

# **MENTAL TRAINING for Youth**

- I. Relaxation training**
- II. The seven C:s**

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## INTRODUCTION

Modern life with its constantly increasing change of pace induces both physical and psychological stress reactions in a growing number of individuals at a steadily decreasing age. These reactions of increased tension inhibit the flow of blood, which lowers the breathing level of individual cells, which in turn leads to a waste of energy, increased fatigue and a decrease in resistance to sickness and other stresses. This chain of reactions forms a vicious circle of spiralling stress.

All this happens despite the fact that we begin our lives as babies and then young children with innate abilities of relaxation, imagination and creativity to name but a few of childhood's positive qualities. However, very quickly we begin to lose these qualities. The modern world as mentioned above has a degenerative effect on many of our positive basic attributes. Our school system in general contributes to many of these negative tendencies through its emphasis on analysis and systematization which are deemed necessary for advancement in our progressively more computerized world.

Against this background Sweden can be seen as a world leader in introducing relaxation into the regular school system.

Relaxation can be seen as nature's own medicine. It builds on inherent abilities which can maintain this capacity and develop it. Since 1975 there has been research concerning methods of relaxation for school children in Sweden. (Setterlind-Uneståhl: *Avslappning i skolan*, 1977.) A natural time to use relaxation seems to be in conjunction with physical exercise and therefore the main part of these studies has been concentrated around physical education.

Relaxation is not only the oldest and least complicated medicine to inhibit or remove stress, but is also the most effect and natural method of all. As small children all of us could completely relax and become as limp as a rag doll. How many of us can now ?

Now, in Sweden, the school authorities are helping growing youngsters to maintain and develop their own inherent abilities to relax and "heal" themselves. Sweden has long been recognized internationally as a front runner in general physical fitness so it is perhaps only natural that this progressive, healthy thrust for relaxation should begin in Swedish schools.

## CARE AND MAINTENANCE OF CHILDLIKE CAPACITIES

Children have several valuable primitive qualities which grow or decline in their transition to adulthood. Children for example have a good imagination and powers of intense involvement and concentration, as well as senses of curiosity and creativity coupled with an ability to laugh at many different types of things.

Among these basic childlike dimensions is also the capability to relax. Often children exhibit a catlike ability to relax completely. Growing-up often means tensing up. Thus one of the main reasons for introducing basic mental training in the Swedish school system was to make it possible for children to preserve this relaxation capability.

The first part of this booklet describes the project of relaxation training in Swedish schools from 1976 to 1984. It includes instructions to children, teachers and parents as well as a summary of research results. Part 2 takes up the first attempts to introduce confidence training in one school. It also includes a program which is suggested to begin 1986, which includes 6 other childlike capacities namely, confidence, calmness, commitment, concentration, creativity, cheerfulness and control - the 7-C's for short.

2 cassettes are inclosed with this booklet. The first cassette includes the seven of the programs which have been tested in the extended research program which is summarized at the end of this booklet. The second cassette contains the seven C-capacities. The only program in this second cassette which has been tested up to the present time is the one on confidence.

The research project "Relaxation in Swedish Schools" led after 6 years of research to the inclusion of relaxation into the regular school schedule for Physical Education. To our knowledge Sweden is still the only country which has included regular, systematic basic mental training in the school system.

The large interest from other countries for the experiences we have gathered about relaxation training for children has led to this English version of our work and to the recording of the English cassettes. It is our hope that other countries after consideration of the Swedish experiences will decide that systematic relaxation training as a valuable method to be included in their own educational system.

It is also our hope that the possibility of extended mental training with the

programs on cassette 2 will be tried and tested by other countries.

### C-1 CONFIDENCE

5000 Swedish parents were asked what they wanted their kids to get out of school. Highest up on the list was "good self-confidence."

The emphasis on a good self-image as a base for good goal-images and good performance in school, sport and other activities makes it especially important to obtain early confidence training. As with relaxation training the main purpose of such training is to maintain the natural confidence that young children have through their growing-up years.

For most people confidence is a result of what has happened to them or more precisely their interpretation of events. A bad start in any area often leads to one or more vicious circles which can continue throughout the individual's entire life. Confidence training aims at turning this around. By developing a good self-image early, independent of external events, increased self-confidence helps steer and direct future events and one's interpretation of them. "Circles" will start but they will be "positive" instead of "vicious".

