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Evaluation of a Mental Skills Training Program Implemented by an  
Elementary Classroom Teacher

Jenelle N. Bonadie  
School of Human Kinetics  
University of Ottawa

A thesis  
submitted to the School of Graduate Studies  
in partial fulfillment of the requirements for the  
Degree of Master of Arts, Human Kinetics

University of Ottawa, January, 1995



Jenelle Bonadie, Ottawa, Ontario, 1995.



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## Abstract

The purpose of this study was to implement Orlick's (1993) mental skills/life skills training program and assess the extent to which children (1) learned to relax themselves at will, (2) successfully implemented stress control strategies, and (3) improved the frequency of their highlights (any simple pleasure, joy, or other positive experience that improves the quality of one's day). Two intact classes of grade 2 children took part in the study. One class served as the experimental group, while the other class served as the control group. The usual classroom teacher delivered the program 4 to 5 times per week, for 9 consecutive weeks. Each intervention session was 10 to 15 min in length. Significant positive effects were found in the experimental group with respect to the children's abilities to lower their heart rates at will and successfully implement relaxation and stress control strategies in their daily lives. Children in the experimental group also experienced a significant increase in the frequency of their highlights over the course of the intervention period. The results suggested that children in grade 2 can 1) learn to relax themselves at will as measured by heart rate, 2) successfully implement stress control strategies, and 3) improve the frequency of their highlight experiences when the usual classroom teacher delivers Orlick's (1993) mental skills training program.

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I would also like to acknowledge the principal and teachers of the school involved in this study. Without their cooperation and belief in the importance of this project, it would not have been possible.

Finally, I wish to thank my best friend, Wade Gilbert, for his support, love, and for traveling this journey with me. His tireless encouragement and devotion has allowed me to take each step with confidence and has made the path that much easier.

### Dedication

To my parents, Bren and Jackie Bonadie, without whom I would not be the person I am today. Thanks for all of your help, support, belief in me and my goals, for teaching me that I can achieve my dreams, and for lighting the path when it was dim.

To two dear friends who are no longer with me, but whose spirits will live inside of me forever.

## Evaluation of a Mental Skills Training Program Implemented by an Elementary Classroom Teacher

Recent studies have shown that high level athletes possess excellent mental skills (McCaffrey & Orlick, 1989; Orlick & Partington, 1988). The ability to carry a positive perspective, cope with stress, and relax when needed is correlated with successful high level performance. Some recent studies have examined the role of mental skills in other high performance professions, namely surgeons (McDonald & Orlick, 1994), and top classical musicians (Partington, 1992; Talbot-Honeck & Orlick, 1995). These studies showed that mental skills were critically linked to performance. High level performers in these various domains indicated that mental skills helped them both in attaining and maintaining high levels of excellence (Orlick, 1992).

There is a growing interest among researchers in the area of mental skills training with children (Orlick & McCaffrey, 1991; Sears & Johnson, 1986; Setterlind, 1983; Solin, 1991; Zaichkowsky & Zaichkowsky, 1984). As stated by Orlick (1993) "The ultimate goal with children is to teach them relevant mental skills ... that will enhance their quality of life and endure over their lifetime" (p. 9).

Zhang, Ma, Orlick and Zitzelsberger (1992), pointed out that: Mental training may be particularly promising for children; it offers a means of learning skills faster and more easily, as well as an opportunity to learn mental skills at an early age that can give children greater control over their personal destiny (p. 240).

If children can be effectively taught relevant mental skills, they would be in a position to apply these skills at school, during sports, at home, or at play. Orlick (1993) has long believed that mental skills training with children is of value and recently developed a program specifically for elementary school children. This program aspires to teach children various mental skills, including relaxation, stress management and positive perspectives. Two recent studies examined the effectiveness of Orlick's mental skills training program for children and found positive effects with respect to learning relaxation and stress control skills, and increasing positive highlights (Cox & Orlick, in press; St. Denis & Orlick, 1995). The intervention sessions in both of these studies were conducted in the school classroom by the researchers themselves.

Although these studies demonstrated that children learned how to relax and cope with stress, and how to experience a greater number of "highlights" (any simple pleasure, joy, or other positive experience that lifts the quality of one's day), it is not yet known whether these same results would be forthcoming if the usual classroom teacher delivered the mental skills training program.

The purpose of this study was to assess the effects of Orlick's (1993) mental training program when taught by a classroom teacher. More specifically the purpose of this study was to assess the extent to which children (1) learned to relax themselves at will as measured by heart rate, (2) successfully implemented stress control strategies, and (3) increased the frequency of their highlights.

Orlick's (1993) comprehensive mental skills training program for children aspires to teach valuable mental skills through the use of audio-tapes, games, and activities. A definite strength of this program is the fact that the audio-tapes, games, and activities were designed specifically for children and are presented in an enjoyable and non-threatening manner.

There is a great advantage in beginning this process at an early age for children to establish a concrete foundation of belief in themselves and in their capacity to directly influence the course of their own lives.

Children who learn these mental skills early have more time to apply them to living their lives and pursuing their goals (Orlick & McCaffrey, 1991, p. 324).

If children are effectively taught how to relax, how to cope with stress, and how to carry a positive perspective through a mental skills training program in school, they may start to use these skills on their own in everyday life. This long range goal reflects a belief in the potential long term value and usefulness of mental skills training for children. The first step was to determine whether children could effectively learn these skills from their classroom teachers.

#### Review of Literature

Recent studies on elite athletes have shown that high level performers possessed well-developed mental skills (Kreiner-Phillips & Orlick, 1993; Orlick & Lee-Gartner, 1993; Orlick & Partington, 1988). The ability to relax under stressful situations, and carry a positive perspective has helped athletes to excel in their chosen sport. Mental skills training studies have

not been limited to athletes. Recent research has focused on the mental skills of top surgeons (McDonald & Orlick, 1994), classical musicians (Partington, 1992; Talbot-Honeck & Orlick, 1995) and astronauts (Sprung, 1995). These studies showed that mental skills can have a substantial impact on performance in these disciplines.

### Stress and Relaxation

The intervention program used in this study focused on stress and relaxation skills, and the ability to carry a positive perspective. Relevant past studies with athletes and children involving each of these domains are discussed below.

Selye (1956) was one of the first researchers who examined stress and its effects, and thought that there were many causes of stress. Adaptation was seen as being very important, as it helped one to accommodate to his or her surroundings and thus cope with stress. Cox (1978) defined stress as a reaction to a situation which occurred when one did not possess proper coping abilities. Hiebert (1983) took this concept one step further and stated that the amount of stress that one suffered had a direct association with one's coping strategies. One's reaction to stress determined whether the stress was considered negative or positive.

It is known that athletes can face a great deal of stress during a performance. Sources of stress have included, the stress the athlete placed on him or herself, perceived expectations from others, and worries about outcome. If an athlete perceived these stressors as negative and did not possess adequate coping strategies, this stress may greatly hinder the

athlete's performance (Highlen & Bennett, 1983; Orlick & Partington, 1986).

Hellstedt (1987) discovered in his research with young skiers that the most useful mental skills taught to these athletes were practical strategies to manage on-site competitive anxiety and stress. Strategies to cope with stress were viewed as a valuable addition to an athlete's training program.

Some strategies that have been used to help athletes deal with anxiety while performing included various relaxation training methods (Gould, Petlichkoff, Hodge, & Simons, 1990), and cognitive and biofeedback training techniques (De Witt, 1980). When athletes have been able to deal effectively with stress they have performed more consistently and closer to their potential. Unfortunately, many people do not possess adequate coping strategies. Humphrey and Humphrey (1985) have stated that many adults who lack suitable coping mechanisms are at great risk of passing this deficiency on to the children in their lives. Dickey and Henderson's (1989) research showed that of the 141 elementary school children tested, most did not have suitable coping strategies. When faced with stress these children resorted to inappropriate behaviors such as hitting someone, or not expressing feelings when hurt. Lang and Stinson (1991) stated that as children grew older their reactions to stress included negative verbal expressions and various illnesses that were psychosomatic in nature. Orlick (1993) stated that

A continuous diet of stress in the absence of good coping skills, will affect your mental and physical health, the quality of your

relationships and your happiness, and can eventually kill you. Stress heightens irritability and susceptibility to various kinds of illness, lowers resistance and prolongs recovery from mental and physical setbacks (p. 34).

Clearly the consequences of stress can be detrimental to one's overall well-being. If children are to grow into healthy well-balanced adults, they must learn how to cope effectively with stress and develop appropriate coping strategies.

Several researchers recommended that stress management techniques be taught to children in school so that they can develop effective and suitable coping strategies (Davis, 1991; Humphrey & Humphrey, 1985; Orlick, 1993; Zaichkowsky & Zaichkowsky, 1984).

Some work has already been done in this area. In Sweden, mental skills training, specifically relaxation training is part of the school curriculum (Setterlind, 1983; Solin, 1991). Unestahl (1993) reported that Sweden was the first country, and is still the only country in the world, where basic mental training has been included as part of the regular school curriculum. A study done by Setterlind and Patriksson (1982) compared the effects of a six week relaxation training program on two groups of 12 to 18 year old children. One group received the relaxation training while the other group participated in physical activity. When children in the intervention program were asked "Do you think that you learned to relax during this training period?", 55% of the group responded "yes, absolutely", another 43% marked "perhaps", and 2% marked "not at all". It is not known whether

any relaxation effects were recorded by the control group as it was not reported. Some spin-off effects of the intervention program were also reported, without reference to exactly how they were determined. These included managing school work better, increased learning capability, better sleep and a decrease in the number of headaches. Zaichkowsky and Zaichkowsky (1984) introduced a six week relaxation training program to 24 fourth grade children. Results showed that these children learned relaxation techniques and influenced both psychological and physiological states.

In a recent relaxation/stress control program using Orlick's (1993) comprehensive mental skills training program, Cox (1994) found that elementary school children learned to effectively lower their heart rates following the intervention period, which was clearly not the case for children in control groups. The children in the experimental group also used the relaxation/stress control strategies that they had learned during the intervention program in many real-life situations. These results lent support to the usefulness of a mental skills training program for children, both in terms of learning to relax and applying stress control skills in real-life situations.

### Positive Perspectives

Part of the present study focused on assessing one's ability to carry a positive perspective or look for highlights (any simple pleasure, joy, or any other positive experience that improves the quality of one's day).

Positive thinking has often been mentioned as an important mental skill. Ziegler (1987) stated that the most important limiting factor in one's performance is the "I can't" mechanism. She believed that a negative perspective could destroy an athlete's confidence and performance. A basketball player she studied who had sporadic mood shifts, depressions and erratic play, reported an average of 56 negative thoughts per day. This led her to believe that a negative perspective can contribute to inconsistent performances. It is widely held that a positive perspective can enhance self-confidence and successful performances.

