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## Competitive Long-Distance Running and Its Effect on the Self-Concept of Emotionally Disturbed Adolescents: An Evaluative Study

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COMPETITIVE LONG-DISTANCE RUNNING AND ITS  
EFFECT ON THE SELF-CONCEPT OF EMOTIONALLY  
DISTURBED ADOLESCENTS: AN EVALUATIVE STUDY

Elizabeth R. Rogers



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A THESIS

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in partial fulfillment of the requirements  
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**Competitive Long-distance Running and Its Effect On the  
Self-Concept of Emotionally Disturbed Adolescents: An Evaluative Study**

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Spring 1995**

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## Index

Abstract.....	1.
Introduction.....	1.
Statement of the Problem.....	1.
Background of the Study.....	3.
Review of Selected Literature.....	4.
Statement of the Purpose.....	6.
Statement of the Hypothesis.....	7.
Definition of Terms.....	7.
Method.....	7.
Subjects.....	7.
Instrument.....	8.
Test Selection.....	9.
Organization of Survey Data.....	11.
Recording Methods.....	12.
Analysis.....	13.
Results.....	14.
Discussion.....	15.
Conclusion.....	16.
Recommendations.....	16.
References.....	17.

## **Abstract**

This study focuses on the effectiveness of the "Runaway" program, a competitive long-distance running program, in meeting the program goals for the treatment of emotionally disturbed adolescents. The study reviews Piers-Harris Self Concept Scale (SCS) scores of clients in a long-term in-patient treatment facility. A Post-test only research design was used to compare the scores of those who participated in the program to the scores of those who did not. A statistically significant difference in the self-concept of runners and non-runners tested was obtained. The program met the goal of improving the patients' self-concept.

## **Introduction**

### Statement of the Problem

Effective, cost efficient treatment for adolescents who display behaviors indicating emotional disturbances which require hospitalization is extremely desirable. The cost, however, is secondary to the need for effective treatment modalities that will assist in reducing the risk of the child developing a deviant lifestyle. In some cases, if intervention is not provided, the child will be successful in a suicide attempt or an accidental overdose.

Patients are admitted to the Long-Term Adolescent Unit (LTAU) after failing to succeed in a variety of alternative placements- group homes, outdoor therapeutic programs, short term hospitals and foster homes. At the age of 16, a patient has only two years to receive long term, stable treatment and transition to a new home or setting. Time is of the essence. For this reason, the Recreational

Therapist on the LTAU attempts to focus only on the most effective modalities possible.

One of the most frequently identified problems patients display is low self-esteem/self concept. This is frequently related to their individual diagnoses and generally to their histories of failure and negative feedback. As stated before, most patients on the LTAU have failed in other placements. Many have failed in school. Most have failed in their relationships and feel as though they have somehow failed their families. Recreational Therapy frequently targets goal oriented, success through participation in arts/crafts, cooking, sports, games and other recreational and leisure pursuits. Generally, these are effective in providing successful experiences. The running program appears to provide measurable progress and challenge to the individual patients.

Long-distance running, though inexpensive compared to many other possible forms of treatment, is time intensive on the part of the staff. One of the three staff members (two full-time and one part-time) of the LTAU Recreational Therapy Department must provide guidance and supervision three to five times a week for training. An average of 14 hours a month is spent transporting and supervising patients who attend running competitions. This is a minimum of 6 staff hours per week focused on the running program, which might be used by only 25% of the patients on the unit at the time. Other resources are limited also- funds used for entry fees and team t-shirts for example.

If the "Runaway" Program provides treatment that increases self-concept through successful participation, then some of the program goals are being met



and staff time and other resources are being effectively focused. Through observation of and discussion with the patients, the running program appears to offer patients a challenging, measurable, goal oriented opportunity at which they frequently succeed. The Recreational Therapist had need to research that generalized observation.

There is limited research using running as a modality in treatment facilities with emotionally disturbed teens or using competitive long-distance running. Continued research is needed to determine whether running as a therapeutic modality is applicable to this population and could/should be used as a consistent treatment for this population. Specifically, is the "Runaway" program currently meeting the goals for which it is being used ?

#### Background of the Study

Currently in this Southeastern state, there is only one governmentally operated facility that provides long-term, non-correctional treatment for non-mentally handicapped adolescents. Limited resources make it necessary for the Recreational Therapies Department to develop programs that are: low budget; require limited amounts of specialized staff skills; can be used by all patients; are realistic as a post-discharge method to be used by patients; and produce a positive effect on the progress of the patient in treatment.