This method of building confidence requires a relaxed state where reality-testing is lowered or eliminated. Positive suggestions, affirmations and images will not be rejected due to logical arguments but be accepted and integrated into the mind.

### C-2 COMMITMENT

Motivation is the core of life. It is the answer to why we do or do not do things. If we were boats on the sea of life then we could say that motivation is the wind that fills our sails as well as our rudder. It gives us the thrust to get going as well as deciding our direction.

Motivation training consists of two main parts: goal-setting and goal integration.

#### Goal-setting

In order for goals to be stimulating and engaging they ought to be self-selected. They may be suggested by parents, teachers or other key persons but it is important for kids - as for adults - not only to accept but also to feel for goals - to accept them as their own.

Goals should be concrete, specific and controlled by the individual. Based on this principle, competition ought to be defined not as a struggle between

individuals but as a struggle within a person to reach goals which he or she controls.

Instead of debating as to whether or not kids should compete, we ought to teach them how to compete in the "correct" way. This means to enjoy one's own development in itself and not on behalf of or in relation to others.

Other principles of goal-setting involve having bold, challenging but realistic goals which are "long-range" but are connected with a number of "short-range" goals like pearls on a string.

#### Goal-integration

If motivation training is limited to analytical procedures, then there is a great risk that motivation training and goal-setting will become but another stress factor or obstacle in life. Therefore in order to make goals into a stimulating and energy producing force, goals must be programmed or integrated into one's person. Such integration is best done in a deeply relaxed state.

In commitment training, kids design their own development goals and thus can experience goal achievement and the positive feelings connected with that.

### C-3 CALMNESS

Feelings of calmness usually accompany muscular relaxation. In this third program, however, the feeling of calmness is intensified by the use of exhaling as a trigger.

A "trigger" is a stimulus which is given signal value during relaxation. It involves a conditioning procedure where the stimulus is connected with a response which cannot be voluntarily controlled.

By the time one begins this program there already exists a connection between breathing out and feelings of relaxation, heaviness and calmness. This connection is reinforced and strengthened in the program by words and images.

The purpose is to give the person a tool which can be used in any situation where he or she wants to relax or calm down as for example before giving a short speech in class. The individual learns to calm down quickly by taking a few deep breaths.

### C-4 CREATIVITY

Creativity is another capacity which is easiest to use and develop when

relaxed. This program builds on children's natural sense of curiosity and imagination. It is meant to help the individual have courage to maintain and develop their innate abilities in these areas. This again is done while in a deeply relaxed state during which the pupil uses his imagination.

#### **C-5 CHEERFULNESS**

This program as the earlier programs is built upon childrens' innate abilities. Small children can laugh and be happy for the smallest of things in the right circumstances. They can laugh at almost anything including what they do themselves. Very quickly however we learn to see "seriously" most of what we do and lose much of our sense of humour especially the ability to laugh at our ourselves and be spontaneously happy.

Here one learns to make use of earlier positive experiences to be able to experience happiness in new situations and maintain a feeling of cheerfulness even in difficult situations.

#### **C-6 CONCENTRATION**

Concentration involves both learning to be more attentive to a limited area (focusing) and learning to ignore or pay less attention to other irrelevant stimuli (dissociation.) This or rather these abilities are developed during this sixth program.

#### **C-7 CONTROL**

Mostly we are taught to take control by gritting our teeth and trying harder or in other words by tensing up. This seventh program teaches how to take control in a more positive relaxed manner instead of tensing up.

We are controlled to a great extent by events around us that have entered our subconscious and over which we no longer have control. Therefore we at times may be come aggressive and angry or perhaps blush when we don't want to for example. This program helps the individual to gain more control in such situations.

## **PRACTICAL TIPS**

### **FOR THE TEACHER**

#### **General Comments**

As mentioned earlier, experience of relaxation training in schools has been very positive. Teaching relaxation techniques even to very young pupils (7 years old) has proven to be very easy.

However certain problems can appear when one first tries to introduce relaxation into a school.

In the beginning some restless pupils can find it very difficult to be quiet and/or keep their eyes closed. These pupils can be assisted during the instructions by naming them by name and giving them personal instructions with the same calm and quiet voice which is normally used for relaxation training. It can function especially well at times if the teacher him/herself reads all the instructions for relaxation which are on the tape. He/she can even choose some other music to relax to as a replacement for that which is on the tape.

