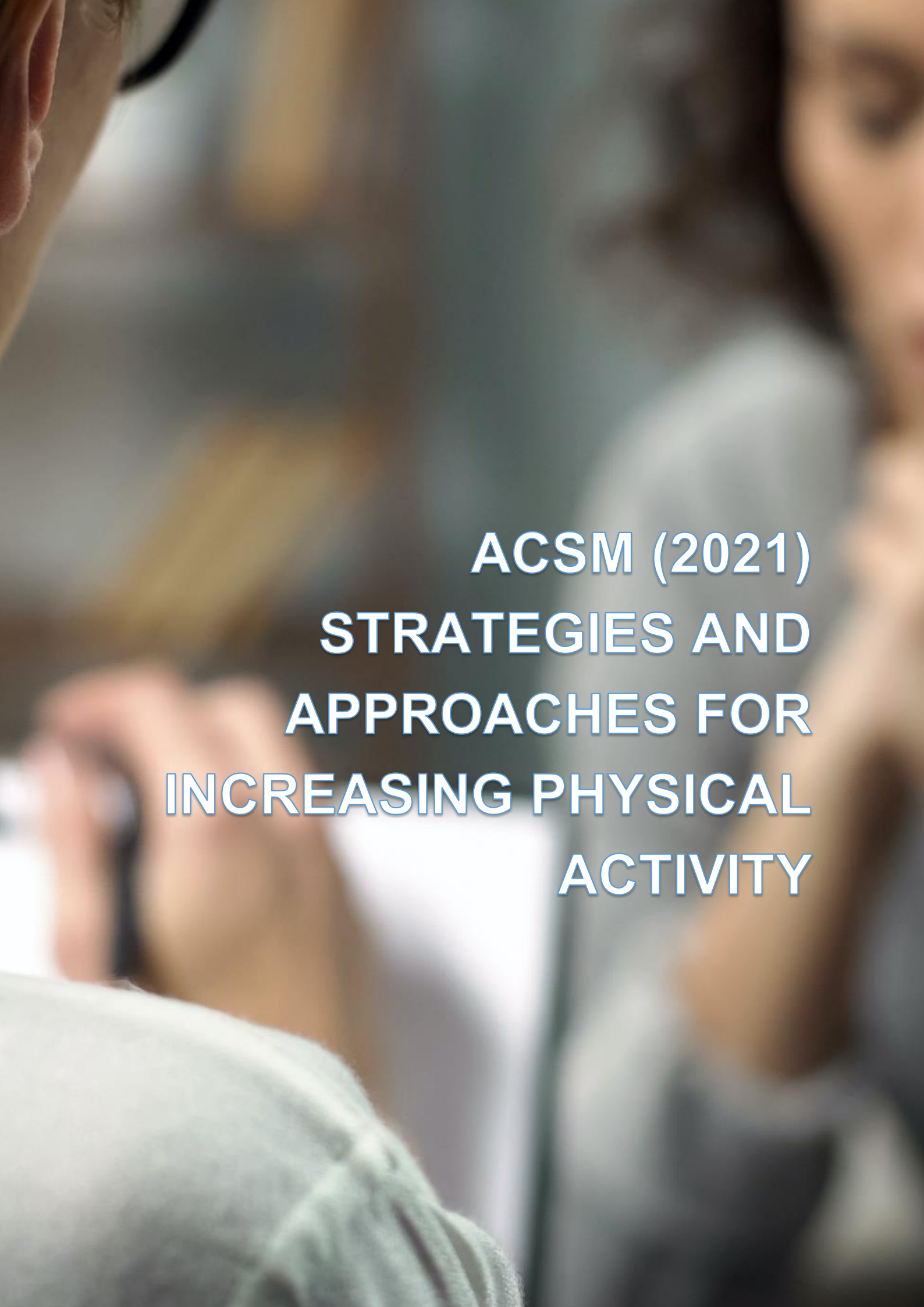

ACSM (2021) STRATEGIES AND APPROACHES FOR INCREASING PHYSICAL ACTIVITY

Table of Contents

Enhancing Self-Efficacy

Self-efficacy, the confidence in one's ability to carry out actions necessary to perform certain behaviours, is a central component of most of the theories discussed (i.e., SCT, TTM, HBM, and TPB). Increased self-efficacy is related to PA behaviour change. Individuals draw on various sources of efficacy information to increase exercise behaviour.

