor progress, or reward progress toward such goals
- lack of encouragement, support, or companionship from family and friends
- non-availability of parks, sidewalks, bicycle trails, or safe and pleasant walking paths close to home or the workplace

The top three barriers to engaging in physical activity across the adult lifespan are

- time
- energy
- motivation

Other barriers include

- cost
  - facilities
  - illness or injury
  - transportation
  - partner issues
  - skill
  - safety considerations
  - child care
  - uneasiness with change
  - unsuitable programs
- **Environmental barriers:** The environment in which we live has a great influence on our level of physical activity. Many factors in our environment affect us. Obvious factors include the accessibility of walking paths, cycling trails, and recreation facilities. Factors such as traffic, availability of public transportation, crime, and pollution may also have an effect. Other environmental factors include our social environment, such as support from family and friends, and community spirit.

It is possible to make changes in our environment through campaigns to support active transportation, legislation for safer communities, and the creation of new recreation facilities.



## Forming a Habit

The formation of a habit (good or bad) typically depends on two things, time and repetition. We all tend to have some habits that we are not particularly fond of or perhaps not even aware of. Some of these habits may not be overt or may not have a major impact on our day-to-day living;

however, the lack of “healthy” habits can and will have long-term effects. The good news is that while taking the first step to forming a new habit may be difficult, subsequent steps can be relatively easy. Many of us take that first step as a result of some external motivator, such as a personal encounter with an undesirable outcome (e.g., a heart attack, clothes don’t fit) or a health warning from a doctor. While these examples tend not to catch the attention of adolescents, it is essential to begin the formation of good exercise habits as early in life as possible because these habits then become part of who we are and what we do, thereby eliminating the excuse, “I don’t have time.”

“Those who think they have not time for bodily exercise will sooner or later have to find time for illness.”

— Edward Stanley, Earl of Derby, 1873

All good things in life, including exercise habits, take time to develop. Once we decide to begin regular physical activity, it is important to take things slowly. We need to be cautious about not taking on more than we can handle, making sure that our activity plan “fits” us and that we will be able to carry on beyond the first week, month, and so on.

Motivation is an underlying theme in the Stages of Change model, from contemplation to maintenance. It is generally accepted that intrinsic motivation is necessary for maintenance and that extrinsic motivators are useful to commence change and to reinforce it later on through the stages of change.

### *Being Physically Active Is a Habit*

Our physical activity experiences should be founded on a desire to engage in activities we enjoy, while also providing the benefits of a formal exercise program. Our interests should guide our activity experiences. If we don’t have any obvious interests, we need to find someone who can expose us to new activities in a safe environment so that we can try them and find out what we like to do.

Once we find an activity to our liking, we need to make it a regular occurrence in our lives in a realistic manner (i.e., not approaching it too aggressively and not going overboard by doing it all at once). If we have not been physically active regularly for a while, we need to start gradually and ease into a small number of activities of differing intensities. Over time, as some features of boredom creep in, we can explore new activities, keeping in mind that variety will enhance adherence to exercise.

Generally, people tend to give up on activity programs because they don’t see the desired results as quickly as they had wished for. When we begin exercising regularly, gradually increasing the demands of our exercise program, we need to be patient and trust that things are happening. We need to understand that our bodies are changing, making adjustments to circulation, respiration, the heart, lungs, liver, blood vessels, hormones, glands, and the

immune system, even the blood supply itself. Changes are happening, even if we cannot see or measure them.

It is essential to take on realistic performance goals in personal physical activity plans. Measuring or logging performance can be helpful. Even a change in the frequency of exercise per week is a success. For example, someone who has a plan for walking at every lunch hour (five times a week) can set a minimum successful level of two times in the first week. In this way, the individual will experience success, and then attempt to add more the next week. Unrealistic goals result in feelings of failure and decrease self-esteem, leading to avoidance of activity or relapse to inactivity.

While incorporating physical activity strategies into daily life (e.g., taking stairs instead of using elevators, parking farther out in the parking lot) should not be confused with exercise programs, these efforts may well be ways to ease into an exercise program or to begin building the basics of an exercise habit. Every little bit helps. Before long, these efforts are no longer seen as a chore. Taking the stairs instead of the elevator (or escalator) each day for as little as three weeks can make this activity a lifelong habit. (It is a general belief that it takes 20 to 30 days of repetition to form a new habit.) After a while, we will ask ourselves, "Why didn't I do that in the first place?"