If some pupils still have difficulty relaxing you can help them by squatting down beside them and feeling their feet, arms or head to check on how relaxed they are and giving them encouragement by saying "good" or "great". In certain cases comments or instructions such as "you feel as tired as when you are about fall asleep" or "feel peaceful and relaxed as you do when you lie on the beach and sunbathe" can help the pupil to more easily relax. After doing some basic training with the tape, a period of relaxation often develops into a need and a habit. Relaxation often begins to come so easily that it is sufficient that the pupils just lie down and relax without the use of the tape and without the instructor saying anything. As mentioned earlier the teacher can play some music that the pupils or the teacher has selected.

Relaxation programs can often beneficially be used in the classroom. The pupils in this case sit at and lean on their desks resting with their heads in their arms or on their hands.

If you have pupils in the first two or three grades it is a good idea before starting a relaxation session that you go over the instructions and show how a contracted and relaxed muscle work. This can be done as a theory lesson in the classroom or in the gym and can be illustrated with various relaxation exercises.

## Execution

The most common thing is to use the last 5-6 minutes of the physical education class for relaxation. It is an advantage if the relaxation exercises are preceded by an intensive physical training session. Ask the pupils to look for a spot in the gym where they can be more or less alone and not disturbed by any of their classmates. Check that they can not accidentally or otherwise reach each other with their hands or feet. Turn out or reduce the lighting in the gym and ask the pupils to lie down on their backs with their arms comfortably at their sides. It is most suitable that everyone lies on their backs when training relaxation with the first program, and then later on with the following program discover the position that suits each pupil best. In the beginning it can also be easier to relax if no one is lying too uncomfortably or cold. It can be beneficial to have a towel to lie on and something soft to have under one's head. Tell the pupils to close their eyes and listen carefully to the relaxation program.

## Rewakening

When it is time to "wake up" again it is best to allow each pupil to "awaken" at their own rate. Do not make too big issue of the whole thing and do not be in too much of a hurry. Speak to each of the "sleepy ones" by name. Let everyone wake up completely and then tell them all to sit up. It can also be suitable after waking up to do a few slow stretching exercises. Shortly after the actual "wake up" it is sometimes desirable to gather the pupils around you and discuss a little how different pupils felt during and after the relaxation session.

Teacher and students can often come very close to one another after experiencing relaxation together and therefore it can be worthwhile to make use of this feeling of trust after relaxation to talk about sensitive subjects of mental-hygiene, such as mobbing in class, understanding of people who are different, fear and anxiety. In general this is a very good opportunity to speak about feelings and try to understand many of the things that pupils are carrying about within themselves.

## Self-training

In conjunction to the pilot projects with junior public school pupils, some special relaxation programs have been produced varying in length and content. When using some of the programs, the teacher can personally decide the length of the relaxation session, ending the session by turning down the music and saying: "Presently I am going to ask you to take a few deep breaths and slowly wake up...open your eyes...stretch your body. You are now completely awake and feel good in all ways."

## Working in Pairs

Try letting your pupils work together in pairs sometime. Let one of them give the relaxation instructions (either from a written program or making it up on their own) while their partner relaxes. Then change roles. This can also be combined with giving a relaxing massage or simply touching shaking or lightly stroking the partners arms and legs.

## FOR PUPILS

You start the relaxation session as you have learned earlier by clenching your left hand, taking a deep breath and holding it. When you then breath out and relax your hand, you experience the spreading of relaxation throughout your whole body.

To later deepen your relaxation you can personally decide which method(s) suits you best. To help you choose, various methods are briefly presented here:

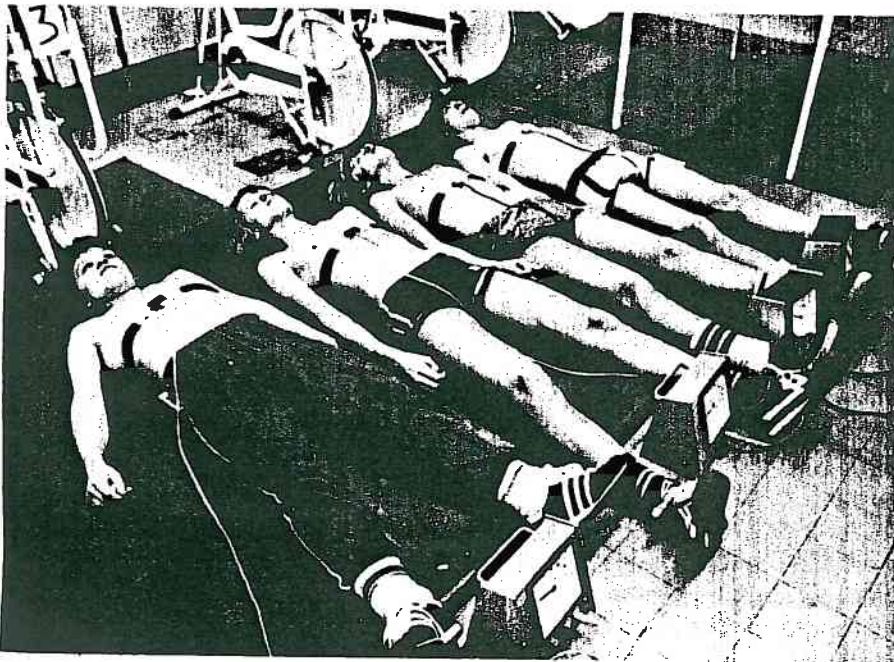
1. You can see yourself as relaxed as you would like to be. You can tense various muscles in your body and then relax them or in your mind you go through and relax one section of your body at a time. Begin from your head and go down until you reach your feet. Your body becomes heavier and heavier. Continue until your whole body is completely relaxed and heavy.
2. Another method involves seeing yourself in a place where you enjoy being and feel comfortable and relaxed. Try to see yourself lying and relaxing at a beach or in a meadow on a beautiful sunny summer day for example. Feel the warmth and relaxation which spreads throughout your whole body.
3. You can also deepen your relaxation state by taking close notice of your own breathing. Experience how you sink deeper every time you breathe out. Every time you breathe out you see how you sink deeper and deeper down in a pleasant and comfortable state of full total relaxation.
4. You can also use a word which you repeat over and over again quietly to yourself. Repeat for example the word CALM every time you breathe out. Simply let the word CALM drift in and out of your thoughts. If you lose it for a short time that is not important. Just let it come back again and repeat it everytime that you breathe out. CALM.....CALM.....CALM.....

## INTRODUCING RELAXATION INTO SWEDISH SCHOOLS

Besides training these relaxation techniques in physical education you can also use them to relax at other times of the day in school or at home. It can be a good idea to make a habit of checking for tension in your body a number of times during the day. At these times take a deep breathe and feel how the tension decreases when you breathe out. In other words you do not need to close your eyes and lie down when you want to quickly reduce the tension in your body.

You can, of course, also lie down at home, close your eyes and relax for a longer period of time just as you did during physical education period. In order not to waste energy through unnecessary tension besides checking the tension level in your body, you can use relaxation techniques in situations when you tend to nervous or uneasy, eg. at examination time or when going to the dentist. Use that method of relaxation which you have tried during your test periods and have found to function best.

You can also make a habit of once in a while improving the depth of relaxation by repeating that program which you like most. Remember that regular training is just as important with regards to relaxation as physical training is for physical improvement if you want to achieve good result.



### BACKGROUND

Interest for relaxation training in school arose in connection with a pilot project in Karlstad with poorly motivated students in Physical Education 1970-1971 (Setterlind, 1975).

This training was called "Special Physical Education" and contained sporadic relaxation in some groups.

Since 1972 coordinated special education in physical education has been carried out in grades 4, 5 and 6 and some relaxation has been included in the program. The pupils report this as a positive experience and particularly positive effects have been noted among those pupils who were timid and anxious as well as those with motor problems.

As director for LUG's (Follow-up of the New Education Plan for Public Schools) pilot projects in Physical Education in Public Schools in Karlstad, along with those teachers who were involved, Sven Setterlind has had the opportunity to test relaxation training in schools since 1974.

In LGR-69 (Study Plan for Public School) it says among other things that physical education shall contribute to the pupil's all-round and harmonious development. In physical Education pupils shall have the opportunity to learn a functional and economical working method so that they can move both rhythmically and relaxed, as well as recognize (and then adjust) when they become unnecessarily tense before or during an assignment.