A recent study by Donohue (1994) attempted to examine whether children in grades 3, 4, 5, and 6 could learn to refocus and change their perspective from negative to positive. The 10 week intervention consisted of selected activities taken from Orlick's (1993) mental skills training program. No significant group effect results were found in this study. Donohue attributed these insignificant results to the insensitive instruments (rating scales) used to measure the changes and suggested that some individual children who were more closely monitored were indeed able to learn refocusing strategies and carry a positive perspective. For future studies, he recommended using a more sensitive, reliable instrument, such as an interview or case study approach, to measure the effectiveness with which children can learn to refocus and maintain a positive perspective.

Orlick (1993) has been a strong believer of the value of positive thinking. "All positive human attributes, including self-confidence, happiness and personal excellence are determined by the extent to which

people think and act positively" (Orlick, 1993, pp. 11-12). He believed that it was important to teach children early to think positively to help them to develop their self-esteem, suffer less anxiety and cope with all of the negative input which they will encounter. As a simple medium for beginning to teach children to think positively and live more of life's simple pleasures, Orlick recommended an activity called "Looking for Highlights". A highlight is a simple pleasure, joy, or any other positive experience that lifts the quality of one's day. Recording highlights in a Highlight Log Book was suggested to help children to focus on the positive areas of each day. Orlick stated that recording highlights in a logbook may help children notice more good things and keep things in perspective when faced with stress or setbacks. When children are given the task of looking for highlights, emphasis is placed on recognizing and appreciating the simple joys in life. This process may help children begin to develop the mental skill of carrying a more positive perspective. In a positive perspective/highlight study with grade 4 children, St. Denis (1994) found that only the experimental group children experienced a significant increase in highlights, and increased positive feelings about themselves following a 10 week intervention period using Orlick's mental skills training program.

Siccone and Canfield (1993) have also written about the importance of highlights. They identified highlights as successful past experiences and noted that these can build the foundation for future happiness and success.

In conclusion, research on successful athletes has shown that successful athletes possessed high level mental skills (Gould, Weiss, &

Weinberg, 1981; Hanson, 1992b; Highlen & Bennett, 1979,1983; Rotella, Gansneder, Ojala, & Billing, 1980). Research with successful performers in various other fields such as music (Hanson, 1992a; Ness & Molo, 1992), and surgery (McDonald & Orlick, 1994) has shown that these performers also possessed advanced mental skills. Since mental skills have been found to be valuable to performance enhancement and the development of the individual (Hanson, 1992b; Orlick & Lee-Gartner, 1993), it would seem that mental skills training could be of benefit to everyone, including children. Mental skills training with children is a relatively new area of research. As such, there is much to discover about children's ability to learn mental skills, and whether or not they are capable of using these skills in various aspects of their lives.

#### Mental Skills Training for Children

In the introduction to the book "Helping Children Understand About Stress" (Humphrey & Humphrey, 1980), Selye wrote "I think it is extremely important to begin teaching the stress concept to children at a very early age, because all codes of behavior sink in best if a tradition is established" (p. 5). Orlick (1993) stated that "Positive life skills allow children to strengthen their confidence, maintain a positive perspective, deal constructively with conflicts or setbacks, safeguard their health and enhance their quality of living" (p.9). If children were taught mental skills at an early age, they would have many opportunities to practice and refine these mental skills as they develop and mature. An ideal place for mental skills to be taught to children when they are young, is in school.

Orlick (1993) developed a mental skills training program specifically for elementary school children. This program aspired to teach children a number of relevant mental skills (relaxation, coping skills, highlights and positive thinking) through the use of tapes and activities which were presented in a fun and non-threatening manner. A weakness associated with past intervention programs involving children has been that the researchers used primarily adult methods (Hiebert, 1988; Humphrey & Humphrey, 1985; Lubetsky, 1989). Because the concepts in Orlick's program are designed for children, there is an increased chance that the children will enjoy the activities and remember the skills taught. Kraft and McNeil (1985) also believed that a playful approach can be an effective teaching medium for children. They stated that, "Play, if handled properly, is a natural mode for children to deal effectively with stress" (p. 73).

Studies on stress control and highlights that have used Orlick's (1993) mental skills training program in controlled classroom environments have met with initial success when implemented by researchers (Cox & Orlick, in press; St. Denis & Orlick, 1995). It was not known if similar positive results could be forthcoming when the classroom teacher implemented the program. The purpose of this study was to assess the extent of this possibility.

## Method

### Subjects

Two existing grade 2 classes from the same Ottawa city school served as subjects for the study. One class acted as a control group and consisted of

17 students. The other class acted as the experimental group and consisted of 24 students. Informed consent was attained from all subjects' parents before the intervention program began.

#### Mental Skills Intervention Program

The students in the experimental group participated in pre- and post-testing as well as four to five 15 min intervention sessions per week, for 9 consecutive weeks. The control group students were pre- and post-tested, but did not receive the intervention program. Instead, they followed their regular classroom routine.

The intervention program consisted of activities from Orlick's (1993) mental skills training program, which were taught through the use of standardized audio-tapes. The students were taught a series of relaxation activities, and basic concepts about stress and stress control. They were also taught about highlights and how to recognize them. A typical intervention session consisted of an introductory question or comment, a relaxation audio-tape or highlight activity, and a brief discussion about the activity and/or the mental skill used. The logbooks were also used during the intervention sessions.

All intervention sessions were conducted by the classroom teacher, with the aid of Orlick and McCaffrey's (1995) "Feeling Great Curriculum Guide" and (1993) "Free to Feel Great" audio-tapes. These program materials were given to the teacher before the start of the intervention program which enabled her to deliver the program in a prescribed manner. The "Feeling Great Curriculum Guide" outlined a day-by-day schedule for

each intervention session including relaxation, highlight and/or logbook activities to use, and questions to pose (see Orlick & McCaffrey, 1995, for more detail). The teacher had a positive feeling about delivering the program and was diligent about its implementation. The pre- and post-testing was organized by the primary researcher (Bonadie) and carried out by a team of researchers with knowledge in the area of mental skills training and children.

### Instruments

Relaxation/stress control. The Heart Rate Monitor (DT1000) was used to measure the extent to which the subjects learned to relax. Cox (1994) demonstrated that this instrument had a reliability rate of 97%. Heart rates were measured both before and after the intervention program by the same researcher who was not cognizant to which group the children belonged. The researcher found a quiet spot in the corner of the classroom and conducted the measures in groups of four. After each child had been outfitted with a heart rate monitor, a baseline heart rate was ready to be recorded. After approximately 20 s had passed, the researcher took the most consistent measure or the middle measure if there was a range of heart rates (the greatest range noted by the researcher was three beats in length). This 20 s delay insured that the heart rate had stabilized, and that an accurate heart rate measure was taken. The researcher then gave the following instructions to the children: "I'd like you to try to relax the best way that you know how for one min". At the one min mark, the researcher immediately

recorded the heart rate monitor's measure, while the children were still attempting to relax (see Appendix B).

Highlights/positive experiences. Each subject was pre- and post-tested on the frequency of his or her highlights using the highlight assessment form. On an individual basis, the researchers interviewed each subject and read the following script: "Hi. I want to talk to you today about highlights. Highlights are things that make you feel good, the things that make you feel happy during your day. Highlights might be something you did that made you smile, or something someone said that made you feel great. Some people may have highlights, some may not and that is OK too. I want to know what is true for you. Did anything happen yesterday or today, or did you do anything yesterday or today that made you feel happy or made you feel good?". The researcher recorded the subject's responses on the highlight assessment form (see Appendix C).

Logbooks. Each child in the experimental class was given his or her own logbook. Logbooks were used to record (1) stressful experiences, (2) coping strategies or relaxation activities attempted, (3) how the student felt before and after a stressful experience (see Appendix D), (4) heart rates before and after relaxation attempts (see Appendix E), and (5) highlights (see Appendix F).

At the conclusion of the intervention program, the logbooks were collected and analyzed. A content analysis was performed to assess the extent to which the children had applied the stress control activities that

they had learned to their daily lives. A qualitative analysis of the highlight categories was also conducted.

Interviews. Short informal interviews were conducted with the intervention teacher on a weekly basis to gain knowledge about how the mental skills training program was going. The researcher kept a logbook and recorded key points discussed during these interviews. In addition to the informal interviews, the researcher also conducted a mid-way questionnaire (see Appendix G), and a post-intervention formal interview (see Appendix H). The post-intervention interview was audio-taped, and later transcribed for analysis.

Post-intervention interviews were conducted on an individual basis with all experimental group subjects to gain information pertaining to the extent to which the children used the relaxation/stress control activities in their daily lives, and their views and feelings about the overall program (see Appendix I).

## Results

The results from this study were presented as follows: (1) independent samples t-tests assessing the extent to which children learned to relax themselves at will as indicated by the heart rate scores on pre- and post-tests, as well as analysis of heart rates recorded in the logbooks, (2) analysis of the extent to which the children were able to successfully implement relaxation and stress control strategies in their daily lives as indicated by the logbook data, and student and teacher interviews, (3) independent samples t-test assessing the extent to which the children increased the frequency of

highlight experiences from the pre- to post-test. (4) analysis of highlight categories, and (5) analysis of the children's post-intervention interviews.

#### Learning to Relax

Pre- and post-test scores. Heart rate difference scores were used to assess the extent to which children learned to relax themselves at will. Difference scores represented the students' heart rate after relaxing minus their heart rates before relaxing. The two groups' mean heart rates before and after relaxing on the pre-test and on the post-test, as well as the mean difference scores for the pre- and post-tests are presented in Table 1.