In 1990, a local running club invited the patients to participate in a five kilometer (5K) race. The LTAU patients began training and participated in the event. The Recreational Therapist began to notice that the patients who were participating in the running training were displaying improved behaviors- less

fighting and more compliant with authority figures. These patients were earning more privileges and responsibilities in the unit behavior modification level system. The program continued and was integrated into the unit behavior modification program.

Patients participated in the naming of a unit running club, the design of a t-shirt and selection of races to attend. Today, "The Runaways" attend approximately 40 races per year. To date, 35 of the 90 patients who have been on the LTAU since the first steps in the running program began have earned the title "Runaway." This number is not exact since patients continue to be admitted and to join the program.

Gratch and Rindskopf stated that "Running is a valuable therapeutic technique as it dispels the myth of never being able to change" (pp. 5, 1985). Continuing research is needed to demonstrate that such running programs do not only dispel the myth, but produce the change.

### **Review of Selected Literature**

Research material available related to competitive long-distance running and its effect on self-concept- especially with adolescents is limited. However, there is a considerable amount available relating to the effects of various other running programs on a variety of conditions, including self-concept. Very little of this material is related to the treatment of hospitalized, emotionally disturbed or mentally ill teens. Of the many programs researched and effects tested, J.R. Hughes, as cited by Ossip-Klien, et al., summarized a series of running studies by

saying that "self-concept was the only variable that showed consistent improvements across studies" (1989).

Self-concept was the focus of the only competitive running program found in the literature. P.P. Saccone (1984) reports that "students involved in (a running) program are less likely to be absent; parents, teachers and the principal speak of decrease in discipline problems at school and at home..." (p. 16) as a result of participation in his program. This program is success oriented. Success orientation is inherent to participation in the program.

For many, it's the first time that they feel accomplishment in their lives- they walk, jog or run a number of laps or miles around their school field- they cross the finish line at a road race on a Saturday or Sunday. What feelings! They accomplish all of this without the direct help of an umpire, a judge, a referee, a parent or a coach. They have to do it by themselves! They know this, and when they do it, they are proud (Saccone, 1984, p. 18).

Similarly, J. Henderson, as cited by Gratch and Rindskopf, states that participation in running leads to fitness, which goes "hand in hand" with self-esteem, self-worth, body appreciation and respect, and sense of mastery, power and control" (1985). Gratch and Rindskopf elaborated on this, citing physical condition, posture, and sense of strength as leading to a healthy and alive self-concept as part of the effect they have noted in their 10-week program that includes running and group therapy for depressed women (1985).

One study tested the effects of running, calisthenics and no exercise on hospitalized teens. The study focused on behaviors, using a points system as the measure. The 20 minute daily, four-week program was found to have considerable merit. According to the authors, running began to have a noticeable positive effect on the participants immediately (Boyd, Hensley, Higgins, 1978). The group that participated in running had the highest number of points daily, those who participated in half running and half calisthenics had the second highest. Those who participated in only calisthenics and those who participated in no structured exercise had about the same daily scores, indicating that calisthenics had no more effect than doing no exercise.

R.C. Crandall (1986) observed that running has become a cure-all for just about every mental and emotional state known and, with the recent interest in running increasing, has been used and researched for effectiveness in a great number of ways. In his research, he summarizes uses for running for those suffering from agoraphobia to depression to bulimia. (1986).

### **Statement of the Purpose**

This study will be used as an evaluative method to determine whether or not the "Runaway" program on the LTAU is 1). meeting treatment goal(s) for which it is intended and 2). is providing benefits in line with the cost expended for program provision.

## Statement of the Hypothesis

It is hypothesized that the self-concept of hospitalized, emotionally disturbed adolescents, of normal intellect, who are in a state run hospital and who participated in a competitive long-distance running program will not be higher than that of hospitalized, emotionally disturbed adolescents, of normal intellect, who are in a state run hospital and did not participate in a competitive long-distance running program.

## Definitions of Terms

**Self-Concept-** An individual's perception of himself as measured by the Piers-Harris Children's Self-Concept Scale.

**Competitive long-distance running-** practice for and participation in running competitions of no less than one mile, but preferably three miles or more.

**"Runaway"-** to qualify for this title on the LTAU, a patient must have participated in a least three long distance races.