Self-Monitoring

Self-monitoring, an important component of SCT and TTM, involves observing and recording behaviour and is important in exercise behaviour change. Self-monitoring of exercise can be in the form of a paper-and-pencil log, a heart rate monitor, a pedometer, or wearables such as a smartwatch. Technology devices and apps can provide the individual with detailed feedback that includes minutes of exercise, exercise intensity, distance travelled, or step counts. Visual documentation (e.g., workout log) can be useful for tracking progress toward goals, identifying barriers to changing behaviour, and as a reminder to exercise. Self-monitoring is most effective when paired with other strategies, such as goal setting, as merely monitoring behaviour by itself may only have limited, short-term effects.

Goal Setting

Goal setting is a powerful tool for behaviour change that leads to positive changes in exercise behaviour when used as part of the process that involves setting, monitoring, and altering goals. The exercise professional can work with individuals to help develop, implement, measure, and revise goals consistently to provide direction to their efforts; enhance persistence, and learn new strategies. The SMARTS principle can be used to guide effective goal setting:

Specific: Goals should be precise.
Measurable: Goals should be quantifiable.
Action-oriented: Goals should indicate what needs to be done.
Realistic: Goals should be achievable.

Timely: Goals should have a specific and realistic time frame.
Self-determined: Goals should be developed primarily by the individual.

Individuals need to set both short- and long-term goals that allow for measurement and assessment regularly. Individuals often focus on long-term goals; however, when attempting to initiate a new behaviour, setting short-term achievable goals (i.e., daily, or weekly) is important for increasing self-efficacy. The exercise professional should regularly monitor progress, provide feedback, and discuss successes and struggles with the individual. Setting proper goals is an important part of numerous PA studies; however, because goal setting is incorporated into many theories and interventions (e.g., SCT, TPB, TTM), there is limited evidence on its sole contribution to changing exercise behaviour. The expansion of wearable monitoring devices allows for greater ease in tracking behaviour, which is essential to the goal-setting process, but care must be taken that the goals are being set appropriately by the individual or app.

Implementation Intentions

The formation of implementation intentions may enhance the link between exercise intentions and behaviour. Implementation intentions reflect an individual's specific and detailed plans to exercise, such as where they will exercise when they exercise, and with whom they will exercise. Implementation intentions are analogous to the setting of specific strategies that will be discussed in the goal-setting process. Evidence has supported that the addition of implementation intentions improves exercise behaviour outcomes beyond standard motivational interventions. This model has been applied most frequently to clinical populations, including cancer patients, cardiac rehabilitation participants, and pregnant women.

Reinforcement

The use of positive reinforcement (i.e., rewards) is emphasized in SCT, SDT, TTM, and dual process theories. Individuals should be encouraged to reward themselves for meeting behavioural goals. Extrinsic rewards include tangible, physical rewards such as money, a new pair of shoes, or a new book, and are often used to initiate

behaviour change. There is evidence that this can be effective, at least in the short term, for initiating PA. Social reinforcement, such as praise from an exercise professional or family member, is also an extrinsic reinforcer. Intrinsic rewards are intangible rewards that come from within, such as a feeling of accomplishment, confidence, or enjoyment. Individuals are more likely to adhere to regular exercise over the long term if they are doing the activity for intrinsic reasons. It may be difficult to give intrinsic reinforcers to individuals, but it may be possible to develop an environment that can promote intrinsic motivation. These environments focus on the autonomy of the individual and have been shown to lead to higher levels of PA. Environments promoting intrinsic motivation focus on (a) providing positive feedback to help the individual increase feelings of competence, (b) acknowledging individual difficulties within the program, and (c) enhancing the sense of choice and self-initiation of activities to build feelings of autonomy. The development of apps that reward or provide praise has also been shown to be an effective strategy to help people increase their PA.

Social Support

Social support is a powerful motivator to exercise for many individuals and is important in SCT, TTM, TPB, and social-ecological models, and can come from an instructor, family members, workout partners, co-workers, neighbours, as well as exercise and other health professionals. Social support can be provided to individuals in various ways including (a) instrumental, (b) emotional, (c) informational, (d) companionship, and (e) validation.

Providing social support in the form of guidance is most common when working with individuals. Individuals beginning an exercise program need to feel supported in times of stress or times when continuing to exercise is difficult. Moreover, individuals beginning an exercise program may have feelings of incompetence. Increasing one's beliefs about their capabilities can be done through mastery experiences, social modelling, and providing praise; all practical ways to increase acknowledgement of one's competence.