Table 1

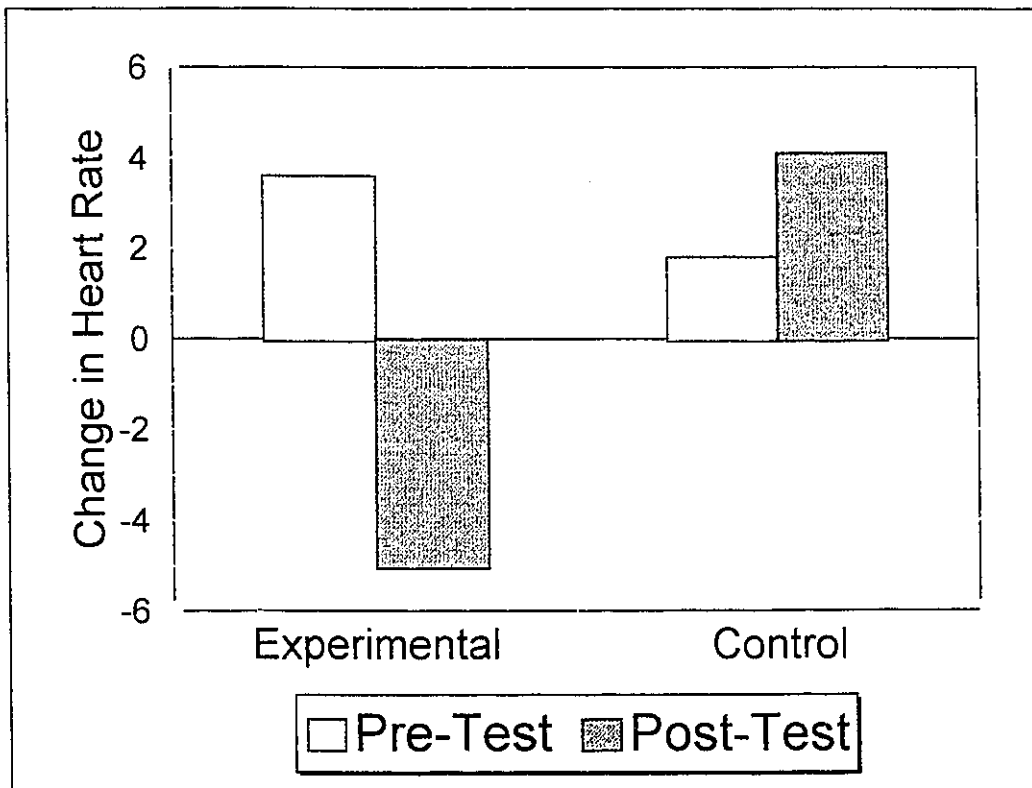
#### Experimental and Control Groups' Means (and Standard Deviations) for Heart Rates Before and After Relaxing, and Difference Scores

Group	Test	Heart Rate Before Relaxing	Heart Rate After Relaxing	Heart Rate Difference Score
Experimental	Pre-Test	87.4 (13.2)	91.0 (10.8)	3.6
Control	Pre-Test	79.8 (11.9)	81.6 (10.8)	1.8
Experimental	Post-Test	84.5 (9.7)	79.5 (9.9)	-5.0
Control	Post-Test	82.4 (8.8)	86.5 (10.0)	4.1

Because two separate t-tests were performed, they were interpreted with a modified alpha level of 0.025 (Darlington, 1990). Results of an independent samples t-test on the pre-post difference scores showed that the experimental group decreased their heart rates following the one min relaxation attempt significantly more on the post-test than on the pre-test ( $T = 3.564$ ,  $df = 23$ ,  $p < 0.025$ ). No significant change was found for the control group. After the intervention program, the experimental group was better able to relax themselves at will than the control group (see Figure 1).

Figure 1

Heart Rate Difference Scores on the Pre- and Post-Tests for both the Experimental and Control Groups



Logbook analysis. During the course of the intervention period, the experimental group children learned how to take their own heart rates. One of the logbook exercises involved each child taking his or her own baseline heart rate for a period of 20 s before relaxing. After a relaxation attempt was made, the children took a second heart rate measure. The children also rated their feelings of stress on the cat scale, before and after relaxing (Cox & Orlick, in press). This scale consists of a five point pictorial scale ranging from very stressed to very relaxed. The children identified their level of stress before relaxing and then again after they had attempted a relaxation strategy (See Appendix E).

An independent samples t-test performed on the heart rate measure recorded in the logbooks indicated that the children were able to significantly decrease their heart rates following a relaxation attempt ( $T = 3.6$ ,  $df = 19$ ,  $p < 0.05$ ). The pre-relaxation baseline heart rate average for 20 s was 30.5 beats (approximately 91.5 beats per min), while the post-relaxation average heart rate for 20 s was 25.3 beats (approximately 75.9 beats per min).

A nonparametric sign test (Siegel, 1956) was conducted on the cat scale responses to assess the extent to which the children had increased their feelings of relaxation following a relaxation strategy attempt. The sign test was chosen because it is designed for measuring the significance of the direction of change. Siegel noted that this test is relevant when small samples are used and each subject can act as his or her own control. The sign test analysis demonstrated that a significant number of children in the

experimental group increased their feelings of relaxation following the implementation of a relaxation strategy. This was significant at the .001 level.

### Implementation of Relaxation/Stress Control Strategies

An attempt was made to measure the extent to which the experimental group children applied the relaxation and stress control strategies they had learned in the program to various aspects of their daily lives. This was done through a qualitative analysis of the logbooks, and individual interviews with the children and the teacher.

An analysis of the children's logbooks and interviews showed that 22 of the 24 children (92%) in the experimental group, had used the relaxation/stress control strategies, learned in the program, outside of the intervention sessions. Frequently cited situations for applying stress control skills included: at home, when angry, when scared, when hurt, when in fights with siblings or friends, when doing homework, when unable to sleep, when playing sports and when in the playground.

Children were asked to respond to the following questions in their logbooks:

(1) Did anything stressful happen yesterday or today? If so, what happened? How did you feel when this happened?

(2) Did you do anything to feel less stressed? If so, what did you do? How did you feel after doing this?

Students rated their perceived level of stress using the 5 point pictorial cat scale. They rated how they felt when they were initially faced with the

stressful event, and how they felt after implementing a strategy to feel less stressed. The rating scale ranged from 1-5, with 1 being very stressed and 5 being very relaxed (see Appendix D). Cox and Orlick (in press) judged a strategy to be successful if a child's feelings and ratings moved from stressed to more relaxed. The following four examples are representative of situations that were judged to be successful implementations of an intervention strategy. These responses were taken directly from the logbooks, and as such the children's spelling has been retained.

#### Example #1

- Q. Did anything stressful happen? If so, what happened?
- A. A kid was bugging (sic) me.
- Q. How did you feel when this happened?
- A. Rating = 1, very stressed.
- Q. Did you do anything to feel less stressed? If so, what did you do?
- A. Sptady (sic) toes (Spaghetti Toes).
- Q. How did you feel after doing this?
- A. Rating = 5, very relaxed.

#### Example #2

- Q. Did anything stressful happen? If so, what happened?
- A. My sister was spying on me.
- Q. How did you feel when this happened?
- A. Rating = 2, a little stressed.
- Q. Did you do anything to feel less stressed? If so, what did you do?
- A. Jelly Belly.

Q. How did you feel after doing this?

A. Rating = 5. very relaxed.

Example #3

Q. Did anything stressful happen? If so, what happened?

A. I swisted (sic) my ancle (I twisted my ankle).

Q. How did you feel when this happened?

A. Rating = 1, very stressed.

Q. Did you do anything to feel less stressed? If so, what did you do?

A. Musle relaxashon (sic) and tree-it. (Muscle relaxation and Tree-it.)

Q. How did you feel after doing this?

A. Rating = 5, very relaxed.

Example #4

Q. Did anything stressful happen? If so, what happened?

A. I was stressed. I was waching (sic) a scary movie.

Q. How did you feel when this happened?

A. Rating = 1, very stressed.

Q. Did you do anything to feel less stressed? If so, what did you do?

A. I did my spicle (sic) place (I did my Special Place).

Q. How did you feel after doing this?

A. Rating = 5. very relaxed.

The above four examples illustrate the successful implementation of relaxation/stress control strategies learned in the intervention program applied to "real" life stressful situations. Almost all of the remaining children in the intervention program cited similar examples of successful

implementation of strategies learned. Their responses and ratings showed that they found the techniques effective in helping them deal with stress. A nonparametric sign test (Siegel, 1956) was conducted on the cat scale responses to assess the extent to which the children had increased their feelings of relaxation following a stress control strategy attempt. This analysis demonstrated that a significant number of children (100%) decreased their feelings of stress following the implementation of a stress control strategy. This was significant at the .001 level. The experimental group classroom teacher confirmed that a large percentage of children discussed successfully applying stress control strategies from the program outside of the classroom.

#### Highlight Experiences

All subjects were interviewed during the pre- and post-test to assess the frequency of highlights experienced that day or the previous day.

Independent samples t-test on the pre- and post-test highlights scores interpreted with a modified alpha level of 0.025 (Darlington, 1990) revealed that the experimental group significantly increased the number of highlights experienced over the course of the intervention period ( $T = 3.1$ ,  $df = 23$ ,  $p < 0.025$ ). The experimental group children doubled their highlights from pre-test to post-test. No significant change was found for the control group.

Table 2

Highlight Frequencies

<u>Group</u>	<u>Pre-Test Highlights</u>	<u>Post-Test Highlights</u>
Experimental	18	44
Control	16	19

During the intervention, an additional self-recorded measure of highlights was gained from the experimental group on a Highlight sheet in their logbooks (Appendix F). A total of 90 highlights were recorded by experimental subjects for that day, which was a higher number than that recorded on the day of the interviews.

Highlight Categories

The highlight categories identified by Orlick (1993) and refined by St. Denis and Orlick (1995) were used to categorize highlights in this study. These categories were as follows: human contact, play/physical activity, contact with nature, accomplishments, discovery, relaxation, tasting pleasures, entertainment, receiving/giving, positive anticipation, and other. The researcher was able to categorize all of the highlights collected in this study into these eleven categories. A closer analysis of the play/physical activity highlights revealed two sub-categories within this domain: (1) play/physical activity involving other people, and (2) play/physical activity without mention of other people. After carefully reviewing the positive anticipation highlights, it was decided to include these highlights under appropriate content domains and note that it reflected anticipation of

a positive experience in that category domain (e.g., "I'm going to play hockey on Saturday." Domain: play/physical activity (positive anticipation)). This allowed for greater accuracy of content, and resulted in a total of nine highlight content categories, plus the "other" category. Table 3 displays these 10 categories along with the frequencies and percentages of highlights in each of the highlight domains.

Table 3

Frequencies and Percentages of Highlight Categories

<u>Highlight Category</u>	<u>Frequency</u>	<u>Percentage</u>
Play/Physical Activity (*6 Positive Anticipation)	49	26.2
Human Contact (*3 Positive Anticipation)	47	25.1
Contact with Nature (* 2 Positive Anticipation)	22	11.8
Accomplishments	22	11.8
Receiving/Giving (* 2 Positive Anticipation)	14	7.5
Entertainment	10	5.3
Discovery	7	3.7
Tasting Pleasures	6	3.2
Relaxation	2	1.1
Other	8	4.3
Total	187	100.0

After reaching a consensus regarding categories and category descriptions, the two researchers performed an interrater reliability check.

The first researcher examined 25 separate slips of paper, each with a different highlight written on it, and noted the category to which each belonged. The second researcher independently examined each of these slips of paper and placed each in an envelope which had the appropriate highlight category label written on the outside. This same procedure was repeated four separate times, each of which involved categorizing 25 different highlight slips. On the first interrater check, 21 of the highlights were independently coded in the same category by the two researchers. Four disagreements occurred, primarily because these four highlights had properties of more than one category. After discussion, the two researchers reached a consensus on placing the highlights in the category that was felt to be most central to the experience. The second interrater check yielded that 24 of the 25 highlights were independently coded in the same category by the two researchers. The one disagreement occurred primarily because the highlight did not clearly fit into any previously established categories. On the third and fourth interrater reliability check the two researchers were in complete agreement.

Subsequently all the highlights were categorized by one researcher and then checked by the second researcher to assess the extent to which there was a consensus among the two researchers regarding the categorization of the highlights. This secondary assessment showed a 100% agreement between the two researchers.