**Active participant-** patient who is currently training for and participating in the long distance races.

## Method

### Subjects

The population for this study includes past and present patients of the Long-Term Adolescent Unit. Those included have diagnosed disturbances of mood and behavior. Cluster sampling were used to categorize the patients into one of two groups- those who chose to participate in the long-distance running program and those who did not. Only patients who were

there during the time the program was being offered and after consistent use of the instrument began will be used to insure consistency in other factors that may have had effects on the patients' self-concept. The program was available to all patients. Whether or not they participated was a patient choice. Since the time the running program has been in use, there have been approximately 90 patients in treatment on the LTAU.

#### Instrument

The Piers-Harris Children's Self-Concept Scale has been regularly administered on the LTAU since January, 1992 to each patient upon admission and to all patients every six months as a tool to assist in the assessment of treatment needs and assets of each patient. These scores were used as measures of the patients' (past and present) self-concept. The SCS is a self-report questionnaire containing 80 statements with which the child either agrees or disagrees with a "yes" or "no" response. The scale measures six different areas of self and how the individual feels about themselves in each of these areas. these areas include behavior, intellectual and academic status, physical attributes, anxiety, popularity and happiness. (Piers, 1984).

The scale was normed in the 1960's, with norms for the six cluster areas being developed later, according to Piers (1984). Piers also recommends that the cluster scores be used with caution and that the overall scores be used with more confidence. Test-retest reliability measures have been repeated several times between 1964 and 1982 in general populations. Scores for reliability have ranged

from .51 to .86 in normal populations, resulting in temporal stability estimates which supports the results reported with standardization sample. (Piers, 1984). The only report for chronically mentally ill, done in 1975 with children of a mean age of 12 years, provided a reliability coefficient of .80, according to Piers.

Other reliability coefficients obtained included coefficients for the KR-20 formula, the Spearman-Brown, and the Alpha. With these (a total of 10 studies), internal consistency coefficients for the total score varied from .88 to .93. (Piers, 1984).

According to Piers, there is a standard Error of Measurement of .90 with a standard deviation of 13.87 Validity has been studied using a variety of approaches including item analysis, intercorrelations among the scales and items and comparisons of the responses of various criterion groups. It has also been compared to other scales designed to measure similar characteristics. (Piers, 1984).

Scoring was done by hand. These scores were already present on the LTAU since the test is a standard portion of the testing battery used for treatment planning. The SCS was administered either to individuals (upon admission) or the group (regular retest for progress/change) in accordance with the administration techniques recommended by Piers-Harris.

#### Test Selection

This instrument was selected for a variety of reasons. First, it was already in use on the LTAU and the data was already available without any manipulation of the patients on the unit. The reasons that this instrument was originally selected

for use on the unit, however, are the same reasons this instrument was used for this study.

The Piers-Harris SCS was considered by the former hospital forensics and adolescent psychologist, and the former hospital Director of Psychology Services and LTAU psychologist, to be the best measure of self-concept currently available. Both agreed, when the instrument was initially selected, that the validity test of this instrument has proven to be an accurate measure of self-concept in adolescents. Further, this instrument has developed its own individual test validity criteria for faking positive, yes/no bias and consistency on the part of the individual being tested.

Though no real scientific pilot test was previously conducted using this instrument, the raw scores had been used to look at some of the trends that develop with this instrument as it has been used on the LTAU. These trends include an average raw score that is consistently lower than those developed and presented by Piers-Harris. This is to be expected since the averages developed by Piers-Harris were taken from the normal population and not from a population known to have emotional difficulties. Another trend is for patients with thought disorders to present scores that are typically invalidated due to inconsistency of responses based on the validity test for consistency developed by Piers-Harris. Further, there appears to be a high rate of invalidation of the score based on Piers-Harris criteria for "faking" positive in the admission use (pre-test) of the scale. Piers-Harris states this is usually due to 1). attempting to present a positive impression to others or 2). poor insight on the part of the child. Either of these



may apply in this situation. The patients are admitted legally voluntarily (by a custodian) but may be personally resistant. They frequently claim they have no problems and no reason to be there, even though their histories indicate otherwise. This is an example of why patients would both attempt to offer a false positive impression and have little insight into themselves or their problems.

#### Organization of Survey Data

1. Patients present since testing with the Piers-Harris Self-Concept Scale were identified through review of the patients' charts, through admission /discharge lists provided by the hospital's Management Information System (MIS) Department and through survey of the completed Self-Concept Scale instruments.

2. Chart review was used when necessary to identify which patients were active participants in the running program during testing time periods. MIS information was used to identify those patients who had disorders of thought versus disorders of mood.