Implementing ways to increase an individual's attachment and feelings of being part of a group are also important. The exerciser needs to feel comfortable, and one method to accomplish this is to establish buddy groups. In group settings, exercisers can benefit from watching others complete their exercise routines and from instructors and fellow exercisers giving input on proper technique and execution. Creating supportive exercise groups within communities has been linked with greater levels of exercise behaviour.

Aspects of social support are present in most PA apps and wearable devices. Technology allows for social rewards through praise, for social support through various social networking features, and for monitoring of behaviour by others via automatic or user-generated features to share activity progress. Using these features can help change behaviour, but it is important that the social support provided through technology is matched to the individual's need for support and is not the only form of social support for that individual.

Problem Solving

Individuals face several personal, social, and environmental-related barriers in both the adoption and maintenance of PA. The behavioural theories discussed above help us to understand an individual's behaviour, and **Table 1** shows common challenges expressed in the adoption and maintenance of exercise, connecting them to appropriate theories and constructs. Problem-solving can assist individuals in identifying strategies to reduce or eliminate barriers and includes four main steps: (a) identify the barrier, (b) brainstorm ways to overcome the barrier, and (c) select a strategy generated in brainstorming viewed as most likely to be successful, and (d) analyse how well the plan worked and revise as necessary (85). Solutions to barriers should ideally be generated by the individual and not by the exercise professional. For example, if lack of time is a barrier to engaging in exercise, the individual, in conjunction with the exercise professional, can identify possible solutions for overcoming this barrier (e.g., schedule exercise appointments, incorporate PA into existing activities).

Affect Regulation

Individuals are often advised to pick an exercise activity they enjoy. This is supported by hedonic theory, which suggests that by picking an enjoyable form of PA, people are more likely to adopt and maintain PA. Engaging in enjoyable forms of PA is also a key component to establishing intrinsic motivation as described by SDT; intrinsic motivation is predictive of long-term adherence to recommended levels of PA. Affective response varies between individuals, and some exercise intensities and exercise types may be more enjoyable for certain individuals. To address this variability and promote a positive affective response to exercise, self-ratings of affect or the pleasantness/unpleasantness of an experience can be used as a marker of the transition from aerobic to anaerobic metabolism and may be useful for Ex Rx. Specifically, exercisers can use feelings of increasing displeasure to be a sign that exercise intensity may be too high, and they should decrease exercise intensity to reduce these feelings.

Self-selecting the intensity of exercise can be helpful for individuals to start and maintain a program of exercise, particularly those who are overweight or obese. When self-selecting an intensity, individuals can also be instructed to exercise at an intensity that feels good. When choosing their intensity, and particularly intensities that feel good, individuals typically still end up working at a moderate intensity, despite the lack of focus on targeted heart rate zones. Other strategies to promote positive affect in the context of exercise include the following:

- Exercising in an enjoyable context (e.g., with friends or in a location that is pleasing to the individual)
- Maintaining variety in types of exercise, trying new activities
- Establishing a reward system for exercise

Table 1 - Most Common Exercise Barriers, Relevant Theories, and Potential Strategies.

Common Problem	Applicable Theories	Applicable Theories
“I don’t have enough time.	SCT, TPB, SEM	• Discuss modifications to FITT principles. • Examine priorities/goals. • Brief counselling/motivational interviewing
“I don’t have enough energy.	SCT, HBM, SEM, TPB	• Discuss modifications to FITT principles. • Brief counselling/motivational interviewing • Discuss affect regulation techniques for setting exercise intensity.
“I’m just not motivated.”	SCT, HBM, TPB, TTM, SEM, SDT	• Discuss attitudes and outcome expectations. • Determine the stage of change and provide stage-tailored counselling. • Examine perceived susceptibility and severity. • Discuss potentially effective reinforcements
"It costs too much."	HBM, TTM, SEM	• Examine exercise alternatives to meet goals. • Evaluate exercise opportunities in the environment
"I don't know how to do it."	SCT, HBM, TTM, TPB	• Build task self-efficacy using appropriate strategies
“There is no one to exercise with me.”	SCT, TPB, TTM	• Develop social support and exercise buddy system. • Identify different types of activities one can do on his or her own

Abbreviations - FITT, Frequency, Intensity, Time, and Type of exercise; HBM, health belief model; SCT, social cognitive theory; SDT, self-determination theory; SEM, social-ecological model; TPB, theory of planned behaviour; TTM, transtheoretical model.