### Post-intervention Interviews

An interview was conducted with each child in the experimental group following the intervention period. The purpose of this interview was to assess the extent to which the children were applying intervention strategies to their daily lives, and to gain a better understanding of their overall feelings and views about the intervention program. Interviews were conducted by a team of researchers with knowledge in the area of mental skills training and children.

When asked how they felt about the intervention program, 96% of the children in the experimental class (n=24) said they liked it. Some typical responses were: "I liked it, it was fun", "It made me feel good", and "I liked it because it really made me feel good". Only one child in the experimental group expressed reservations about the program. When asked "Did you like it or not like it?", her response was "Not that much".

When asked if the children had learned anything from the program, 96% of the students responded that they had learned in one or more of the following ways: (1) to relax (e.g., "to settle down", "I learned to relax and how to relax"), (2) to feel better (e.g., "when sad, it helps me", "when I get scared, I do relaxation", "it makes me relax and feel comfortable when I am in a bad mood"), and (3) to cope with stress (e.g., "when I fell off my bike, I did muscle relaxation and that helped me", "it helps me cope in my mind - helped me to relax", "I got in trouble, I did Spaghetti Toes in my room and it made me relax").

When asked if they had told or taught anyone who was not in the program about the activities, 50% (n=12) of the students in the program said "yes". The people they had told/taught included parents, brothers, sisters, aunts, and cousins.

Twenty-one students in the experimental group (87.5%) said they would continue to use the skills/activities that they had learned, at home, at school or in their daily lives. A variety of situations for application were mentioned such as, when stressed, injured, angry, tired, embarrassed, scared, or sad, when being bugged or teased, in a fight, or when unable to sleep.

### Discussion

The results of this study clearly indicated that the children who participated in the mental skills training program: (1) learned to relax themselves at will, (2) successfully implemented stress control strategies in a variety of situations, and (3) increased the frequency of their highlights. The results suggested that children in grade 2 can learn important life skills in the elementary school classroom when this program is delivered by the usual classroom teacher. These findings are discussed below.

#### Learning to Relax

The positive results of relaxation training in the current study are supported by the work of Setterlind and Patriksson (1982), and Zaichkowsky and Zaichkowsky (1984). Setterlind and Patriksson found that 12 to 18 year old children could learn to relax and were capable of using stress control skills in their daily lives. In a study with grade 4 children,

Zaichkowsky and Zaichkowsky discovered that these students could learn to relax, and influence their heart rates.

Cox and Orlick (in press) used Orlick's (1993) mental skills training program for children and found that elementary school children in kindergarten through grade 6 learned to relax themselves at will. All of these studies support children's capacity to learn relaxation skills and to benefit from doing so.

#### Successful Implementation of Relaxation/Stress Control Strategies

This study showed that when children were taught relevant relaxation skills and stress control strategies, they could successfully implement these skills in their daily lives. Children's frequently cited responses of stress control strategy implementation included: when scared, sad, or when in a bad mood, at home, when hurt, injured, or unable to sleep, and when the children felt that they needed to calm themselves down (e.g., "helped me to relax in French because I always get hyper"). These results are the same as those found in the studies of Cox and Orlick (in press), and Setterlind and Patriksson (1982).

Setterlind and Patriksson (1982) found that children in their intervention program (aged 12 to 18) applied their relaxation strategies to school, and to help themselves feel better. Cox and Orlick (in press) found that elementary school children (kindergarten to grade 6), exposed to Orlick's (1993) mental skills training program applied these skills to many areas of their lives, for example, when stressed, when unable to sleep, and when they wanted to feel better.

Blom, Cheney and Snoddy (1986) noted that many children respond to stress in the classroom by acting out, and when this occurs a child not only interferes with his or her own learning, but the learning of all of the children in the classroom. If children were taught relevant stress control strategies and given the opportunity to practice and refine these skills, they may be in a position to apply these skills when they feel stressed out in the classroom. This may decrease or alleviate altogether a child's will to act out. As a result, discipline by the teacher would be less of an issue and the children's learning would not be interrupted.

When children do not learn adequate coping strategies, they may grow into adults who do not cope effectively. Dickey and Henderson (1989) tested 141 elementary school children and discovered that, when faced with stress, most of these students resorted to inappropriate behaviors such as hitting someone, or keeping their feelings to themselves. Lang and Stinson (1991) assessed older children and found that their reactions to stress were often inappropriate, including negative verbal expressions, and psychosomatic illness. The effects of stress can be detrimental if one does not learn adequate coping strategies.

#### Highlight Experiences

The results of this study indicated that the children in the experimental group increased the frequency of their highlights over the course of the intervention period. These results are the same as those found by St. Denis and Orlick (1995), who discovered that grade 4 children exposed to a

Highlight intervention program significantly increased their frequency of highlights on the post-test as compared to the pre-test.

In St. Denis and Orlick's (1995) study, the experimental group children used their highlight logbooks a minimum of once a week. This regular logging provided many highlights (over 2000) to be analyzed, and made the children very aware of their highlights during the day. Future studies should consider the benefit of regular logging of highlights.

An interesting finding in St. Denis and Orlick's (1995) study was the emergence of a positive anticipation highlight category. A highlight experience in this category occurred simply by thinking positively about an upcoming event. After reviewing the positive anticipation highlights in this study, it was decided to include these highlights under appropriate content domains and note that they reflected anticipation of positive experiences in that category domain (e.g., "I'm going to see my Mom tonight." Domain: human contact (positive anticipation)). This allowed for greater accuracy of content categorization and resulted in a total of nine highlight categories (play/physical activity, human contact, contact with nature, accomplishments, receiving/giving, entertainment, discovery, tasting pleasures, and relaxation), plus the "other" category for a small number of highlights that could not be placed in any existing domain. Although no new highlight content categories emerged as a result of the categorization of highlights in this study, a difference was discovered with respect to the play/physical activity domain. Upon closer inspection of the highlights within this category, it was revealed that there were two separate sub-

categories within this domain: (1) play/physical activity involving other people, and (2) play/physical activity without mention of other people. When the highlights were categorized, however, the play/physical activity category was left intact with no distinction made between the two sub-domains.

A post-intervention interview was conducted with all of the children in the experimental group to assess their overall feelings and views about the program. Similarly to Cox and Orlick (in press) and St Denis and Orlick (1995), the children in this study enjoyed the intervention activities, learned from the program and felt that the program had helped them. A definite strength of Orlick's (1993) life skills intervention program is its playful orientation and focus on enjoyment. Several researchers have noted that play or playful orientations can be an effective medium for teaching and learning. When children learn through play, there is an increased chance that they will remember and apply the skills being taught (Cox, 1994; Cox & Orlick, in press; Hiebert, 1988; Humphrey & Humphrey, 1985; Kraft & McNeil, 1985; Lubetsky, 1989; Orlick, 1981, 1993).

A promising finding was the response to the question "Do you think that you will continue to use the activities that you learned, on your own?". Twenty one of the students (87.5%) responded positively, which suggested that the children felt it would be of value to continue to apply the activities to their daily lives.

The context of program delivery is an important issue when one considers that an elementary classroom teacher with no background in the

area of mental skills training and children implemented Orlick's (1993) program successfully, and past studies delivered by experts in the field have not met with the same success (Donohue, 1994; Howlett, 1994). Both Donohue and Howlett delivered Orlick's mental skills training program outside of the children's regular classroom, without the usual teacher present. As a result, there was a lack of the same discipline issued by the regular teacher, and time was lost transporting the children to and from their usual classroom to the other classroom in the school where they were taught the mental skills. These two factors limited the amount of focus time that the children spent on learning the program elements. In the present study, the regular classroom teacher delivered the program in the children's usual classroom. As a result, discipline was less of an issue and the teacher could spend more contact time teaching the children the mental skills.

The results of this study were positive and significant, yet they were not as dramatic as those found in the studies by Cox and Orlick (in press), and St. Denis and Orlick (1995). It is believed that this was a result of less contact time on each of the central components. The students in the Cox and Orlick study focused solely on learning relaxation and stress control skills for 10 full weeks and there was also more time devoted to logbook exercises related to the application of stress control strategies. Similarly, in the St. Denis and Orlick study, 10 weeks were devoted primarily to teaching children about highlights and recording highlight experiences in logbooks. The effects of longer term interventions appear to be more powerful and

should be considered when teachers deliver mental skills/life skills training programs to children.

Future studies are needed to examine the effectiveness of life skills intervention programs with children in all grades and with children from a wide variety of circumstances, including special populations (e.g., gifted children, children whose first language is something other than the language of the school, children with emotional or behavioral problems, and children facing high levels of stress due to serious illnesses or high level performance demands). The elementary school classroom is an ideal environment for teaching and evaluating the real value of these important concepts.

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Appendix A

Research Proposal

Evaluation of a Mental Skills Training Program Implemented by Elementary  
Classroom Teachers

by

Jenelle Bonadie

A research proposal: Chapters I, II, III

University of Ottawa

January 1994

RUNNING HEAD: Mental Skills Training and Elementary Children

### Introduction

Recent studies with top level athletes have shown that most possessed excellent mental skills (McCaffrey & Orlick, 1989; Orlick & Partington, 1988). Skills such as relaxing and being able to cope with stress, clear imagery and carrying a positive perspective are highly correlated with many elite athletes. These skills may have helped elite athletes get to the top and then stay there. It takes years of practice to develop these mental skills and the refining process is ongoing. Although most of the literature deals with mental skills training in athletes, some recent studies have examined the benefits of mental skills training and mental skills in other professions, namely surgeons (McDonald & Orlick, 1992), and classical musicians (Partington, 1992; Talbot-Honek, 1993). These studies show that mental skills are beneficial and can enhance performance.

A growing interest among researchers is the area of mental skills training with children (Orlick & McCaffrey, 1991; Sears & Johnson, 1986; Setterlind, 1983; Solin, 1991; Zaichkowsky & Zaichkowsky, 1984). Zhang, Ma, Orlick and Zitzelsberger (1992), stated that

Mental training may be particularly promising for children; it offers a means of learning skills faster and more easily, as well as an opportunity to learn skills at an early age that can give children greater control over their personal destiny (p. 240).

If children are taught mental skills, they may learn to use these skills at school, during sports, or at play. Studies that have looked at the effectiveness of a mental skills training program implemented by the

researcher have shown that children's mental skills can be enhanced (Cox, 1994; Setterlind, 1983; St. Denis, 1994; Zaichkowsky & Zaichkowsky, 1984).

Past studies involving mental skills training and children were designed for the researcher to implement the program (Cox, 1994; Donohue, 1994; Howlett, 1994; Setterlind, 1983; St. Denis, 1994; Zaichkowsky & Zaichkowsky, 1984). This can be problematic as the researcher is an outside person who comes into contact with the children for a predetermined intervention period. He or she teaches the program and then leaves. The extent to which changes (or lack of changes) in the mental skills occurred (or did not occur) as a result of the program or because of other factors associated with the person who implemented the program is not known. Classroom teachers are with the children almost all day. If elementary classroom teachers were able to administer an effective mental skills training program and positive changes in the children's mental skills levels could be recorded, there is a greater chance that any changes in the mental skill levels occurred because of the program and not because of the person who was delivering the program.