3. Through cluster sampling, the patients' test scores were separated into two groups- "runners" and "nonrunners." The "runners" group consisted of the scores of patients who actively participated in the long distance running program. The "nonrunners" consisted of the scores of patients who did not participate in the program. The total SCS scores were obtained on post-test only- admissions test were not used as it would be considered a pre-test taken before the treatment was/was not administered. It is possible that an individual patient may have taken

the scale more than one time . One patient could have both runner and nonrunner scores.

4. These scales were then reviewed and those taken by patients with thought disorders were eliminated. Those meeting Piers-Harris criteria for invalidation were next eliminated.

#### Recording Methods

As previously mentioned, all records were already in existence. The primary methods used in documenting patients' participation were 1. short term goals and interventions used in treatment that can be found in the treatment plan portion of individual's medical record and 2. weekly (for the first 60 days of hospitalization) and monthly (every 30 days after the first 60 days of hospitalization) "Recreational Therapy" and "Recreational Leader Summary Notes" located in the monitoring note section of the individual's medical record.

All of the Piers-Harris Self-Concept Scale documents are kept on file in the Recreational Therapy office on the LTAU. The scores for each are notated on the outside of each test in the appropriate section provided on the form. Other documentation of participation included field trip (pass) request to attend races, inventories of t-shirts distributed and other program related records.

#### Analysis

##### Design-

The Post-test Only Control Group Design was used for this Evaluative Research study to determine if there is a Causal-Comparative relationship

between participation in a long distance running program and self-concept of hospitalized, emotionally disturbed adolescents.

Two groups were used. The "runners" scores constituted the test group. The "nonrunners" scores was used as a control group to control for historical and maturation testing effects.

The study was considered to be random due to 1). patients legally volunteering to participate in the LTAU program and 2). patients have choice in participation in the running program. The design is as follows:

$R(X_1)O_1$

$R(X_2)O_2$

R= random

$R(X_1)O_1$

$X_1$ = the scores of patients who chose to participate in competitive long distance running program.

$O_1$ = Piers-Harris Self-Concept Scale total scores.

$R(X_2)O_2$

$X_2$ = the scores of patients who chose to not participate in competitive long distance running program.

$O_2$ = Piers-Harris Self-Concept Scale total scores.

#### Statistical Analysis

The t Test of Independent variables was used to determine if there was a difference in self-concept scores of patients who participated in this competitive long-distance running and patients who did not and to determine the nature of these differences. The standard formula and chart used to determine level of statistical difference for results of a t Test was used. A level .05 of difference

between runner and nonrunner scores was considered significant. The t Test was calculated using the Apple computer Statpac program.

### Results

A total of 58 scores were for comparison. Of these 58, 23 were identified as test group and 35 were identified as control group scores.

The t Test indicated a 2.035 difference in the scores of the control group and the test group scores with 56 degrees of freedom. According to standard statistical scales for this test calculations, this is a statistically significant difference at or greater than the .05 level.

TABLE II

	Test Group Results	Control Group Results
Number (N)	23	35
Sum of Scores	1,166	1,456
Mean	50.7	41.6
Sum of Squared Scores	4,568.87	10,978.4

TABLE II

t Value	2.035
Degrees of Freedom	56
Significance	>.05

## Discussion

These results do not support the hypothesis that there will be no difference in the self-concept scores of emotionally disturbed adolescents hospitalized for long-term treatment who did participate in a competitive, long-distance running program and self-concept scores of emotionally disturbed adolescents hospitalized for long-term treatment who did not participate in a competitive long-distance running program.

Based on these results, it can be deducted that there is a higher self-concept found in the patients who participated in this running program and those that did not. Therefore, it can be inferred that the competitive long-distance running program being evaluated is meeting the goal of resulting in a higher self-concept.

The SCS has invalidity standards which indicate that the child may be "faking" positive to appear more normal or good or as an indication of little insight. This could be used as another indicator of the running program's positive effect on the self-concept of the participant. It was observed in a review of the pre-test scores, taken upon patient, that there was a high number of invalid scores due to "faking." In post-test scores, non-runners continued to have a much higher rate of invalidation due to "faking" than runners. This is an indicator that those who participated in the "Runaway" program not only have significantly higher self-concept scores but also show a generally more stable and valid self-concept.

### Conclusion

Due to the positive outcome of this evaluative study, the program is being considered as having met the goal (positive effect on self-concept) being studied here.

### Recommendations

It is recommended that the program continue with resources being allocated as previously outlined. It is also recommended that future studies be conducted to evaluate other programmatic goals and to further delineate the use of the program as a treatment modality.

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