It is said that variety is the spice of life. However, if we are just beginning a physical activity plan, we need to choose one activity that appeals to us, and get started. When we have incorporated this activity as part of our routine, we can try to do it more frequently. Once we are feeling comfortable with an activity, it is time to consider other activities that interest us. We might want to try different activities we had previously only thought about but now have the motivation to try, to explore what we really enjoy, and to find out what will fit into our lifestyle and schedule. Those who enjoy the company of others may choose to join a team or find an exercise partner (e.g., a person, pet, pedometer, training log). In fact, doing a number of activities is a great way of incorporating variety into a physical activity program. We don't have to do the same exercise every day to get the health and fitness benefits.

With a gradual beginning and small incremental increases in duration or intensity, we soon see and feel positive results from physical activities. Once our chosen activities become a habit, we will not want to miss our workouts. Then we are on a solid pathway to health.



## **Background Information**

### **Commitment and Exercise Adherence**

It is generally understood that exercise is good for us, yet a high percentage of the people who begin exercise programs drop out within the first six months. Even people who are active or seriously training for a sport can have difficulty adhering to their training programs. The most commonly cited reasons for dropping out of an exercise program include "lack of time, inconvenience, expense, physical discomfort, embarrassment, poor instruction, inadequate support, and loss of interest" (Doyle). Clearly, these reasons are closely linked to the barriers to exercise.

## **Situation Factors Affecting Exercise Adherence**

The factors that affect our commitment or adherence to physical activity or exercise are similar to those that act as barriers to commencing physical activity for the first time.

By knowing the situations or environments in which we enjoy exercise, we can put ourselves into those situations as often as possible. The following factors must be considered to maximize exercise commitment:

- time
- money
- energy
- other commitments
- social support
- exercising with others
- facilities
- climate
- physical discomfort

### *Time*

Finding time to exercise is of vital importance if we are to adhere to an exercise program. According to the “Activity Guidelines” set out in *Canada’s Physical Activity Guide to Healthy Active Living* (Public Health Agency of Canada), individuals should aim to exercise 60 minutes or more on most days of the week. This increase in time may be accumulated throughout the day and should include activities of moderate to vigorous intensity.

In scheduling workout time, allow for other factors before and after the workout (e.g., travelling, changing clothes, showering). Incorporate these considerations into the overall time set aside for exercise. If we are not relaxed or if we feel hurried when working out, we are less likely to enjoy a workout and so will be less likely to adhere to an exercise program in the future. The exercise program can’t be squeezed in – it must be a well-placed, intentional part of our schedule. Getting support from friends and family to “keep this personal time” can be valuable. Working with an exercise partner can also increase commitment to an exercise schedule.

It is a good idea to plan for exercise time to avoid any possible time conflicts. Getting into a weekly exercise routine with which we feel comfortable will aid in exercise adherence. Keep in mind that “blips” in the routine can happen due to a variety of reasons (e.g., illness, special family occasions, examination stress). These are not failures.

## *Money*

We all make decisions based on our current situation. This includes being able to do things in life based on our personal financial resources.

Many people feel that getting “fit” or becoming physically active requires joining a gym or a health club or enrolling in some type of exercise program. While these options may be possible for some, they are not possible for others due to their financial situation.

Lack of finances need not be a reason for inactivity, however. Many activities (e.g., walking, running) cost little or no money and can be done without having to purchase expensive equipment (e.g., consider borrowing equipment). Correct instruction for some activities can be obtained from a physical education teacher or from books, videos, or DVDs available at school or at a local library. Many affordable public sports facilities and community clubs have trained individuals who can assist people in designing an appropriate exercise program. In general, physical activity choices must align with one’s personal income and budget, just like other choices in life. However, being active does not have to require money. There are many ways to be active at no cost or at minimal cost to the individual.

## *Energy*

Lack of energy is a common excuse for not exercising. This excuse is ironic, given that we actually feel energized by working out. There will be occasions when we will not feel like exercising due to tiredness, lack of energy, illness, and so on. During these times it is important to try to do at least parts of our exercise program, or run through a workout at a lower intensity level. Doing something is always better than doing nothing.

We typically have more energy at certain times of the day than at others. Make a note of these “up” times and schedule workouts at these times.

Nutrition or healthy eating also plays an important part in exercise. A meal plan should include sufficient complex carbohydrates to make the proper fuel available to the body during exercise.

Finally, sleep is a key to energy for exercise. Many young people do not sleep enough, making it easy for them to yield to the temptation not to exercise due to tiredness. Rest, recovery, and sleep are as vital to a regular physical activity plan as the activity itself.