#### Statement of the Problem

The purpose of this exploratory study is to determine whether children can a) improve their stress control and learn to relax as measured by the Heart Rate Monitor, b) improve the quality of their mental imagery and c) improve the frequency and quality of their "highlights" (any simple

pleasure, joy, or any other positive experience that lifts the quality of one's day (Orlick, 1993)) when the classroom teacher implements the mental skills training program.

### Hypothesis

For the first intervention, it is hypothesized that the participants of the mental skills games and activities program (experimental group) will have significantly higher mental skills scores on the post-test (number one) as compared to those subjects who did not receive the program (control group). Specifically, it is hypothesized that the experimental group as compared to the control group will a) have a significantly lower heart rate after relaxation, b) have greater quality and more clear mental imagery, and c) have a greater frequency of and higher quality highlights as compared to the control group when assessing the post-intervention measures. For the second intervention, it is hypothesized that the participants of the mental skills games and activities program (control group) will have significantly higher mental skills scores on post-test number two as compared to their scores on post-test number one. Specifically it is hypothesized that the control group will a) have a significantly lower heart rate after relaxation, b) have greater quality and more clear mental imagery, and c) have a greater frequency of and higher quality highlights when comparing their scores on post-test number two with their scores on post-test number one.

### Operational Definitions

Heart Rate Monitor - an instrument with an earlobe clip designed to measure one's heart rate at rest.

Highlight - any simple pleasure, joy, or any other positive experience that lifts the quality of one's day (Orlick, 1993).

Mental Imagery - "a psychological activity which evokes the physical characteristics of an absent object (either permanently or temporarily absent from our perceptual field)" (Denis, 1985, p. 4). Senses such as feeling, smelling, hearing and tasting may also be incorporated into one's imagery. Imagery with some or all of these senses is considered to have a higher quality than imagery where one can only see.

Positive Perspective - one's ability to think in constructive ways and carry a favourable disposition.

### Significance of the Study

"Our ultimate goal with children is to teach them relevant mental skills ... that will enhance their quality of life and endure over their lifetime" (Orlick, 1993, p. 9). Orlick's mental skills program for elementary school children implemented by the classroom teachers aspires to teach valuable mental skills through the use of games and activities. A definite strength of this program stems from the fact that the games and activities were designed specifically for children. In Orlick's program, the mental skills are presented in a fun and non-threatening manner.

There is a great advantage in beginning this process at an early age to establish a concrete foundation of belief in themselves and in their capacity to directly influence the course of their own lives. Children who learn these mental skills early have more time to apply them to living their lives and pursuing their goals (Orlick & McCaffrey, 1991, p. 324).

If children are taught how to cope with stress and how to relax, to improve their imagery, and to carry a positive perspective through a mental skills training program, they may start to use these skills on their own in everyday life. Though not an immediate goal of the study, if this did occur it would lend support to the usefulness and importance of mental skills training for children. Also, if positive changes in the mental skills are found, this may have significance for the future development of mental skills training programs for children. Because the classroom teacher will have delivered the program, there is a greater chance that the recorded results occurred because of the intervention. The usefulness of mental skills is well documented (Gould, Weiss & Weinberg, 1981; Highlen & Bennett, 1979; Ievleva & Orlick, 1991; McCaffrey & Orlick, 1989, 1991; Orlick & Partington, 1986, 1988; Rotella, Gansneder, Ojala & Billing, 1980). If classroom teachers can effectively deliver a mental skills training program then perhaps there should be some serious consideration given to adding this skill training into the curriculum. However, the first step towards this ultimate goal is to determine whether children can effectively learn these skills from their classroom teachers.

## Review of Literature

Recent studies on elite athletes have shown that these gifted performers possess well-developed mental skills (Kreiner-Phillips & Orlick, 1993; Orlick & Lee-Gartner, 1993; Orlick & Partington, 1988). The abilities to relax under stressful situations, create positive images and carry a positive perspective help athletes to excel in their chosen sport. These three areas are taken from Orlick's Wheel of Excellence (1992). This model was developed as a means to understand and study what makes one excel and is based on over 20 years of close consultation with athletes. Mental skills training studies have not been limited to athletes. Recent research has focused on the mental skills of top surgeons (McDonald & Orlick, 1992), classical musicians (Partington, 1992; Talbot-Honek, 1994) and astronauts (Sprung, 1994). These studies showed that mental skills can have a substantial impact on performance. The intervention program to be used in this study will consist of three mental skills which are: stress and relaxation, mental imagery, and the ability to carry a positive perspective. Relevant past studies with athletes and children involving each of these skills will be discussed in further detail.

### Stress and Relaxation

Hans Selye was one of the first researchers to examine stress and its effects. Selye (1956) thought that there were many causes of stress and not one specific cause. As a result of these stresses, a general wear and tear of

the body occurs as one lives his or her life. Adaptation was seen as being very important. Adaptation helped one to accommodate to his or her surroundings and thus cope with stress. Cox (1978) defined stress as a reaction to a situation which occurs when one does not possess proper coping abilities. Hiebert (1983) took this concept one step further and stated that the amount of stress that one suffers has a direct association with one's coping strategies. Stress, however, is not all negative. One's reaction to stress determines whether the stress is considered negative or positive. It is known that athletes may face a great deal of stress during performance. The stress sources can include, for example, the stress the athletes place on themselves, perceived expectations from others, and worries about outcome. If an athlete perceives these stressors as negative and does not possess adequate coping strategies, this stress may greatly hinder the athlete's performance (Highlen & Bennett, 1983; Orlick & Partington, 1986).

Hellstedt (1987) discovered in research with young skiers that the most useful mental skills taught to these athletes were practical strategies to manage onsite competitive anxiety and stress. Strategies to cope with stress can be a valuable addition to an athlete's training program.

Some of the strategies that have been used to help athletes deal with anxiety while performing include various relaxation training methods (Gould, Petlichkoff, Hodge, Simons, 1990), and cognitive and biofeedback training techniques (De Witt, 1980). When athletes have been able to deal with stress they have performed more consistently and closer to their

potential. Unfortunately, stress is a factor in everyone's life, and many people do not possess adequate coping strategies. Humphrey and Humphrey (1985) have stated that many adults who lack suitable coping mechanisms are at great risk of passing this deficiency on to the children in their lives. Dickey and Henderson's (1989) research showed that of the 141 elementary school children tested, most did not have many suitable coping strategies. When faced with stress these children resorted to inappropriate behaviours such as hitting someone, or not expressing themselves when hurt and instead pretending that they were okay. Lang and Stinson (1991) stated that as children grow older their reactions to stress include complaints about being excluded, negative verbal expressions and various psychosomatic illnesses. Orlick (1993) stated that

A continuous diet of stress in the absence of good coping skills, will affect your mental and physical health, the quality of your relationships and your happiness, and can eventually kill you. Stress heightens irritability and susceptibility to various kinds of illness, lowers resistance and prolongs recovery from mental and physical setbacks (p. 34).

These reactions to stress and consequences of stress are detrimental to one's overall well-being. If children are to grow into healthy well-balanced adults, with adequate coping strategies, they must learn how to cope with stress.

Several researchers feel that stress management techniques need to be taught to children in elementary school so that they can develop effective

and suitable coping strategies (Davis, 1991; Humphrey & Humphrey, 1985; Orlick, 1993; Zaichkowsky & Zaichkowsky, 1984) Some work has already been done in this area. Zaichkowsky and Zaichkowsky (1984) taught a six week relaxation training program to 24 Grade four children. Results showed that these children can learn stress control techniques and influence both psychological and physiological states. If children are taught about stress and its effects at a young age, they may have an increased chance of adopting adequate coping strategies and even refining some of their own strategies.

The skills of relaxation training and imagery are related to each other. When one is in a relaxed state, he or she is more inclined to be receptive to using/practicing mental imagery. "Relaxation training was included in the mental-training program because.....it would also help set an appropriate mental state for initiating mental-imagery training" (Zhang et al., 1992, p. 232).

### Imagery

Research has shown that many top athletes possess superior mental imagery skills (Gould et al., 1990; Hall, Rodgers & Barr, 1990; McCaffrey & Orlick, 1989; Orlick & Partington, 1986). However, mental imagery has been used in other domains such as in the area of healing (Ivleva & Orlick, 1991), the arts (Lindauer, 1983), surgery (McDonald & Orlick, 1992) and in classical music (Partington, 1992). Orlick (1993) stated that those who possess superior mental imagery skills are able to "create positive feelings

about one's capacity, to pre-experience and re-experience positive actions, events or performances, and to experience the feelings and sensations which accompany the successful execution of important procedures, skills or, actions" (p. 115).

Research with young athletes has shown that they too have imagery skills and that their imagery skills can be improved with practice. Rodgers, Hall and Buckolz (1991) studied the effect of an imagery training program on imagery ability, imagery use, and figure skating performance for a group of 29 figure skaters with a mean age of 13.7 years. The data suggested that the imagery training group improved in visual imagery and that their kinesthetic imagery was also beginning to improve. Mumford and Orlick (in press), also examined the effect of a mental imagery skills training program on young figure skaters. After the intervention all 17 subjects stated that they were now using mental imagery as a method of preparing for performances. Also, the skater's imagery descriptions showed that they were gaining more control over their images and were experiencing increased kinesthetic sensations. Hughes (1990) looked at implementing a psychological skills training program in high school athletics. Twenty-seven male football and basketball athletes in grades 9-12 were the subjects for the study. Hughes found a positive increase in imagery ability, significant at the .05 level.

Even though research has shown that athletes and other top performers usually possess superior mental imagery skills, it seems that they

are not alone in their imagery capability. Hall and colleagues (1990) stated that "We all have the ability to generate and employ imagery but often we choose not to use it, even in situations in which it could be beneficial" (p. 1). Since mental imagery has been associated with improved performance and everyone is capable of using it, it would seem that children, as well as young athletes, could benefit from learning this valuable tool. A study by Sears and Johnson (1986) showed the importance of mental imagery and the impact that it can have on learning in school. This study looked examined the effects of visual imagery on spelling performance and retention among 52 elementary students in grades four, five and six. The results showed that visual imagery methods are associated with better performance than auditory imagery and that directed visual imagery is a successful technique in improving the recall of spelling words. It is Orlick's (1993) opinion that "As children improve their skills at utilizing and directing their own internal performance images, they develop a powerful mind-body connection that enables them to perform at a higher level" (p. 134). He further stated, "If you encourage children to cultivate their natural imagery capabilities, they will develop excellent imagery skills that can be applied in a variety of situations in sport, school, work and life" (p. 134). Because of the wide-spread application of mental imagery and its usefulness in enhancing performance, it would seem that everyone could benefit from using this skill. Although imagery skills can be learned in a relatively short time period (Hughes, 1990) the refining process is ongoing.

If young children are taught how to use mental imagery, they may have more time to practice and refine this skill. Elementary school is one place where children can learn and practice this valuable mental skill.