Relapse Prevention

Regularly active individuals will occasionally encounter situations that make sticking with their exercise program difficult or nearly impossible. Therefore, an important part of helping individuals maintain their PA levels is the development of strategies to overcome setbacks. Although it is not unusual to have a brief lapse from exercise, preparing for situations which may result in an elongated lapse, or relapse, is critical. Relapse prevention can be implemented across all behavioural approaches once individuals adopt and try to maintain exercise. Relapse prevention strategies include being aware of and anticipating high-risk situations (e.g., travel, vacation, holidays, illness, competing family obligations, and poor weather) and having a plan to ensure that a lapse does not become a relapse. For some individuals, it may be important to vary exercise routines and create new exercise goals to avoid boredom and potentially relapse. It is also important that individuals do not get discouraged when they miss a session of planned activity, as missing planned exercise is unavoidable. Therefore, individuals should avoid “all-or-nothing” thinking, and relapse prevention strategies can help an individual to stay on track or to get back on track once the situation has passed.

Brief Counselling and Motivational Interviewing

A proven technique for increasing exercise adoption is using brief counselling, often conducted by health care professionals such as certified exercise professionals. These brief counselling approaches can be based on any of the theories previously discussed; however, they must be more thorough than simply asking about PA levels and advising the individual to increase exercise behaviour. A motivational interviewing approach explores why people aren’t active, asks open-ended questions, uses empathic responses and reflective listening skills, and recognizes that individuals may be resistant.

Motivational interviewing has evolved over the past several decades and has been successfully applied to many health behaviours in a variety of settings, including PA and weight loss. Motivational interviewing is an individual-centred of communication where the professional and the individual work collaboratively to

explore and resolve ambivalence about behaviour change. The professional's approach should be non-judgmental, empathic, and encouraging. The approach respects individual autonomy and views the individual as fully responsible for change rather than persuading individuals to change, proving they should exercise, and arguing with individuals.

A major focus of motivational interviewing is to help the ambivalent individual realize the different intrinsic motivators that can lead to positive change. Ambivalence about behaviour change occurs when an individual has conflicting viewpoints about changing his or her behaviour, for example, "I know I should exercise to stay healthy, but I don't like the way I feel when I'm exercising." The primary goal is to help resolve ambivalence and increase motivation for change, which is also the initial phase of motivational interviewing, when change talk can occur. Change talk refers to an individual's mention or discussion of a desire or reason to change, making it more likely the change will occur (**Table 2**). The use of personal rulers can evoke change by examining whether an individual is ready, willing, and able to make a change. The use of these rulers before goal-setting strategies can facilitate setting realistic, achievable, short- and long-term goals. Motivational interviewing can be adapted and used in combination with most existing theories to help motivate change and confidence among individuals who are seeking to adopt or maintain an exercise program. Because of theoretical similarities between motivational interviewing and SDT (e.g., intrinsic motivation, autonomy), there is a growing interest to combine these in intervention development.

Stage of Change Tailored Counselling

The TTM is predicated on the notion of stages of change and that progression through the stages can be facilitated by the Stage of Change Tailored Counselling. The TTM is predicated on the notion of stages of change and that progression through the stages can be facilitated using stage-specific strategies and processes of change that result in tailoring interventions. **Table 3** provides examples of how one might use specific strategies within each stage to tailor the intervention to an individual to help them progress to the next stage. Intervention studies have consistently found that stage-tailored interventions that include all the components of the TTM are appropriate

for many different populations and are effective at enhancing PA levels' use of stage-specific strategies and processes of change that result in tailoring interventions. **Table 3** provides examples of how one might use specific strategies within each stage to tailor the intervention to an individual to help them progress to the next stage. Intervention studies have consistently found that stage-tailored interventions that include all the components of the TTM are appropriate for many different populations and are effective at enhancing PA levels.

Group Leader Effectiveness

Separate from attempts to implement individual behaviour change is the concept of group interventions to improve exercise adoption and adherence. Exercising in a group, where the instructor purposefully creates group dynamics and goals, has consistently been shown superior to exercising in a usual exercise class (where each function autonomously) or exercising at home with or without contact. These outcomes highlight the value of group-based PA interventions.