## *Other Commitments*

Naturally, we all have responsibilities and commitments (e.g., homework, work, family) that may affect our adherence to a regular exercise plan. All these commitments require time and energy. Therefore, scheduling and prioritizing our commitments is essential, and this includes exercising. Incorporating exercise into other commitments may help us to meet our responsibilities to ourselves, as well as to others (e.g., walk, run, or cycle to and from school or work, include play time in babysitting).

If we are serious about adhering to an exercise program it may be necessary to forgo other activities to make time for exercise. We have to identify where our priorities lie and be prepared to make sacrifices (e.g., instead of spending money on conveniences and consumer-oriented purchases such as a new TV, car, or stereo, choose to spend the money on health). We need to ask ourselves, "What is our health worth?"

### *Social Support*

Ongoing social support is important all along the Stages of Change continuum. Gaining and maintaining the support of family and friends is critical if we are going to remain faithful to our exercise program. We need to demonstrate to family and friends, and help them understand, how important our physical activity is to us. This will make it easier for all involved to support our efforts. Once our social supports are in place, others will try to avoid scheduling events that may interfere with our exercise time.

### *Exercising with Others*

For some individuals, exercising with a group or a partner can greatly improve exercise adherence. By exercising with others, we are more likely to keep than to neglect our commitment to an exercise plan. Knowing that we will let others down, in addition to ourselves, by missing an exercise session, can sometimes be good motivation to continue exercising.

The same is true if we are part of a team or a group exercise class or program. If we miss a practice or class we generally have to explain the reason for our absence to others. The fear of this embarrassment is often enough to maintain high exercise adherence, which is the desired outcome. Managing this is important, as fear of missing an obligation itself is not a good motivator alone to continue with exercise. Once we miss one session, we may establish a sense of failure, and then it may be hard to get back to the group.

### *Facilities*

Affordability and location are key considerations in choosing the right facilities or space in which to exercise. When deciding on the proper place for exercise (indoors or outdoors), consider an easily accessible location close to home, school, and/or the workplace. Giving strong consideration to these factors in choosing facilities increases the likelihood of adherence to exercise.

Feeling comfortable with our surroundings during exercise is vital. We can increase our sense of ease and safety by understanding how to use the facilities, where everything is located, and where to get assistance if required. We benefit if we find the staff of the facilities friendly, approachable, and sensitive to our needs. Those who prefer to exercise when the facilities are less crowded could try to find out when the best time is and see whether it fits into their weekly schedule. When exercising outdoors, safety and access to a phone may be a consideration.

## *Climate*

Climate is especially relevant to outdoor exercises, such as running and cycling, and outdoor team sports. Having an alternate exercise plan in the event of bad weather will help keep us on track.

The weather, be it too hot or too cold, too dry or too wet, can make some facilities unusable. Exercising in inclement weather may also compromise health. Individuals with allergies to pollen may not be able to exercise outdoors during some seasons. Those with asthma may be unable to exercise comfortably in cold, dry conditions. Exercising in cold, wet weather may cause the onset of common colds and respiratory infections.

Manitoba's climate provides opportunities for a tremendous variety of physical activities and sports in every season. Being able to maintain a regular exercise routine, regardless of the weather or season, can ensure high exercise adherence. Planning for a change in seasons is a critical component of a successful personal activity plan. Someone who begins a physical activity plan in fall or winter should also plan activities for the spring and summer, and vice versa. Putting all our effort into one type of activity is risky.

## *Physical Discomfort*

Physical discomfort from exercise can be a deterring factor to our pattern of activity. Not everyone enjoys intense physical activity, or finds it easy. The belief that the "fat-burning zone" is the only right place to be for exercise intensity is a misconception. We are able to realize significant health and fitness benefits from activities of very low intensity. If we are capable of exercising at a higher intensity, however, then we should progress. We will burn more calories with vigorous activity.

Although we can expect to experience discomfort with vigorous exercise, we gain significant benefits from exercising at this level. It is important to be able to distinguish between pain and discomfort, as any pain experienced may indicate that something is wrong and may warrant a visit to a physician. Nonetheless, a little discomfort is normal, and it is up to each of us to do what we can to minimize it. Once exercise is part of a normal routine, the level of discomfort experienced from vigorous exercise will diminish. Keep in mind that exercise should still be fun.