The third mental skill to be examined in this study is one's ability to carry a positive perspective. A negative outlook can greatly hinder one's performance (Ziegler, 1987).

#### Positive Perspective

The ability to carry a positive perspective is a very important, but often overlooked mental skill. A positive perspective can be very significant to an athlete's performance. Ziegler (1987) stated that the most important limiting factor in one's performance is the "I can't" mechanism. This negative perspective can destroy an athlete's confidence to the extent that his or her potential is never maximized. A basketball player who had sporadic mood shifts, depressions and erratic play reported an average of 56 negative thoughts per day (Ziegler, 1987). This leads to the belief that a negative perspective can contribute to inconsistent performances. A positive perspective, however, can build self-confidence and help athletes achieve successful performances. Ziegler (1987) proposes a four step plan to stop negative thoughts and change one's perspective from negative to positive. The first step involves educating the athlete on the effects of constant negative thoughts on performance. The athlete learns that negative thoughts and stress can have an adverse effect on behaviour, mental health, and lead to decreased performance. The second step is the awareness

phase. During this phase the athlete counts the number of negative thoughts that occur per day for at least five consecutive days. Once the athlete is aware of his or her negative thoughts, it may be easier to make the steps to improve this destructive behaviour. The third step termed the "change phase" is composed of two parts. First, the athlete stops the negative thought and second, he or she replaces the negative thought with a positive one. This helps make the athlete more aware of the task and the result of changing from a negative to a positive influence. The addition of the positive thought can also build self-confidence. The evaluation phase is the final step. During this phase the athlete reflects on the effectiveness of the program and any changes in perspective. It is important to modify the program to suit the athlete's needs. The athlete's input and his or her feeling of control over the program can serve as a motivator and help the athlete continue to use the program. As a result, the athlete's perspective may take a turn to the positive.

A recent study by Donohue (1994) examined whether elementary children in grades three, four, five and six could learn to refocus and change their perspective from negative to positive. The ten week intervention consisted of games and activities taken from Orlick's Mental Skills Training Program. Although significant results on the post-test were not found, Donohue attributes these insignificant results to the insensitive instruments (rating scales) used to measure the changes and suggests that some of the children were indeed able to learn refocusing strategies and carry a positive

perspective. For future studies, he recommends using a more sensitive, reliable instrument, such as an interview, to measure the effectiveness with which children can learn to refocus and their ability to maintain a positive perspective.

Orlick (1993) is a strong believer of the value of positive thinking. "All positive human attributes, including self-confidence, happiness and personal excellence are determined by the extent to which people think and act positively" (Orlick, 1993, pp. 11-12). Orlick (1993) stated that children can be taught to carry a positive perspective and that it is important to teach children early to think positively. This can help them to develop their self-esteem, suffer less anxiety and help them to cope with all of the negative input which they will encounter. To teach children to think positively and live more of life's simple pleasures, Orlick (1993) recommends an activity called "Looking for Highlights". A highlight is a simple pleasure, joy, or any other positive experience that lifts the quality of the day. A highlight may even put a smile on one's face. Recording highlights in a Highlight Log Book (St. Denis, Cox, Zitzelsberger, & Orlick, 1993) helps children to focus on the positive areas of each day. Highlights should be recorded either when they happen or just before bedtime, which gives the child an opportunity to reflect on his or her day. Children are asked to record at least four or five highlights per day. Orlick (1993) stated that recording the highlights in the logbook can help children to keep perspective when faced with stress or when experiencing setbacks. When

children are given the task of looking for highlights, emphasis is placed on recognizing and appreciating the simple joys in life. This is a very useful activity because many children only look for the big joys and neglect to see the value in the simple ones. An example of a big joy might be an upcoming trip to Florida or a new bicycle, while examples of simple joys may include a bike ride with friends or ice-cream for dessert. In life, one usually experiences countless more simple joys than big joys and if a child is only lifted from the big joys, he or she will not experience enough lifts. Consequently the mental skill of carrying a positive perspective will not develop sufficiently.

In conclusion, research on successful athletes and mental skills training have shown that successful athletes possessed greater mental skills than non successful athletes (Gould et al., 1981; Hanson, 1992; Highlen & Bennett, 1979,1983; Rotella et al., 1980). Research with successful performers in various other fields such as music (Hanson, 1992; Ness & Molo, 1992), and surgery (McDonald & Orlick, 1992) have shown that these performers also possessed well-developed mental skills. Since mental skill training has been found to be so valuable to performance enhancement and the development of the individual (Orlick & Lee-Gartner, 1993), it would seem that mental skills training could be of benefit to everyone, including children. Mental skills training with children is a relatively new area of research and as such there is much to discover about children's ability to learn mental skills and whether or not they are capable of using

these skills in various aspects of their lives. A review of some past work in this area follows.

### Mental Skills Training for Children

Orlick (1993) stated that "Positive life skills allow children to strengthen their confidence, maintain a positive perspective, deal constructively with conflicts or setbacks, safeguard their health and enhance their quality of living" (p.9). If children are taught mental skills at an early age, they will have many opportunities to practice and refine these mental skills as they develop and mature. In the introduction to "Helping Children Understand About Stress", Selye (1980) wrote, "I think it is extremely important to begin teaching the stress concept to children at a very early age, because all codes of behavior sink in best if a tradition is established" (p. 5). An ideal place for mental skills to be taught is in school.

In Sweden, mental skills training, specifically relaxation training is part of the school curriculum (Setterlind, 1983; Solin, 1991). Unestahl (1993) reported that Sweden was the first country, and is still the only country in the world, where basic mental training has been included in the curriculum. A study done by Setterlind and Patriksson (1982) compared the effects of a six week mental skills intervention program on two groups of 12 to 18 year olds. One group received the mental skills training while the other group participated in physical activity. Eighty per cent of the group receiving the intervention program found it easy to relax, and only 3% had difficulties. Also 90% felt confident, calm, relaxed and happy after the

intervention sessions. It is not known if any relaxation effects were recorded by the control group as the report did not comment on this issue. Unnamed psychological tests and questionnaires were used during and after the experimental period to determine the effects of the relaxation training. Some long term effects of the intervention program were also recorded. These include managing school work better, increased learning capability, better sleep and a decrease in the number of headaches. These results lend support to the usefulness of a mental skills training program for children.

Orlick (1993) has developed a mental skills training program for elementary school children. This program teaches children how to use and develop imagery skills, think positively, look for highlights and relax through the use of games which are presented in a fun and non-threatening manner. Because the concepts are presented through play, there is an increased chance of a carry-over effect from the teaching sessions to everyday life. McKelvey (1988) affirmed this statement by stating "Children tend to continue pleasurable activities even if those activities are participated in in directed play. What has been taught in directed play is continued in free play" (p. 55).

In conclusion, mental skills training can help children develop an improved self-concept which might ultimately help them to excel. Orlick (1993) stated "You can free children to live life fully and experience life joyfully by helping them develop positive life perspectives and positive mental skills at an early age" (p. 12). When children are taught to love,

enjoy simple pleasures and cope with stress they will possess a great amount of confidence which will help them to succeed at school, work, play and in social contexts. Some studies using Orlick's Mental Skills Training Program have already met with initial success when implemented by researchers (Cox, 1994; St. Denis, 1994). It is believed that similar positive results can be found when the classroom teacher implements the program.

## Methodology

### Subjects

Two existing classes of grade four students from the same Ottawa Board of Education school will serve as subjects for the study. Each class will have approximately 25 to 35 students and one class will act as the experimental group while the other will act as the control group. The two classes will be equivalent in their level of study. For example, if the experimental group is an enriched class then the control group will also be an enriched class. The subjects will be approximately nine years of age.

### Pilot Work

This proposed study is the second phase of a larger study dealing with children and mental skills training. During the first stage, a group of University of Ottawa researchers, including the author of this study, went into several Ottawa Board of Education schools and implemented mental skills training programs with children in kindergarten through to grade six. These mental skills training programs aspired to teach the children stress control and relaxation, imagery, focusing/refocusing skills, positive perspective skills and self-esteem skills. Some important findings of these studies are now summarized.

In the stress control and relaxation study, Cox (1994) found lower heart rates among the experimental group members and St. Denis (1994) discovered an increase in the number of recorded highlights in the highlights/positive perspective study. However, Donohue's (1994) study on

refocusing and changing perspectives from negative to positive, did not show any significant changes. He attributes the lack of significant findings to the measurement scales used and suggests that future studies should use a more reliable measure of data collection, such as an interview. Howlett (1994) agreed with this suggestion, as he too was unable to find any significant changes in the children's imagery ability after the intervention program in his mental imagery study. In both Donohue's (1994) and Howlett's (1994) study, the children's skill levels did improve, but the changes were not significant at  $p < 0.05$ . This researcher can not comment on the self-esteem or focusing studies as no report has been written at this time. During the intervention programs the researchers kept a logbook of the games and activities that the participants liked the best. The suggestions and recommendations from the first group of researchers were used to shape the mental skills training program of this study.

### Instruments

#### Relaxation/Stress Control

The Heart Rate Monitor (DT1000) will be used to measure the extent to which the subjects have learned to relax. These measures will be taken both before and after the intervention program, and again after the second intervention program. This instrument has a reliability rate of 97% (Cox, 1994). Logbooks will be used during the first intervention program by the experimental group to record any stressful experiences and, if relevant,

ways of coping with the experiences (Appendix A). Logbooks will also be used by the control group during the second intervention program.

#### Mental Imagery

During the pre-test and the first and second post-test, subjects will be asked on an individual basis, to imagine 1) a scene, 2) an experience, and 3) a movement that he or she has seen or done many times. A brief interview will be conducted to assess what the subject experienced in that image (Appendix B). All interviews will be audio taped and transcribed for analysis. In the pre-test each subject will also be asked to rate the image in terms of its clarity by placing a sticker on the rating scale (Appendix C). During post-test number one, each subject will look at his or her rating scale from the pre-test and will rate the post-test image by placing another sticker on the same scale. During post-test number two, each subject will again look at his or her scale, and then rate the second post-test image by placing a third sticker on the rating scale. The researcher will emphasize the importance of honesty with each subject and will stress that it is acceptable to have a more clear or less clear image than the image that the subject previously had.

#### Highlights/Positive Experiences

Each subject will be measured during the pre-test, post-test number one and post-test number two on the frequency and quality of his or her highlights/ positive experiences. On an individual basis, the researcher will 1) ask each subject if they had any simple joys or pleasures today or

yesterday, and 2) ask the question "Did the other kids in your class do anything or say anything yesterday or today that made you feel good or bad?". The researcher will record the subject's responses on a recording sheet (Appendix D). Logbooks will also be used by the experimental group during the first intervention and by the control group during the second intervention to record any highlights and positive experiences that occurred during the intervention program (Appendix E).