Exercise leaders influence PA participation and the psychological benefits that occur because of PA. The exercise leader and group play significant roles in SCT and SDT. An exercise leader with a socially supportive leadership style provides encouragement, verbal reinforcement, praise, and interest in the individual (81). When an exercise leader has a socially supportive leadership style, individuals report greater self-efficacy, more energy, more enjoyment, stronger intentions to exercise, less fatigue, and less concern about embarrassment. In addition to the exercise leader, aspects of the exercise group may also influence PA participation. One such aspect is that of group cohesion, that is, a dynamic process reflected in the tendency of a group to stick together and remain united in the pursuit of its instrumental objectives and/or satisfaction of member affective needs. Five principles have been successfully used to improve cohesion and lower dropout rates among exercise groups:

- **Distinctiveness** — creating a group identity (e.g., group name)
- **Positions** — giving members of the class responsibilities and roles for the group
- **Group norms** — adopt common goals for the group to achieve

- **Sacrifice** — individuals in the group giving up something for the greater good of the group
- **Interaction and communication** — the belief that the more social interactions that are made possible for the group, the greater the cohesion

Table 2. Methods for Evoking Change Talk.

Approach	Description	Examples
Ask evocative questions.	Ask the individual questions regarding: Disadvantages of the status quo Advantages of change Optimism about change Intention to change Explore and resolve ambivalence	"What do you think will happen if you don't change anything?" "What are some benefits of becoming more physically active?" "What changes would work best for you?" "What do you intend to do?"
Use the importance ruler.	Ask simple questions to assess how important physical activity is to the individual and what might make it more important.	"How important would you say it is for you to be physically active? (After response) "Why do you believe that?" "What would it take for you to increase the importance of exercise?"
Use the confidence ruler.	Ask simple questions to assess the individual's confidence and what might increase his or her confidence.	"How confident are you that you can engage in regular physical activity? (After response) "What makes you feel that way?" "What would it take for you to feel more confident about this?"
Explore pros and cons.	Encourage individuals to discuss the positive and negative aspects of her present behaviour. Help explore and resolve ambivalence.	"Are there things that you like about being physically inactive?" "Are there disadvantages of being physically inactive?"
Elaborate.	When health professional hears any arguments for change, encourage the individual to elaborate to reinforce change talk.	"You said exercise might make you feel better. Can you tell me more about that?
Query extremes.	When the individual has little desire for change, encourage him or her to consider the extreme consequences of not changing and the best consequences of changing.	"Suppose you continue as you have, with no physical activity in your life. What do you imagine are the worse things that might happen to you?" "What might be the best results you could imagine if you make a change?
Look back	Help the individual remember a time in his or her life when he or she was physically active.	"You mentioned that you used to walk regularly. What was that like?
Look forward	Help the individual envision a changed future.	"If you don't like what you see in the future about yourself, how would you like things to be different?
Explore values and goals.	Ask the individual to tell you what things are most important in his or her life and then ask if being inactive fits with this picture.	"What in life is most important to you?" (After a response) "Does being physically active or inactive matter to this?

Table 3. Example Strategies to Facilitate Stage Transitions.

Precontemplation ➔ Contemplation • Provide information about the benefits of regular physical activity. • Discuss how some of the barriers they perceive may be misconceived such as "It can be done in shorter and accumulated bouts if they don't have the time." • Have them visualize what they would feel like if they were physically active with an emphasis on short-term, easily achievable benefits of activity such as sleeping better, reducing stress, and having more energy. • Explore how their inactivity impacts individuals other than themselves such as their spouse and children.
Contemplation ➔ Preparation • Explore potential solutions to their physical activity barriers. • Assess the level of self-efficacy and begin techniques to build efficacy. • Emphasize the importance of even small steps in progressing toward being regularly active. • Encourage viewing oneself as a healthy, physically active individual.
Preparation ➔ Action • Help develop an appropriate plan of activity to meet their physical activity goals and use a goal-setting worksheet or contract to make it a formal commitment. • Use reinforcement to reward steps toward being active. • Teach self-monitoring techniques such as tracking time and distance. • Continue discussion of how to overcome any obstacles they feel are in their way of being active. • Encourage them to help create an environment that helps remind them to be active. • Encourage ways to substitute sedentary behaviour with activity.
Action ➔ Maintenance • Provide positive and contingent feedback on goal progress. • Explore different types of activities they can do to avoid burnout. • Encourage them to work with and even help others become more active. • Discuss relapse prevention strategies. • Discuss potential rewards that can be used to maintain motivation.