During the last few years the Department of Education has been reviewing the study plan for public school. In the Department's background material for debate entitled 'Läroplansarbete i gymnastik' (Study Plan for Physical Education) new goals and the major components for Physical Education are discussed. Under the component 'Health, Hygien and Ergonomics', we find relaxation exercises as a separate subcomponent. Here the needs and possibilities of heightened body-awareness by means of relaxation exercises is discussed.

To more systematically evaluate the value of relaxation training in school the following project was carried out through the Sport Studies Department of The University of Örebro where Lars-Eric Uneståhl was the chief advisor.

## PILOT STUDY

During the autumn of 1975 a test of relaxation training was carried out in Karlstad in a public school. All pupils in grades 4, 5 and 6 (approx.300) took part in the 6 week study as part of the physical education program. The aim of this study was to see what a short, simple relaxation program at the end of physical education periods would have for long and short term effects both within and outside of school.

Teachers and parents were asked to fill in some questionnaires which were to indicate among other things what their attitudes to the ongoing relaxation programs were, what earlier experience they themselves had had with relaxation training, any changes they noticed in their classes or home during this time and what they thought about continued relaxation training within the school curriculum.

### Results

A large majority of the pupils thought that the relaxation sessions were very pleasant and approximately 75 % wanted to have relaxation training as part of their physical education program two or more times per week.

About half of the pupils felt that it was easier to work in school and that their concentration ability had improved. It seemed that many girls reported feeling sad and/or afraid less often and many boys experienced fewer headaches and stomach pains. Over 60 % tried to practice relaxation at home and 25 % trained regularly.

Both parents and teachers were very positive to the program. They were in agreement that pupils in today's schools had a much greater need of relaxation than a few years ago. There were few teachers and even fewer parents who had regularly practiced relaxation. 96 % of the parents and all the teachers were in favor of continued relaxation training in the school. None of the teachers had had any or even heard of relaxation training during their teacher education.

Both teachers and parents felt that there were many positive changes during and after the test period. To say in general that these changes were purely the result of the relaxation training may be jumping to conclusions, however, the study as a whole resulted in many valuable experiences and the tendencies were all positive.

### FOLLOW-UP

A follow-up to the above study was carried out late the following spring. The results showed 59 % had continued to train relaxation on their own and there was

a strong desire to have the training reinserted at the end of their physical education classes as previously. Although many thought that they could carry out the training quite well in the classroom most thought that it went better in the gym where they could lie on the floor.

It seemed that the girls had more positive attitudes and were more successful with relaxation within the school whereas there were no differences as far as training relaxation outside the school. The grade fives (age 11) seemed to show the most positive effects.

## MAJOR STUDY

A major study was carried out by Sven Setterlind(1978-83) which included both psychological and physiological effects of relaxation. Reports of this study can be found in the Scandinavian Journal of Sports Science 5 (2): 56-63, 1983. Following are short summaries of the two parts of this study.

### PSYCHOLOGICAL RESULTS

#### Subjects and design

The subject group was comprised of one class each of grade 6, grade 7, grade 8, grade 9, grade 10 and grade 11 for a total of 294 pupils. The control group consisted of a total of 287 pupils in the same age groups. There were 52% girls in the experimental group and 48% girls in the control group.

Both groups filled in a pretest questionnaire prior to the first lesson and were then given lessons in stress and stress reactions as well as different relaxation techniques. Following this the experimental group received relaxation training three times a week during a six-week period in the autumn of 1979. This training was carried out at the end of every Physical Education lesson using the programs recorded on cassette, supervised by the teacher.

Four times during this period the pupils filled out a short questionnaire concerning their experiences of relaxation. When the six-weeks were up the experimental group filled out an additional questionnaire on their experiences of relaxation and both groups filled out a follow-up questionnaire similar to the pretest.

## Method

Eight different relaxation programs were used. The order, content and length of the programs were as follows:

Muscular relaxation	12min	week 1
Muscular relaxation	8 "	week 2
Mental relaxation	10 "	week 3
Mental relaxation	8 "	week 3
Conditioning by signal	8 "	
week 4		
Testing of methods	8 "	week 4
Choice of own method	8 "	week 5
Self-instruction	7 "	week 6

## Results

First we should mention that the drop-out was negligible (5-10%). In addition we only mention a few of the results here.

About 90% answered consistently that they found the relaxation sessions pleasant and considered them good for them. Over 80% thought that it was quite easy for them to relax. Only 3% found it difficult to relax. About 70% felt that they were completely or almost completely relaxed on the first two occasions, whereas there was a slight reduction on the next two occasions. Girls tended to be more positive than boys on the first two occasions.