Informal and formal interviews with the intervention teacher will be conducted on a weekly basis to gain knowledge about the mental skills training program. During the first intervention, the experimental teacher will be interviewed, while the control teacher will be interviewed during the second intervention. The goal of these interviews is to gain some insight about how well the program is running. Any concerns and suggestions that the teacher has can be discussed at that time. The researcher will audio tape all formal interviews and keep a logbook to record any key points discussed in the informal interviews. The taped interviews will be transcribed for analysis.

Finally, post interviews will be conducted with all subjects to gain information pertaining to the areas of stress control and relaxation, and their views on the overall program. Children will be asked if they learned anything from the program, which activities they liked/disliked, whether they are using the activities in their daily lives, and the extent to which they feel the program has helped them, if at all. The intervention teachers will

also be interviewed to assess their perceptions of the program and its effect, for example, any possible changes in behaviours and attitudes of the participants, the games and activities that were the most well-received, whether or not they feel the program has helped the subjects involved, and any suggestions for the future. All of the interviews and the pre- and post-testing will be done by the researchers.

#### Procedure

Before the intervention program starts the experimental teacher will participate in workshops conducted by the researcher. The workshops will show the experimental teacher how to run the activities in Orlick's Mental Skills Training Program (Appendixes F, G, and H respectively outline some of the relaxation/stress control activities, mental imagery activities and highlight/positive experience activities which will be used in the intervention program). The experimental teacher will also receive a comprehensive manual outlining a schedule of events for each day of the intervention program. During the study, the researcher will be meeting with the intervention teacher on a weekly basis. Any questions regarding the activities in the program, or the program itself can be answered by the researcher at that time. This will alleviate the need to have several workshops throughout the course of the study. Informed consent will be attained from all subjects and parents of the subjects before the intervention program begins.

Researchers will pre-test all subjects using the heart rate monitors, the imagery interview and rating scale and the highlight assessment. The intervention program will be delivered to the experimental group for a period of seven weeks. There will be a minimum of three intervention sessions per week, with each session lasting 15-20 minutes. While the experimental group is involved in the intervention, the control group will participate in music, reading, art, or free time. Once the intervention program has been completed the researchers will post-test all subjects with the heart rate monitors, the imagery interview and scale and the highlight assessment. The entire intervention and test period will take a total of eight weeks. Seven weeks will be spent in the intervention and one week will be used for testing, that is, approximately two days before and two days after the treatment period will be reserved for testing. During the last two weeks of the initial treatment period, the researcher will conduct workshops for the control teacher. The control teacher will be shown how to run the activities in Orlick's Mental Skills Training Program (Appendices F, G, and H). He or she will also receive a comprehensive manual outlining a schedule of events for each day of the intervention program. During the second phase of the study, the control group will receive the intervention program. Fifteen to twenty minute sessions will be held a minimum of three times per week for a seven week period. While the control group is involved in this intervention, the experimental group will participate in music, reading, art or free time. When the second intervention is completed the researchers

will conduct post-test number two with the heart rate monitors, the imagery interview and scale and the highlight assessment. At the end of both intervention periods, all subjects will have a separate interview so that the researcher may gain further knowledge about the program's usefulness and effectiveness. These interviews will be audio taped.

#### Data Analysis

An analysis of variance will be used to compare the pre- and post-test heart rate measures of both the experimental and the control groups. This will show if the experimental group were able to significantly decrease their heart rate through relaxation as compared to before their participation, and whether or not the control group were also able to significantly decrease their post-test heart rate without the aid of the intervention program. A second analysis of variance will be conducted on the control group's heart rate measures on post-test number one and post-test number two. This will determine the extent to which the control group members were able to significantly decrease their heart rate through relaxation after receiving the intervention program. The content of the logbooks will be examined to determine if the subjects used the relaxation activities on their own during the course of the intervention program. Frequency of use and circumstances will be examined.

A content analysis will be done on the imagery pre- and post-interviews to assess the quality of imagery. Procedures followed will be similar to Mumford and Orlick (in press). The principle investigator and a

second researcher will independently examine the interviews and develop categories through inductive analysis. The categories will then be compared, discussed, and confirmed via consensus validation. If any categories are not validated, the researchers will discuss the data and decide together which category the data should be placed in. Two outside advisors, who are graduate students with some expertise in this area, will be asked to review segments of interview text and place these meaning units into the categories developed from previous analyses. According to Trudel and Donohue (1993) the use of outside sources or "ange-gardiens" in this capacity add validity to the data analysis process. This analysis will allow the comparison of pre-test and post-test number one interviews for both groups and a comparison of post-test number one and two for the control group in terms of the quality of imagery. The imagery ability rating of the 1) experimental group's pre-test and post-test number one measures, 2) the control group's pre-test and post-test number one measures and 3) the control group's post-test number one and two measures will be analyzed with an analysis of variance.

A t-test will be used to compare the highlight frequency of the experimental group's pre-test and post-test number one measures, as well as the control group's pre-test and post-test number one measures. The post-test number one measures and the post-test number two measures of the control group will also be compared.

A qualitative analysis will also be performed on the highlight logbooks to determine categories of highlights. Once again, the experimental group's pre-test and post-test number one measures, and the control group's pre-test and post-test number one measures will be analyzed, as well as both post-test measures for the control group.

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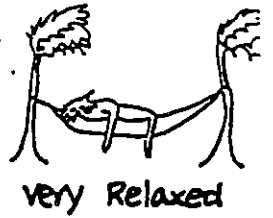
The effect of mental imagery training on performance enhancement with 7-10-year-old children. The Sport Psychologist, 6, 230-241.

Ziegler, S.G. (1987). Negative thought stopping: A key to performance enhancement. Journal of Physical Education, Recreation, and Dance, April, 66-69.

Did anything stressful happen?  
 Yes No

What happened?

How did you feel when this happened?



Terrible



Not good



OK



Good

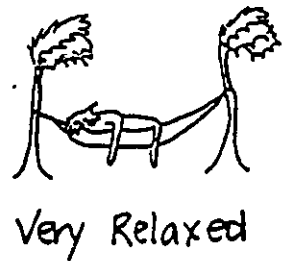


Great

Did you do anything to feel less stressed?  
 Yes No

What did you do?

How did you feel after this?



Terrible



Not good



OK



Good



Great

## Appendix B

Imagery Interview

The researcher will read the following script to each subject during the testing sessions. "I want you to close your eyes and imagine a scene or picture that you have seen many times before. Take as much time as you need to imagine the scene. When you are finished imagining I would like you to open your eyes and tell me about your imagination." The researcher will wait for the subject to open his or her eyes and tell the researcher about what was just imagined. An interview example follows:

Subject (S): "I saw my house."

Researcher (R): "Tell me exactly what you saw."

S: "I saw my house with my dog out front playing in the yard."

R: "You saw your dog in front of your house?"

S: "Yes, he was playing with his ball."

R: "Your dog was playing with his ball in front of your house?"

The researcher will continue to ask for clarification from the subject without leading his or her responses. The same process will be repeated with each subject imagining an experience and a movement. All interviews will be audio taped and transcribed for analysis.

## Appendix C

Imagery Clarity Scale

The researcher will say the following script to each subject during the testing period. "I would like you to tell me about the scene (or picture) that you just imagined by putting a sticker on this line. (The line represents the scale which can be seen on the next page.) Was it fuzzy or not clear or was it very clear? It does not matter to me where you put your sticker. If you put your sticker on the left side (the researcher points to the left side of the scale), it means that the picture you imagined is not very clear. If you put your sticker on the right side (the researcher points to the right side of the scale), it means that your picture was very clear. If you put your sticker in the middle (researcher points to the middle of the scale) it means that your picture was half fuzzy and half clear. Sometimes when I use my imagination, it is not very clear (researcher points to the left side of the scale), sometimes it is very clear (researcher points to the right side of the scale), and sometimes it is somewhere in between (researcher points to the middle of the scale). Now think about your imagination. Was it fuzzy, clear or somewhere in between? Take this sticker (researcher hands small sticker to the subject) and put it somewhere on the line. Remember, it is important to be honest. If your imagination was not clear, put the sticker on the left side of the line (researcher points to the left). If your imagination was very clear, put the sticker on the right side of the line (researcher points to the right side), and if your imagination was somewhere in between clear and fuzzy, put your sticker in the middle of the line (researcher points to the

middle of the line). (Researcher waits for subject to put the sticker on the line.) Very good."

The same script and procedure will be repeated with each subject's imagination of an experience and a movement.

Fuzzy or \_\_\_\_\_ Very Clear  
Not Clear

## Appendix D

Highlight Recording

The following script will be read to each subject during the pre-test and both post-tests. "Hi. I would like to talk to you about highlights today. Do you remember what a highlight is? (If the subject responds "yes", the researcher will ask the child for a definition. If the subject responds "no", the researcher will define highlights and make sure that the child understands the definition before continuing with the script.) Did you have any highlights today or yesterday? (If the subject responds "yes", the script will continue as follows.) What were your highlights? (The researcher waits for the child to give a highlight and records the child's response. When the child has finished the researcher will ask if there are any more.) Anything else? (This process will continue until the child does not have any more highlights to report. During the time that the subject is telling his or her highlights the researcher will remain neutral, i.e., she will not congratulate or compliment the subject on his or her highlights. Once the subject has finished telling about his or her highlights, the researcher will thank the subject for sharing the highlights.) (If the subject responds "no", to the question "Did you have any highlights today or yesterday?", the researcher will ask the child to define highlights to make sure that the subject understands. If he or she does understand what highlights are, but has none to report, then the subject will be thanked for his or her time and sent back to join the class. If the subject does not understand what a highlight is, then the researcher will redefine highlights and again pose the

question, "Did you have any highlights today or yesterday?", and the script will continue.)



## Appendix F

### Relaxation/Stress Control Activities

The following list outlines some examples of the relaxation/stress control activities to be used in the intervention program. These scripts developed by Orlick (1993) are supplements to his book "Free to Feel Great: Teaching Children to Excel at Living" and are all on audio cassette tape.

1. Spaghetti Toes
2. Jelly Belly
3. Quiet Lake
4. Floating on Clouds
5. Soaring
6. Own Special Place
7. One Breath Relaxation
8. Follow Your Breathing

## Appendix G

### Mental Imagery Activities

The following activities are some examples of mental imagery activities that will be used during the intervention program.

#### Imagination Games

In this activity, children are given problems to solve. For example, "Think of four different things that fly", or "Imagine three animals that you might see on a farm". The goal of this activity is for the children to use their imagination to solve these problems. A element of fun can be added to this activity by asking the children to act out some of their imaginations.

#### Freeze Frame Imagery

In this activity, children are shown a still picture of an object such as an animal, car, or playground. The scenes will be shown for a few seconds. After viewing each object, each child closes his or her eyes and tries to recapture an image of the object. After imagining each scene, the teacher will lead a discussion. Children will be asked to respond to questions about what they imagined.

#### Alphabet Game

This activity, developed by Howlett (1993), uses the alphabet to show children that they do in fact use mental images. This activity starts by having the class say the alphabet in unison. The teacher then visually distinguishes between short (e.g. "a", "c" etc.) and long (e.g. "b", "d" etc.) letters. Children are then asked to vocalize the short or long letters without the aid of a visual stimulus.