The following are a few tips for minimizing discomfort with exercise:

- It is normal to experience "delayed onset muscle soreness" after starting a new exercise program, or even when changing exercises. This soreness (or stiffness) develops after 24 hours and will diminish over the next few days. The benefit is that the second time we do an exercise we won't be nearly as sore. So, staying active is a key to minimizing discomfort.
- Always include warm-up and cool-down sessions in exercise. When beginning a new exercise program, start off slowly and gradually make increases in frequency, intensity, and time. The body needs time to adapt to new stresses.

- Expect to sweat and breathe harder when increasing work intensity. Learn to distinguish between normal breathing during exercise and shortness of breath or hyperventilation.

## **Personal Factors Affecting Exercise Adherence and Motivation**

By understanding more about ourselves, we can more successfully handle the inevitable difficult situations when they arise. Therefore, in addition to paying attention to the situation factors affecting our exercise program, we need to devote attention to personal factors and capabilities such as

- awareness of personality
- goal setting

### *Awareness of Personality*

Personality is an interrelated combination of a person's body, thoughts, and behaviours. How individuals explain, or to what they attribute, their successes and failures may say something about their personalities.

To increase awareness of how personality affects exercise adherence and motivation, it is helpful to consider the following three questions:

- Do you tend to see your exercise habit, or lack thereof, as permanent or as changeable?
- Do you attribute your habit, or lack thereof, to things primarily within or outside your control?
- Do you attribute your habit, or lack thereof, to internal characteristics or external circumstances?

Explaining a lack of adherence or motivation to exercise as permanent and beyond our control diminishes our expectations, perhaps to the point of feeling helpless. Attributing failures to internal characteristics may result in feelings of guilt or shame; attributing failures to external circumstances may provide a way to avoid such feelings.

Alternatively, explaining a lack of adherence or motivation as changeable and within our control provides a sense of empowerment, increasing the expectation of success. Attributing successes to internal characteristics may lead to feelings of pride, self-worth, or a sense of accomplishment; attributing successes to external circumstances may bring a sense of luck or humility.

Analyzing expectations can reveal something about personalities. An individual with expectations of success is often referred to as having a high degree of self-confidence or self-efficacy; an individual with expectations of failure is often referred to as having a low degree of self-confidence or self-efficacy.

It is important to establish our expectations regarding the exercise program we are considering starting or have just started. At least four things can help improve our self-confidence with regard to an exercise program:

- prior successes and achievements
- role models and success stories
- verbal encouragement and persuasion
- awareness and control of emotional responses to exercise

### *Goal Setting*

Setting goals is an effective way to enhance motivation for physical activity and to improve the likelihood of developing the habit of exercise. To be most effective, our physical activity goals should be SMART: specific, measurable, attainable, realistic, and time framed.

Common reasons to start exercising include losing weight or body fat or getting into better condition. To improve the chances of success, goals need to be more specific (e.g., If you want to lose weight or body fat, how much do you want to lose and by when? Are there clothes you'd like to fit into by a certain date?). In any case, specific goals are measurable. Having specific goals will enable us, at a certain time in the future, to determine clearly and easily whether or not we have met our goals.

In addition to being specific and measurable, goals should be challenging, as well as attainable and realistic. If our goals require dramatic changes to well-established habits, we will be much less likely to succeed. Setting extreme goals may say something about an individual's personality. We increase our chances of success by attempting to make gradual changes. Those who have been relatively inactive for a while may wish to introduce exercise on three or four days a week. They could focus first on getting exercise on those days, and then gradually increase the duration and/or the intensity of exercise. Those who don't have the time or the inclination for an exercise program could set specific goals about incorporating greater physical activity into their daily routine.

Whether or not individuals reach a specific and realistic goal within an allotted period of time may, to some degree, be affected by circumstances beyond their control. To increase the chances of ultimate success, goals should state both the desired outcomes and the tasks. Tasks are the behaviours that an individual commits to doing to achieve goals. For example, a person's goal might involve losing a certain amount of weight in 12 weeks. The task goals might then include specific behaviours such as lifting weights or jogging for 30 minutes three or four times a week, taking the stairs instead of elevators, and maintaining an appropriate balanced diet.

Once we've set specific and realistic goals that include both outcomes and tasks, we might consider writing them down in an exercise contract. By writing them down, we promise to perform our tasks in order to achieve specific and realistic goals by a certain date. Alternatively, we might consider memorizing our goals and reminding ourselves of them daily. We can also promise ourselves that if we meet such goals we will give ourselves a specific reward.