To questions concerning bodily sensations between 40-60% replied that they had experiences of heaviness, felt the release of tension, felt warmth, numb or light.

A mood test was also included in the questionnaire covering eleven positive emotional states. About 90% the pupils felt assured, satisfied, happy, friendly, relaxed and calm immediately after the relaxation exercises.

The pre- and post questionnaires were designed to measure possible effects of the relaxation training. The first questions concerned attitudes towards school. Girls, upper grades and "highly anxious" pupils were the three variables showing school at a higher stress setting in the pretest. The retest showed more and greater changes in a positive direction for the experimental group as compared to the control group.

A mood test was also included in the pre- and post questionnaires. The

emotional states most relevant were: relaxed, tense, unstressed, stressed, alert, tired, self-assured and shy. Table 1 shows that girls, secondary school pupils and "highly anxious" pupils in the experimental group changed most positively from the pre- to posttest.

**Table 1.** Points of change for the high and low anxiety pupils in the experimental and control group.

	Expr. group		Control group	
	High anxiety	Low anxiety	High anxiety	Low anxiety
Relaxed	19	1	9	4
Tense	27	5	-11	-4
Unstressed	29	5	-10	12
Stressed	22	3	-10	-1
Alert	22	15	1	10
Tired	11	26	5	21
Self-assured	3	11	6	10
Shy	4	9	1	-2
Total	137	75	22	57

After the training period over 90% of the pupils in the experimental group thought that learning relaxation in the way they were taught was easy. Most of them said that they were now able to relax without assistance. Over half said that they managed their school work better since they started the relaxation training and a third said that they could sleep better. About 60% felt less stressed, 44% less irritable, 46% more rested and alert, and 25% said that they learned things more easily at school now. About 7% were negative to tension control.

## PHYSIOLOGICAL RESULTS

### Subjects and Design

As a study within the larger study described above the grade 7 pupils were selected a year later when in grade 8 for further testing. These 98 pupils underwent a submaximum work test on a bicycle ergometer to calculate their ability to absorb oxygen. With the aid of that test and body weights twenty pairs of pupils were matched, ten pairs of boys and ten of girls. These matched pairs were then submitted to two pretests. During each pretest resting pulse was taken, followed by a 4 min warm up on the ergometer and a 10 min work test at 80% of the calculated maximum oxygen uptake. During the time on the bicycle the pupils' hearts were monitored by a cardiometer. After 5 and 10 minutes of work the pupils made estimates of how hard they were exerting themselves. After the bicycle test, resting pulse rates were taken after 1, 3, 5, 7, 8, 9 and 10 minutes. Rate of breathing was also measured.



During the following five weeks the experimental group were urged to train relaxation at home five times per week and to follow the instructions given by the project leader. They were supplied with the cassette recordings used in school the previous year.

After the "home training" two retests were carried out during which the pupils in the experimental group were to consciously apply their relaxation technique(s) while resting.

During the following week, a second special study was made using five girls and five boys selected from the experimental and the control group. The matched pairs consisted only of pupils who had participated in all tests previously. This second study was identical to the previous study except that blood pressure and blood samples were also taken this time.

Figure 1 shows the difference in recovery between the experimental and control groups before and after the training for the first study. The differences are significant at the 1% level. It is interesting to note that the experimental group's rate of breathing was slower even before the training. We assume that this was because of their relaxation training in school the previous year.

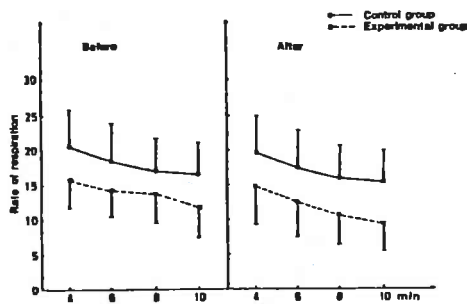


Figure 1. Rate of respiration before and after the test period in the experimental and control group. Recovery Study I.

The recovery rates in the second study were comparable to those in the first although there was only a slight difference for variables such as blood pressure, heart rate etc.

## Conclusion

The conclusions of the above major study are that relaxation training seems to have both a physiological and psychological effect even when practiced for a very short time.