### Blind Sculptor

In this game the children are divided up into teams of three. One child is the sculptor, another is the sculpture and the third child is the clay. The sculptor is blindfolded before the activity starts. Once this occurs the child acting as the sculpture strikes a pose that he or she can hold for at least three minutes (i.e. he or she should not be balancing on one foot). The child acting as the clay stands beside the sculpture. The sculptor then feels the sculpture with his or her hands and tries to get a clear image of the "work of art". The sculptor's goal is to mold the clay, so that the appearance of the clay and the sculpture are the same. The sculptor can recapture his image by feeling the sculpture at anytime during the molding process. The three children will have a turn at each role.

Orlick (1993) has developed several imagery activities. These scripts are supplements to his book "Free to Feel Great: Teaching Children to Excel at Living" and are all on audio cassette tape. The following is a list of some of these mental imagery activities.

1. Star Trek
2. Sound Listening I
3. Sound Listening II
4. Imagine Game

## Appendix H

### Highlight/Positive Experience Activities

#### Highlight Circle

The children sit in a circle and each child is given the opportunity to share a highlight with the group. Children are asked about the importance of highlights and how they may be able to increase the frequency of highlights after the sharing session. highlights follows

#### Highlight Pictionary

This activity developed by St. Denis (1993) is a fun game that allows children to show off some of their artistic skills. Children are divided into two groups. Each child is given the opportunity to draw a highlight on the board. The class tries to guess what each highlight is about.

#### Logbook Collage

In this activity children look through old magazines to try and find pictures that represent some of their present highlights (e.g. a picture of a dog) and any future highlights (e.g. a great-looking car). The pictures are cut out and then collaged on the outside of the logbooks.

#### Logbook Collage Circle

Each child is given the opportunity to talk about his or her collage and highlights. The rest of the group is encouraged to listen carefully and to think about whether or not any of the highlights mentioned by their friends could apply to them also.

### Highlight Scavenger Hunt

Highlights are written down on paper and each child gets a copy of this handout. The children scavenge through the class and try to match each highlight with a different person who had this highlight. After the hunt, the teacher writes the highlight numbers on the board, and lists all the names of the people in the group who had these highlights. The teacher then leads a discussion about the kinds of highlights that are reported (e.g. play, nature, etc.).

Appendix B  
Pre-Test Relaxation Recording Sheet

Name: \_\_\_\_\_ Boy/Girl: \_\_\_\_\_ Grade: \_\_\_\_\_ Age: \_\_\_\_\_

Recorder: \_\_\_\_\_ Teacher: \_\_\_\_\_ Room: \_\_\_\_\_

**R. Pre-T #1**

Topic: Relax the best way you know how

HR Before: \_\_\_\_\_

HR After: \_\_\_\_\_

Appendix C  
Highlight Assessment Form

Name: \_\_\_\_\_ M/F: \_\_\_\_\_ Teacher: \_\_\_\_\_ Grade: \_\_\_\_\_  
Recorder: \_\_\_\_\_ Room: \_\_\_\_\_ Age: \_\_\_\_\_

**H.A. - Pre-T**

"Hi. I want to talk to you today about highlights. Highlights are things that make you feel good, the things that make you feel happy during your day. Highlights might be something you did that made you smile, or something someone said that made you feel great. Some people may have highlights, some may not and that is O.K. too. I want to know what is true for you. Did anything happen yesterday or today that made you feel good or made you feel happy?"

"No." "O.K. Thanks for talking with me."

"Yes." "What happened?" (With K-2, ask "Anything else?" until the child says "no", or he/she can not think of any more.)

"Thanks for sharing your highlight(s) with me."

Appendix D

Logbook Stressless Recording Sheet

STRESSLESS

Date: \_\_\_\_\_

Did anything stressful happen?

Yes

No

What happened?

How did you feel when this happened?



Very stressed



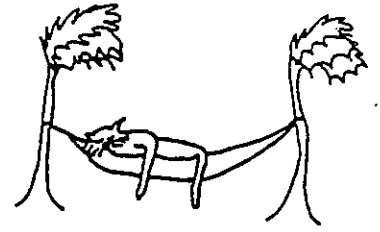
A little stressed



In  
between



A little relaxed



Very relaxed

Did you do anything to feel less stressed?

Yes

No

What did you do?

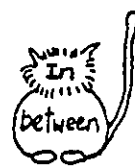
How did you feel after you did this?



Very stressed



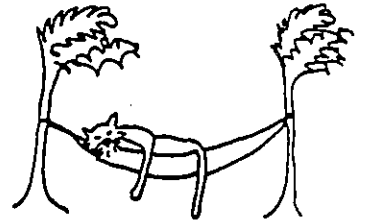
A little stressed



In  
between



A little relaxed



Very relaxed

Appendix E





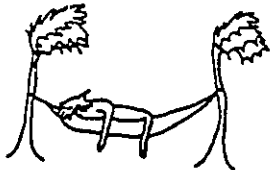
Logbook Heart Rate Relaxation Sheet

# HEART RATE RELAXATION





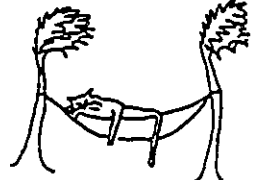
Date: \_\_\_\_\_

Relaxation Activity: \_\_\_\_\_

How did you feel before trying to relax?

				
Very stressed	A little stressed	In between	A little relaxed	Very relaxed
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How did you feel after relaxing?

				
Very stressed	A little stressed	In between	A little relaxed	Very relaxed
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

♥ Heart rate before relaxation \_\_\_\_\_

♥ Heart rate after relaxation \_\_\_\_\_

Appendix F

Logbook Highlights Recording Sheet



# Highlights



Date: \_\_\_\_\_



List all of the highlights, or happy things that happened TODAY and YESTERDAY



Think of a HIGHLIGHT that you would like to happen TODAY. WRITE IT DOWN.



See if you can make that highlight happen today!

Have as many HIGHLIGHTS as you can TODAY.



Appendix G

Teacher Mid-Way Feedback Questionnaire

# Feeling Great Lifeskills Program

## Mid-Way Feedback

Terry Orlick

Most of you have been conducting the relaxation program for 3-4 weeks. This is often the most difficult phase because children and teachers have to familiarize themselves with the concepts and exercises. In addition it takes time for children to learn some of these basic skills. At this point we would really appreciate some feedback.

1. How has the program been going so far for you? for the children?

*I have enjoyed using the program & find it a good 'transition' between French class and being in our home class.*

- The kids enjoy it for the most part and are enthusiastic. Some of the children have been 'silly' at line*
2. What do the children seem to like best? like least?

*- Best - Taking their pulse, 'Spaghetti Trees, Jelly Belly & Special Place.*

3. What do you like best? like least?

*- Best -> Quiet, restful, calming effect on class.  
-> Focusing on positive, rather than negative.*

4. About how long does it take you to prepare for one day's relaxation lesson (including reading over the guidelines for that day and finding the right spot on the audio-tape)?

Less than 5 minutes  5-10 minutes \_\_\_\_\_

11-15 minutes \_\_\_\_\_ other \_\_\_\_\_

5. About how long does each of the Feeling Great lessons last?

Less than 5 minutes \_\_\_\_\_ 5-10 minutes \_\_\_\_\_

11-15 minutes  other \_\_\_\_\_

6. How many days a week have you been doing the activities?

*4 or 5 days each week*

7. Do you have a set time during the day that you usually do Feeling Great activities? Yes  No \_\_\_\_\_

If yes when?

*1:40 - 1:50 - Just after French.*

8. Do you have any suggestions for improving any aspect of the program thus far?

*- Try to sequence the activities on a tape.*

9. Is there a time when we could meet you individually for a few minutes each week to discuss the program?

If yes when? *Thurs. - lunch*

10. Any other comments, suggestions or feedback - good or bad.

Thanks for your cooperation with the program and for your feedback.

**NOTE:** If ever you have any questions or comments to share with Terry or Nadeane and we miss you at school please give us a call during the day or evening at 827-6652 or 827-2454.

Appendix H

Teacher Post-Intervention Feedback Interview

Teacher \_\_\_\_\_

Grade \_\_\_\_\_

## Feeling Great Lifeskills Program

### Post-Intervention Feedback

Terry Orlick

1. How did the latter part of the program go for you? for the children?

- went very well
- children used to the routine, had favourite
- need more practice in visualization

- were applying it more.
- would share highlights

2. What did the children seem to like best? like least?

- best { -relaxation  
-liked Umbalikiiki My Special Place, Quiet Lake.

- least { -using visualization, butterfly → not too good.

3. What did you like best? like least?

- best { -relaxation, same as children  
-nature

- least { -difficulty applying some of the logbook pages.  
-have a scenario, describe a skill, relate back to own lives \*

4. What are some of the things that worked well? some of the things that did not work well?

- worked { -I modeled  
-having a consistent time.  
-logging the highlights.  
-looking for good things

- not well { -some of the logbook exercises / visualization.

5. Did you notice any changes in the children, good or bad? any changes in you, good or bad?

- positive, focus improved in terms of looking for good things.

- helped me to focus in the p.m.

6. Did you see any evidence of the children using the activities that they learned?

- would share highlights
- some made own books.
- helped them to solve problems.

7. In your opinion which children in your class are the most stressed generally? (Choose a few) which children are the most laid back or easy going? (Choose a few)

- stressed → Jalil → Thien → Alanna B.  
→ Scott → Alaa → Mike  
→ Jimmy → Trisha

- laid back → Ashkan → Anisa → Sauna → Kim  
→ Ermin → Filsan → Bountanh

8. In your opinion which children in your class feel really good about themselves (and/or are confident)? (Choose a few) which children feel down about themselves (or lack confidence)? (Choose a few)

- feel good → Ashkan → Saly → Kim → Anisa  
→ Ashley → Ryan → Bountanh → Filsan  
→ Jimmy → Jalil
- feel down → Tim → Scott → Alanna B.  
→ Jason → Alaa

9. Any other comments, suggestions, feedback - good or bad.

- the program to use with children.

- continuing program ?

10. Any other observations or feelings - good or bad.

Thanks for your cooperation with the program and for your feedback and support.

Appendix I

Post-Intervention Interview

Name: \_\_\_\_\_ M/F: \_\_\_ Teacher: \_\_\_\_\_ Grade: \_\_\_\_\_  
Interviewer: \_\_\_\_\_ Room: \_\_\_\_\_ Age: \_\_\_\_\_

**Post-Intervention Interview**

1. How did you feel about the Feeling Great program? Did you like it/not like it? Why?

2. Do you think that the program helped you in any way, or did you learn anything from the program? If yes, how has it helped you or what did you learn?

3. Have you used any of the activities on your own? If yes, which ones and in what situations?

4. Have you told or taught anyone who was not in the program about the activities? If yes, who did you tell or teach?

5. Do you think you will continue to use the activities on your own? If yes, when and where?